Department of Energy

Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208-3621

In reply refer to: FOIA #BPA-2024-02520-F

November 5, 2025

SENT VIA EMAIL ONLY TO: stephanie@energyandpolicy.org

Stephanie Chase
Energy and Policy Institute
P.O, Box 337
El Verano, California 95433

Dear Ms. Chase,

This communication is Bonneville Power Administration's (BPA) final response to your request for agency records made under the Freedom of Information Act, 5 U.S.C. § 552 (FOIA). Your request was received on July 23, 2024, and formally acknowledged your request via letter to you dated August 6, 2024. A first partial release was provided to you on September 2, 2025.

Request
You seek, "…communications between the following BPA officials/staff and their direct reports with Powerex Corporation leadership and staff regarding day ahead markets, including the Extended Day Ahead Market (EDAM) or Markets+:

-Russ Mantifel
-Nita Zimmerman

The timeframe for this request is July 1, 2023, through present."

[AND]

"…communications between the following BPA officials/staff and their direct reports with Southwest Power Pool leadership/staff regarding day ahead markets, including the Extended Day Ahead Market (EDAM) or Markets+:

-Russ Mantifel
-Nita Zimmerman

The timeframe for this request is July 1, 2023, through present."

Clarifications
Via email exchanges with the agency between August 28, 2024, and August 29, 2024, you agreed to limit the scope of your request to exclude records responsive to the "…and their direct reports…" language in your original request.

On June 12, 2025, the agency's FOIA Office requested clarification on the scope of your request, based on the contents of the records collected. On June 16, 2025, you responded to confirm that you are interested in the working group emails, but you are not interested in automatic replies.

Second and Final Response
BPA searched for and gathered records responsive to your request from the agency's Outlook email system. The second and final response comprises 2,584 pages and one Excel file. Those 2,584 pages accompany this communication with the following redactions:

- 11 applied under 5 U.S.C. § 552 (b)(4) (Exemption 4)
- 575 applied under 5 U.S.C. § 552(b)(6) (Exemption 6)

The agency also collected a 1,129-page report that is publicly available on the Southwest Power Pool website at the at the following address:

- https://www.spp.org/Documents/69720/Integrated%20Marketplace%20Protocols%2098%20-%20Active%20Version.zip

Due to its size and availability online, it is not included in the response package. Please contact us if you have any difficulty with access or would prefer the collected record to be sent to you.

A more detailed explanation of the applied exemptions follows.

Explanation of Exemptions
The FOIA generally requires the release of all responsive agency records upon request. However, the FOIA permits or requires withholding certain limited information that falls under one or more of nine statutory exemptions (5 U.S.C. § 552(b)(1-9)). Further, section (b) of the FOIA, which contains the FOIA's nine statutory exemptions, also directs agencies to publicly release any reasonably segregable, non-exempt information that is contained in those records.

Exemption 4
Exemption 4 protects "trade secrets and commercial or financial information obtained from a person [that is] privileged or confidential." (5 U.S.C. § 552(b)(4)). Information is considered commercial or financial in nature if it relates to business or trade. This exemption is intended to protect the interests of both the agency and third-party submitters of information.

Prior to publicly releasing agency records, BPA provided third parties with an opportunity to formally object to public release of their information contained in BPA records. Tuscan Electric Power Company submitted their objections to BPA. BPA accepted those objections, based on guidance available from the U.S. Department of Justice, and is withholding Tuscan Electric Power Company commercial confidential information from public release. BPA is also

withholding commercial confidential information belonging to Southwest Power Pool, specifically a bank account number and Tax ID number. The FOIA does not permit a discretionary release of information otherwise protected by Exemption 4.

Exemption 6

Exemption 6 serves to protect Personally Identifiable Information contained in agency records when no overriding public interest in the information exists. BPA does not find an overriding public interest in release of the following information redacted under Exemption 6: video conferencing passcodes, cell phone numbers and direct phone numbers, personal email addresses, and personal discussions unrelated to agency business. Additionally, one third party objected to the release of personnel names and personally identifiable portions of email addresses to protect employee privacy.

This information sheds no light on the executive functions of the agency and BPA finds no overriding public interest in the release. BPA cannot waive these redactions, as the protections afforded by Exemption 6 belong to the individuals and not to the agency.

Lastly, as required by 5 U.S.C. § 552(a)(8)(A), information has been withheld only in instances where (1) disclosure is prohibited by statute, or (2) BPA foresees that disclosure would be harm an interest protected by exemption cited for the record. When full disclosure would not harm and interest protected by the exemption cited for the record. When full disclosure of a record is not possible, the FOIA statute further requires that BPA take reasonable steps to segregate and release nonexempt information. The agency has determined that in certain instances partial disclosure is possible and has accordingly segregated the records into exempt and non-exempt portions.

Fees

There are no fees associated with processing your FOIA request.

Certification

Pursuant to 10 C.F.R. § 1004.7, I am the individual responsible for the records search and information release described above. Your FOIA request BPA-2024-02520-F is now closed with the responsive agency information provided.

Appeal

Pursuant to 10 C.F.R. § 1004.8, you may appeal the adequacy of the records search, and the completeness of this final records release, within 90 calendar days from the date of this communication. Appeals should be addressed to:

Director, Office of Hearings and Appeals
HG-1, L'Enfant Plaza
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585-1615

The written appeal, including the envelope, must clearly indicate that a FOIA appeal is being made. You may also submit your appeal by e-mail to OHA.filings@hq.doe.gov, including the phrase "Freedom of Information Appeal" in the subject line. (The Office of Hearings and Appeals prefers to receive appeals by email.) The appeal must contain all the elements required by 10 C.F.R. § 1004.8, including a copy of the determination letter. Thereafter, judicial review will be available to you in the Federal District Court either (1) in the district court where you reside, (2) where you have your principal place of business, (3) where DOE's records are situated, or (4) in the District of Columbia.

Additionally, you may contact the Office of Government Information Services (OGIS) at the National Archives and Records Administration to inquire about the FOIA mediation services they offer. The contact information for OGIS is as follows:

Office of Government Information Services
National Archives and Records Administration
8601 Adelphi Road-OGIS
College Park, Maryland 20740-6001
E-mail: ogis@nara.gov
Phone: 202-741-5770
Toll-free: 1-877-684-6448
Fax: 202-741-5769

Questions about this communication may be directed to James King, FOIA Public Liaison, at jjking@bpa.gov or at 503-230-7621. You may also contact Brian Roth, FOIA Case Coordinator, at bsroth@bpa.gov or 503-230-4383.

Sincerely,

Candice D. Palen
Freedom of Information/Privacy Act Officer

From: Meyers,Andrew P (BPA) - MTM-3
Sent: Wednesday, July 17, 2024 2:17 PM
To: Cook,Joel D (BPA) - K-7; Zimmerman,Nita M (BPA) - MT-3; Jeff.Spires@powerex.com; Mark.Holman@powerex.com; Lnickell@spp.org; alucas@spp.org; Mantifel,Russell (BPA) - MTM-3; Dibble,Rachel L (BPA) - PT-5
Cc: Tindall,Kristina A (BPA) - K-7; Jim Gonzalez
Subject: NREL Study
Attachments: EMTS Final_Takeaways_May2024.pptx

Please see attached draft reporting of NREL study. I believe final results are due late summer or fall

Andy Meyers
apmeyers@bpa.gov
(w) 503-230-3014 | (c) (b)(6)
Bonneville Power Administration
Market Initiatives
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

-----Original Appointment-----
From: Cook,Joel D (BPA) - K-7 <jdcook@bpa.gov>
Sent: Wednesday, July 17, 2024 12:00 PM
To: Cook,Joel D (BPA) - K-7; Cook,Joel D (BPA) - K-7; Zimmerman,Nita M (BPA) - MT-3; Jeff.Spires@powerex.com; Mark.Holman@powerex.com; Lnickell@spp.org; alucas@spp.org; Mantifel,Russell (BPA) - MTM-3; Dibble,Rachel L (BPA) - PT-5
Cc: Tindall,Kristina A (BPA) - K-7; Jim Gonzalez; Meyers,Andrew P (BPA) - MTM-3
Subject: Studies Discussion with BPA/SPP/Powerex
When: Wednesday, July 17, 2024 1:00 PM-2:30 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Webex

-----Original Appointment-----
From: Cook,Joel D (BPA) - K-7 <jdcook@bpa.gov>
Sent: Monday, July 15, 2024 3:04 PM
To: Cook,Joel D (BPA) - K-7; Zimmerman,Nita M (BPA) - MT-3; Jeff.Spires@powerex.com; Mark.Holman@powerex.com; Lnickell@spp.org; alucas@spp.org; Mantifel,Russell (BPA) - MTM-3; Dibble,Rachel L (BPA) - PT-5
Cc: Tindall,Kristina A (BPA) - K-7; Jim Gonzalez
Subject: Studies Discussion with BPA/SPP/Powerex
When: Wednesday, July 17, 2024 1:00 PM-2:30 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Webex

For scheduling needs, please contact Chanelle Johnston (cmjohnston@bpa.gov).

(b)(6)

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When it's time, join your Webex meeting here.

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Meeting number (access code): (b)(6)
Meeting password:(b)(6)

Tap to join from a mobile device (attendees only)
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Global call-in numbers

Join from a video system or application
Dial (b)(6) @mybpa.webex.com

If you are a host, click here and login site to view host information.

Need help? Go to https://help.webex.com


NREL
Transforming ENERGY
45th anniversary
Expanded Markets and Transmission Study
Study Overview and Key Findings
Jennie Jorgenson, Brian Sergi, Amy Rose
Spring 2024
Photo from iStock-627281636

Introductions

Name | Organization |Role

Background to EMTS

Several studies evaluate benefits of transmission and interregional coordination to understand how to better utilize resources across broad geographies.

- NREL's Interconnection Seams Study – 2021
- The DOE National Transmission Planning Study (NTPS) – ongoing
- NREL's North American Renewable Integration Study (NARIS) – 2021
- The DOE State-Led Market Study – 2021



Interconnection Seams Study



State Led Market Study

Study Objectives

Evaluate the *benefits* of and *relationship* between **expanding transmission** and **increasing market coordination** across the Eastern and Western Interconnections, specifically for the Western Interconnection and SPP's footprint

Key questions:

Markets perspective: How does enabling more coordination impact both system operations and investments?

Transmission perspective: How would additional transmission interconnection impact systems operations and investments?

Markets + Transmission perspective: Do markets and transmission provide complementary or substitute benefits?

Expanded Markets and Transmission Study Focus Area



NREL | 4

Study Approach

What impacts are we referring to and how do we capture them?

Study Approach

What impacts are we referring to and how do we capture them?

PRODUCTION COST ANALYSIS

Analyzes operations with detailed unit commitment & dispatch considerations

Reduced cost of operating the system resulting from:

- Increased use of existing generation and transmission assets
- Greater utilization of lower marginal cost generation units
- Reduced losses in the transmission network

CAPACITY EXPANSION ANALYSIS

Evaluates least cost investment solution for generation, storage, and transmission

Reduced long-term system costs resulting from:

- Reduced or avoided investments in new generation, transmission, and storage capacity
- Increased utilization of lower marginal cost generation technologies
- Reduced cost of meeting system requirements for planning and operating reserves

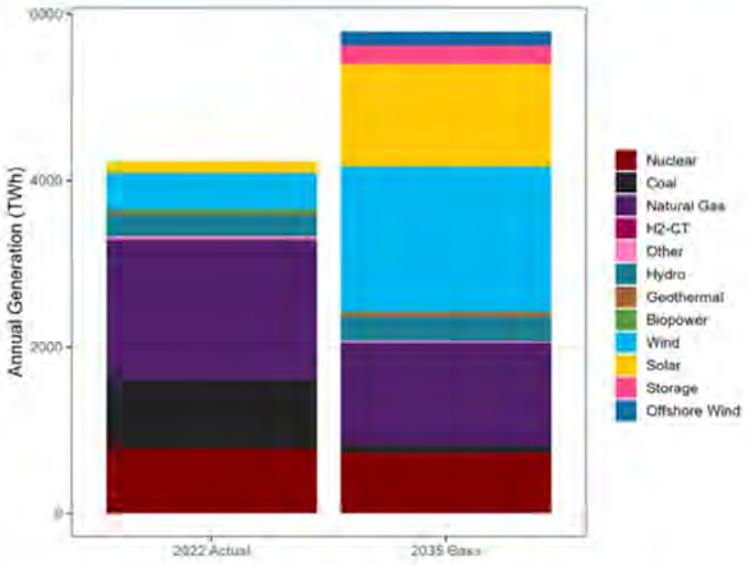
Differences – Scenario Design

How do we capture benefits of markets and transmission?

	PRODUCTION COST ANALYSIS	CAPACITY EXPANSION ANALYSIS
Generation Mix	• Fixed system with incremental (manual) changes.	• System changes dynamically based on scenario design.
Time Components	• Single model year - 2035. • Hourly resolution.	• Evaluates change over time (every 5 years to 2050). • Less temporal granularity.
Market Coordination	• Captures benefits of coordinating real-time operations. • Change in system cost due to coordination.	• Captures benefits of coordinating operations and capacity planning. • Change in system cost due to changes in generation, storage, transmission mix.
Transmission	• Explicitly add or take out a line or multiple in isolation. • Transmission build is an input. • Change in system cost due to transmission addition and utilization of existing generation.	• Enable or disable capability to build transmission. • Model builds when economic; transmission build is an output. • Change in system cost due to transmission build and generation and storage.

Each analysis requires different scenario design setup and interpretation.

Base System (2035)



- 2035 Base **zonal** scenario from the National Transmission Planning Study
  - 90% decarbonization by 2035
  - Moderate demand growth/electrification
  - Limited transmission expansion
  - Includes existing state policies including RPS/CES
- Fast retirement of coal, high deployment of wind & solar
- From 10% wind and 3% solar in 2022 to 33% wind and 21% solar in 2035

Expanded coordination scenarios

Existing coordination



Market coordination in the West (WISO)



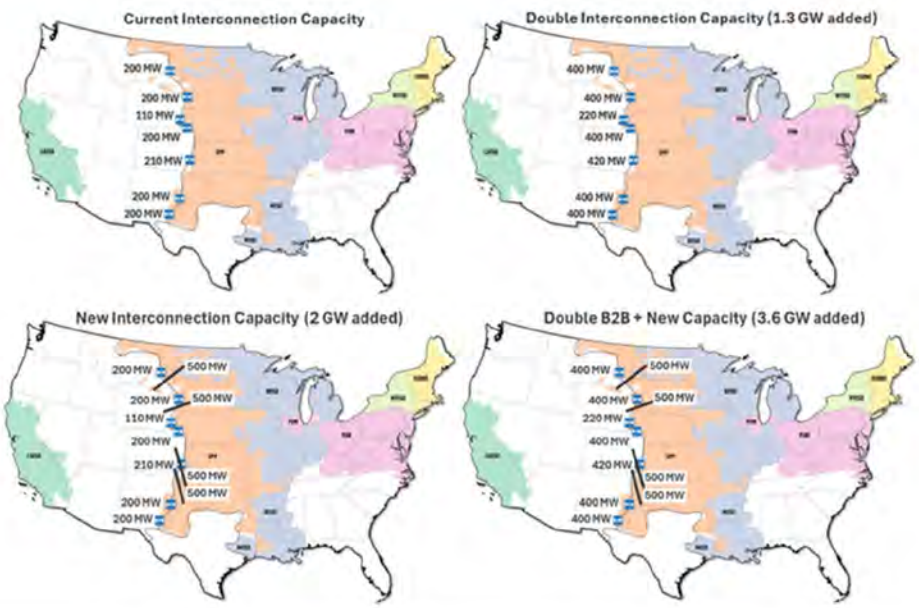
PRODUCTION COST ANALYSIS

- **$10/MWh Hurdle Rate**: applied between neighboring regions of different colors
- **$0/MWh Across Seam**: no hurdle rate across B2B ties
- **$0/MWH All West/SPP**: no hurdle rate within Western Interconnection and between SPP

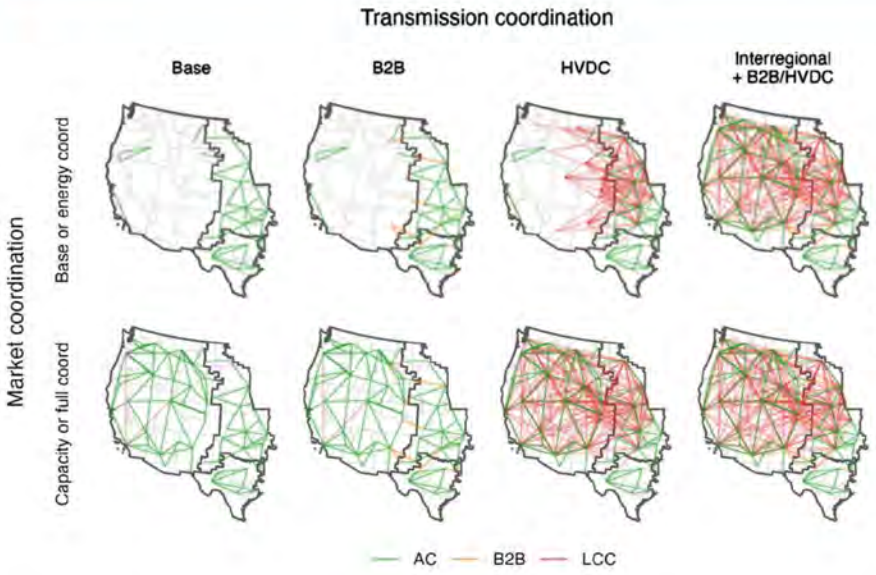
CAPACITY EXPANSION ANALYSIS

- **Base**: $10/MWh hurdle rate and no capacity coordination between regions of different colors
- **Energy coord**: $0 hurdle rate in WISO (no change to capacity coordination from base)
- **Capacity coord**: capacity coordination in WISO (no change to hurdle rate in base)
- **Full coord:** $0 hurdle rate and capacity sharing allowed in WISO

Prescribed Transmission Scenarios



Transmission Coordination Scenarios



- **Base:** AC transmission expansion allowed between planning areas (varies based on capacity sharing)
- **B2B**: Seam B2B expansion allowed
- **HVDC:** Seam HVDC expansion allowed
- **Interregional + B2B/HVDC:** Seam B2B and HVDC expansion; new AC or HVDC lines allowed in WISO footprint

Key Findings

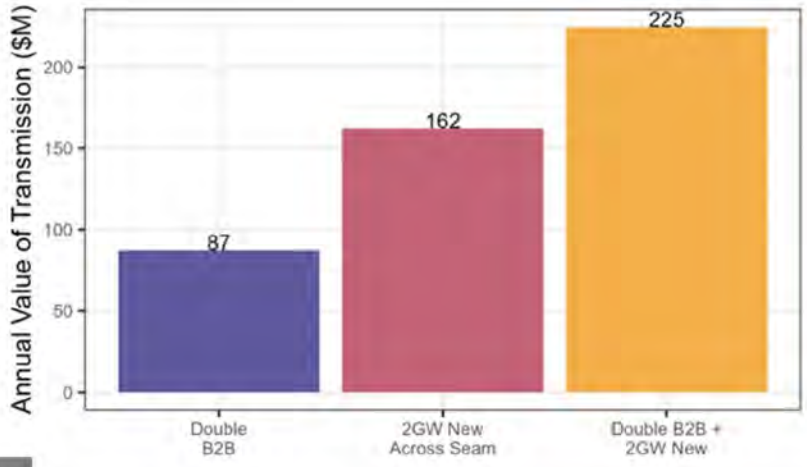
- Transmission expansion and increased market coordination both reduce system costs by enabling greater use of lower marginal cost generators.
- Market coordination achieves far greater cost savings than transmission expansion.
- Transmission expansion and market coordination are complementary long-term strategies to reduce system costs.



Key Finding 1: Increased transmission interconnections have value, even if they are not utilized for many hours of the year.

Transmission expansion along Eastern/Western interconnection seam is worth over $80 million annually

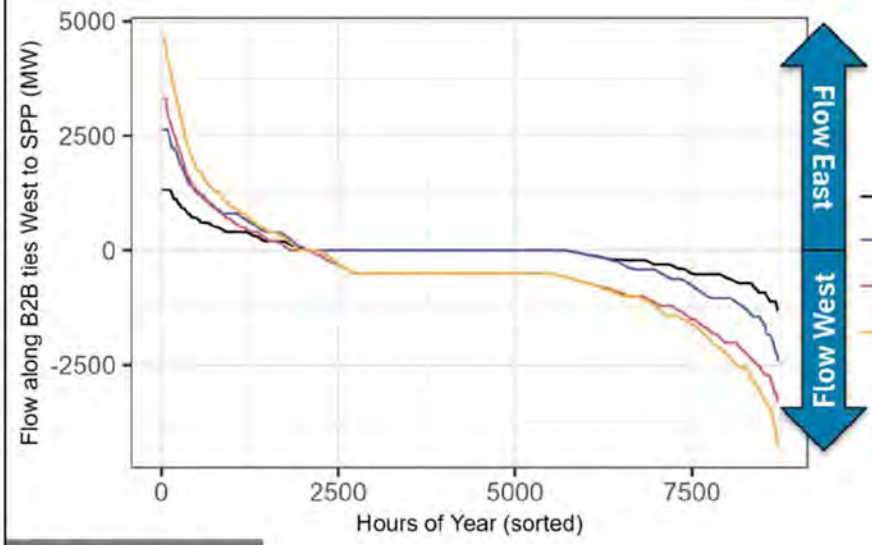
PRODUCTION COST ANALYSIS



Preliminary results

All scenarios exhibit bi-directional flow across Eastern/Western seam

PRODUCTION COST ANALYSIS

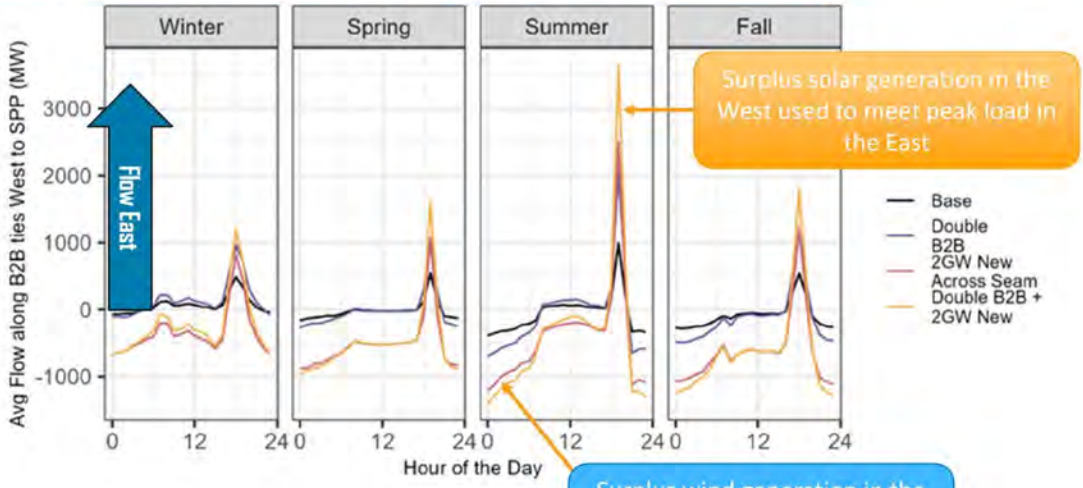


- In Base and Double B2B case:
  - Flow along the B2B ties are roughly symmetric (101 GWh sent East annually, 125 GWh sent West in Base)
  - Roughly 42% of the time no power is flowing in either direction
- With the new over-seam DC ties:
  - More often flowing West (due in particular to the new line connecting load in CO to panhandle)

Preliminary results

East/west seam indicates consistent, diurnal bi-directional flow across seasons to enable RE to support load

PRODUCTION COST ANALYSIS



Preliminary results

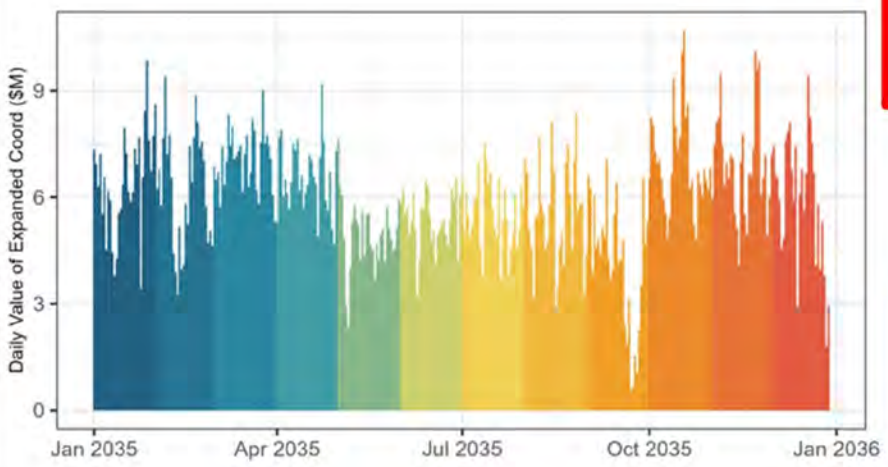
PRODUCTION COST ANALYSIS



Key Finding 2: Increased coordination yields significant production cost savings by enabling low-marginal cost wind and solar and displacing natural gas fuel, and increases utilization of existing transmission

Annual value of Expanded Coordination is over $2 billion in avoided generation costs

PRODUCTION COST ANALYSIS



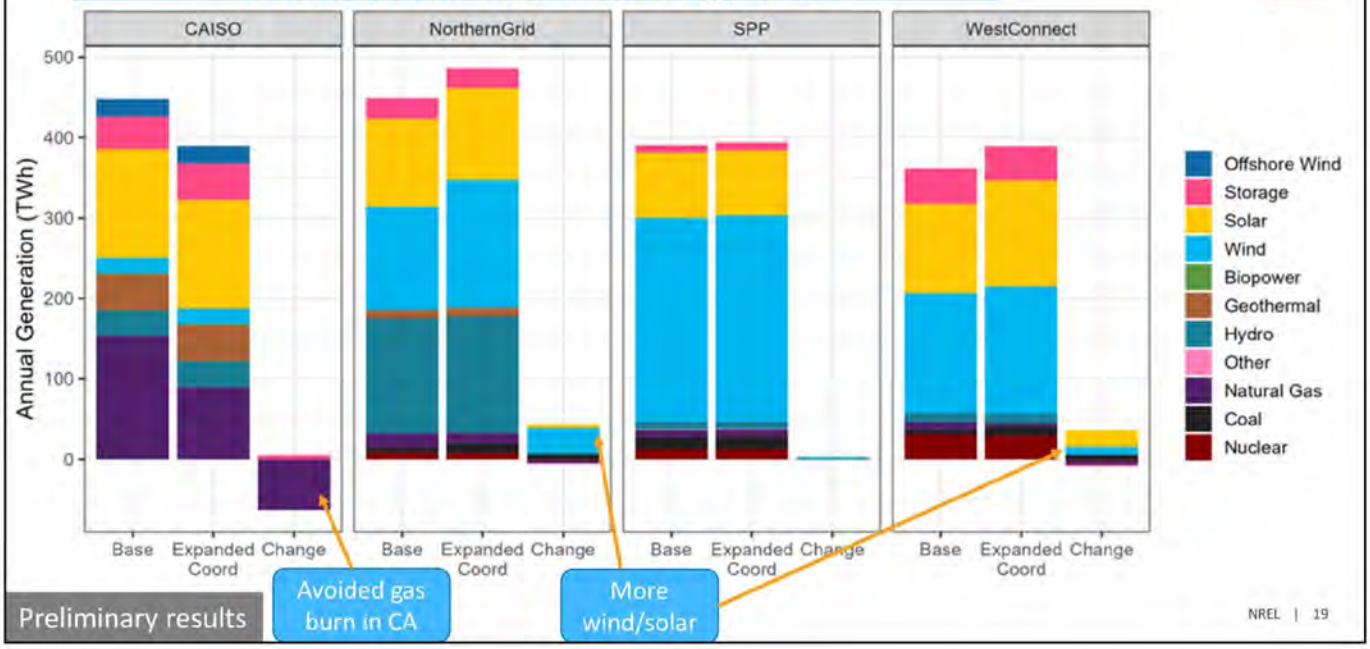
Annual Value of WISO:
$2.18 B,
4.3% reduction (CONUS),
27% reduction (WI + SPP)

There is a wide variation in the daily value of coordination, showing between $0.35 mil and nearly $11 mil daily reduction in operating cost

Preliminary results

Expanded coordination shifts generation from high-cost resources to low-cost resources in other regions

PRODUCTION COST ANALYSIS



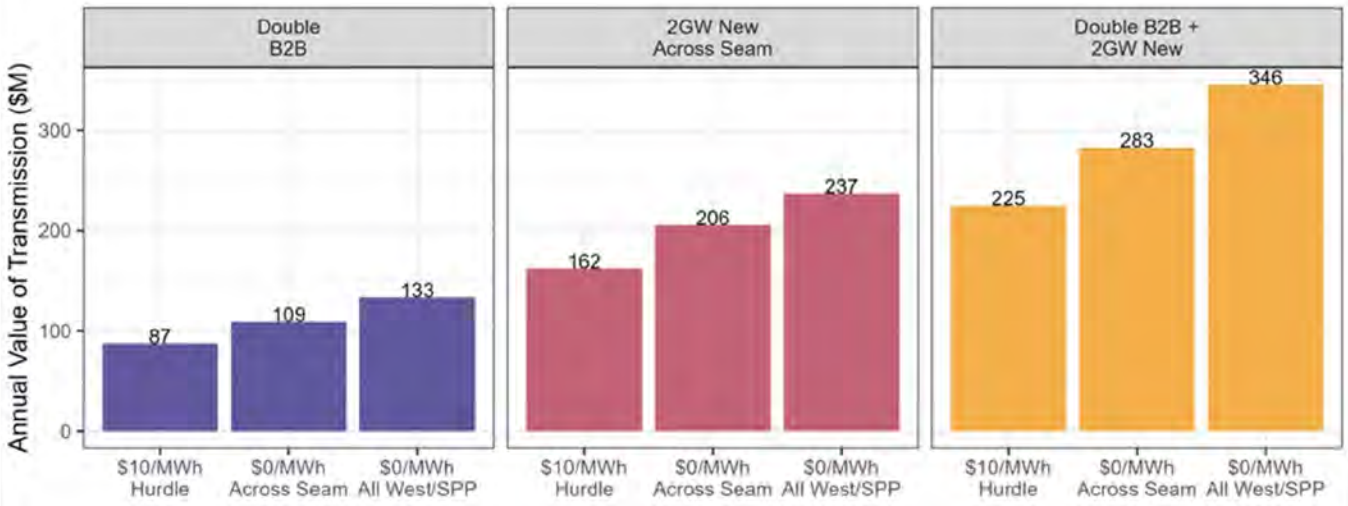
PRODUCTION COST ANALYSIS



Key Finding 3: Increased coordination and transmission are complementary, providing greater operational value in combination.

Market coordination increases transmission utilization and system value

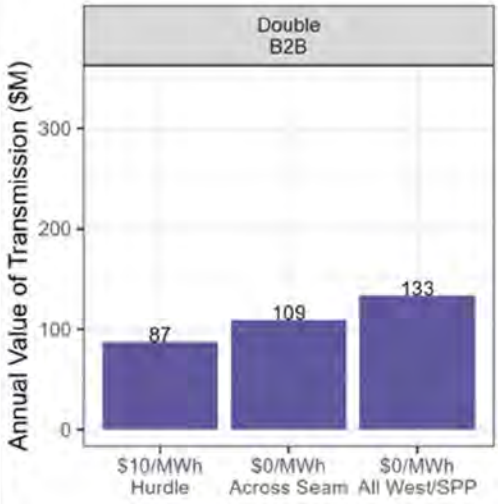
PRODUCTION COST ANALYSIS



Preliminary results

Market coordination increases transmission utilization and system value

PRODUCTION COST ANALYSIS

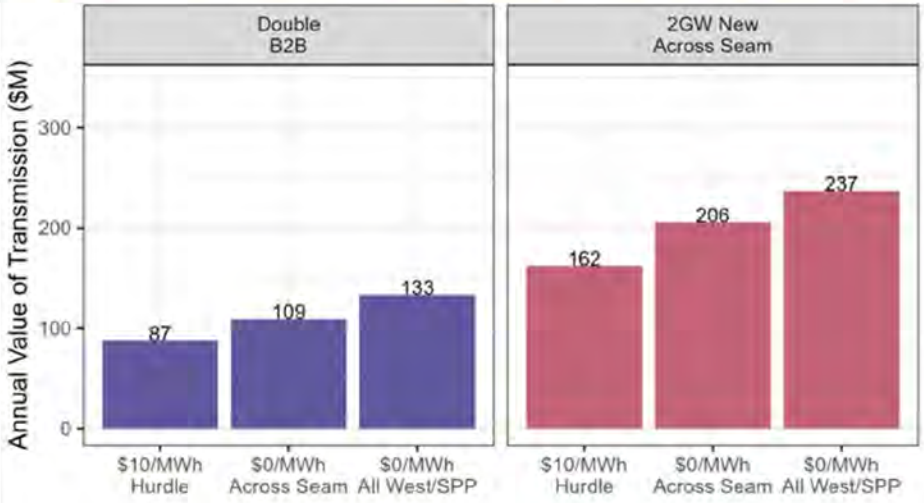


- Doubling B2B transmission capacity (1.3 GW -> 2.6 GW) provides at least $87 million in annual value
- Removing the hurdle rate **just on the B2B lines** increases value by 26%
- Removing the hurdle rate **everywhere in West + SPP** increases value by 54%

Preliminary results

Market coordination increases transmission utilization and system value

PRODUCTION COST ANALYSIS



- 2GW New Tx capacity across Seam (connecting currently non-connected regions) provides lots of value.
- Getting rid of the hurdle **just on the cross-seam lines** adds value by 26%
- Getting rid of the hurdle **everywhere in West + SPP** adds value by 46%

Preliminary results

Market coordination increases transmission utilization and system value

PRODUCTION COST ANALYSIS



Expanded coordination increases the value of Tx

Preliminary results

PRODUCTION COST ANALYSIS



Key Finding 4: Both increased operational coordination and transmission expansion can reduce emissions from the electric sector

Impact of coordination + transmission expansion reduce electric-sector emissions

PRODUCTION COST ANALYSIS



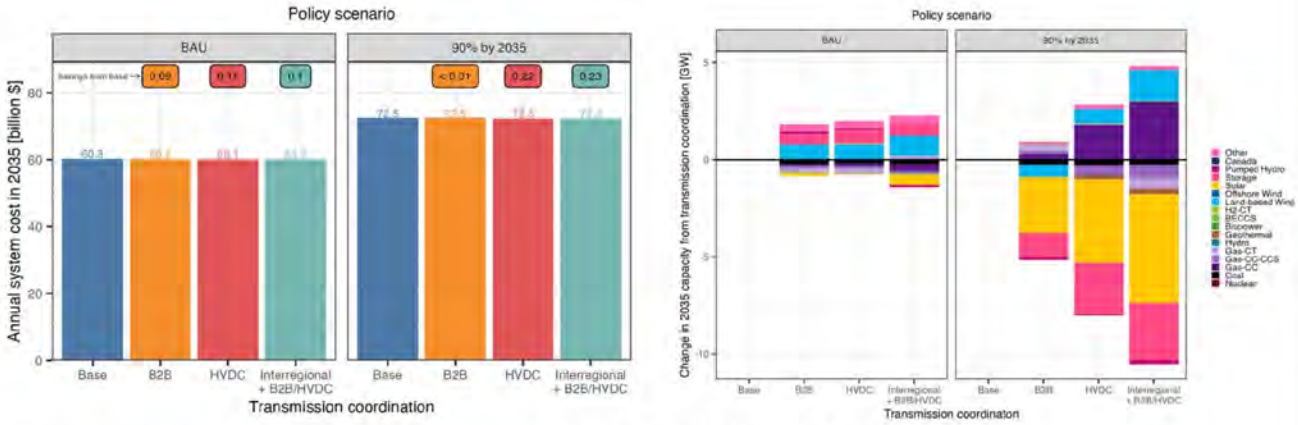
- Lowest emissions in the case with increased coordination + most transmission expansion (11% reduction relative to base case)
- Coordination + Transmission enables the use of more renewable energy and displaces gas (largely) to reduce emissions

Preliminary results

Key Finding 5: Increased seam transmission capacity provides long-term value

Transmission enables wind, gas-cc; results in cost savings up to $100-200 million per year

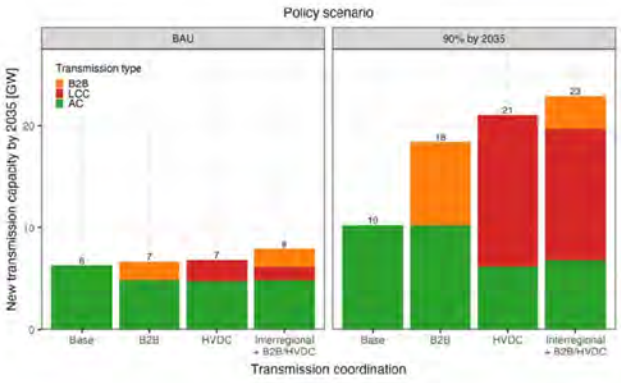
CAPACITY EXPANSION ANALYSIS

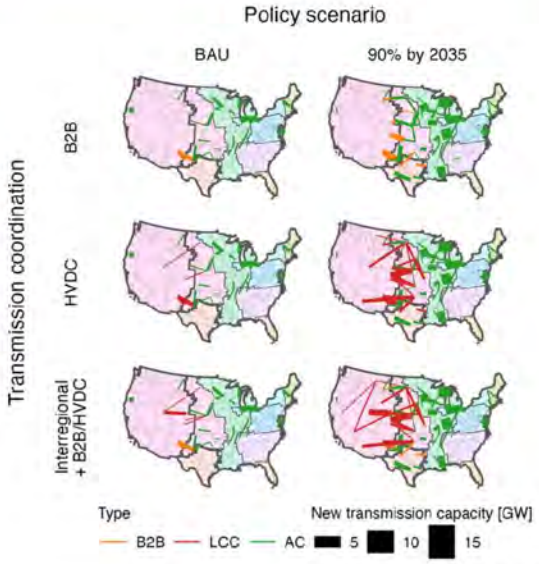


Similar order of magnitude to transmission benefits from PCM with hurdle rate ($90–220 million annually)

Preliminary results

New seam-crossing B2B and HVDC lines are built when allowed



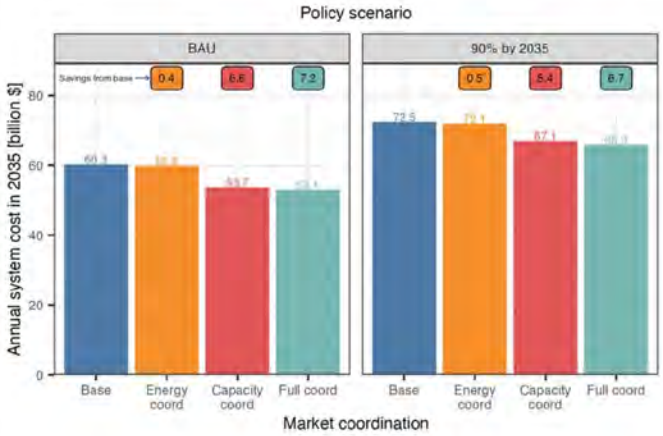


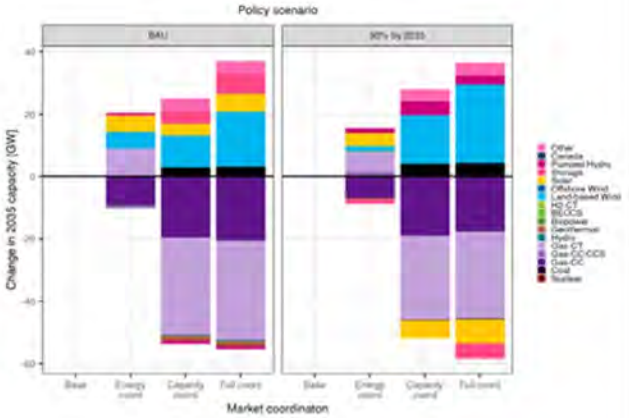
Preliminary results

Key Finding 6: Market coordination brings substantial benefits, largely from capacity sharing

Up to $7 billion in annual savings with market coordination, primarily from increased wind

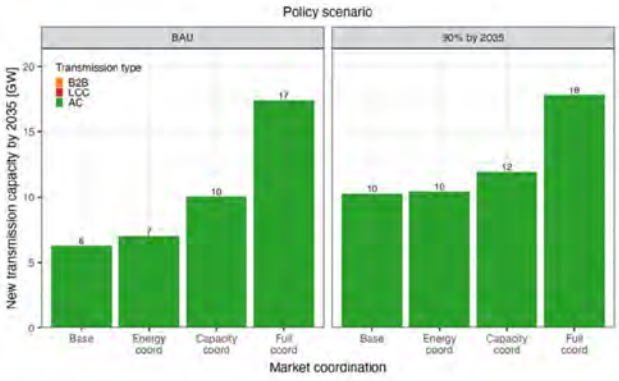
CAPACITY EXPANSION ANALYSIS

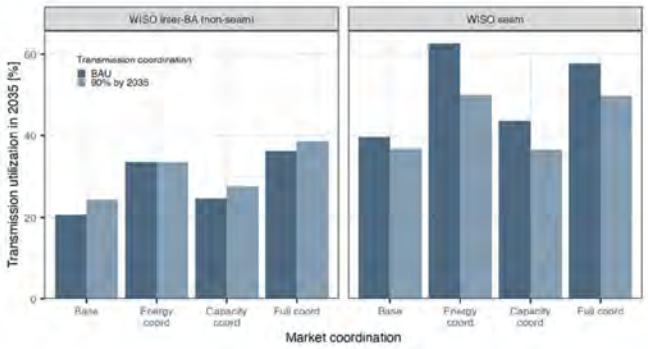




Preliminary results

Full coord encourages more AC transmission between Western BAs; lower hurdle rates increase utilization of existing transmission



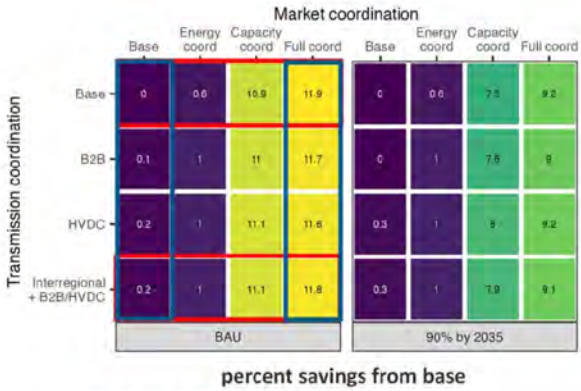


Preliminary results



Key Finding 7: Interactions between transmission and market coordination vary, but market coordination spurs more seam transmission

Limited cost savings interaction between transmission and market coordination through 2035…



Transmission w/o market: 0.2%

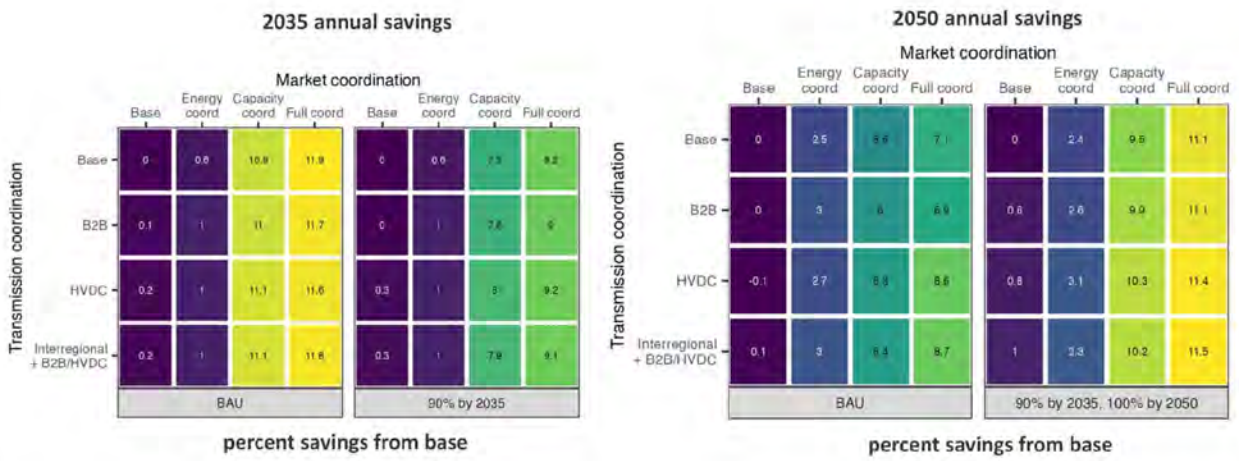
Transmission w/ market: 0.1%

Market w/o transmission: 11.9%

Market w transmission: 11.6%

Preliminary results

… but more interaction when looking out through 2050



Preliminary results

Market coordination increases the amount of seam-crossing by 2-3x in the BAU scenarios

Seam transmission capacity [MW]

B2B	Full coord	8,124	--	8,124
HVDC	Full coord	2,140	9,784	11,924
Interregional + B2B/HVDC	Full coord	7,282	4,629	11,912
B2B	Full coord	12,329	--	12,329
HVDC	Full coord	2,140	14,724	16,864
Interregional + B2B/HVDC	Full coord	8,386	8,090	16,476

Preliminary results

Questions / Feedback request

www.nrel.gov

Jennie.Jorgenson@nrel.gov
Brian.Sergi@nrel.gov
Amy.Rose@nrel.gov



From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Friday, July 14, 2023 12:02 PM
To: Laura Trolese; Marcie.Martin@srpnet.com; Josh C Robertson; Dan Williams; Cooper,Suzanne B (BPA) - P-6; robert.follini@avistacorp.com; shawn.smith@chelanpud.org; Ericksen, Ryan; Alyssa.Koslow@aps.com; Bobby.Olsen@srpnet.com; arichins@idahopower.com; Brian.Cole@aps.com; Justin.Thompson@aps.com; David.Rubin@nvenergy.com; cnorris@cityoftacoma.org; Spires, Jeff; crjohnson@cityoftacoma.org; seshbach@cityoftacoma.org; Chris.Hofmann@srpnet.com; Agnes.Lut@srpnet.com; Barbara.CenalmorBruquetas@srpnet.com; RJohnson@wapa.gov; nick.detmer@xcelenergy.com; sanders@wapa.gov; Mantifel,Russell (BPA) - PGL-5; Kirby,Elizabeth A (BPA) - BT-3; Aitken, Meredith; Scott.Kinney@avistacorp.com; Kevin Nordt; dchurchman@gcpud.org; rflanig@gcpud.org; (b)(6) @tep.com; joseph.c.taylor@xcelenergy.com; Lindsey.Schlekeway@nvenergy.com; mike.bradshaw@chelanpud.org; KAnderson2@idahopower.com; Kiley.Moore@nvenergy.com; Tyler.Moore@aps.com; mlyons@gcpud.org; omaya.ahmad@aps.com; DeForest,Lon C (BPA) - PTMP-5; Cook,Joel D (BPA) - K-7; Zimmerman,Nita M (BPA) - B-3; Fredrickson,Rebecca E (BPA) - TSQ-TPP-2; Dibble,Rachel L (BPA) - PT-5; Gaube,Stephen J (BPA) - PTMP-5; Meyers,Andrew P (BPA) - B-3; Glasgow, Jonathan - Marketing; Macdonald, Greg; Janet Jaspers; Hayes,Matthew C (BPA) - PGST-5; Vincent.ching@pse.com; ghoffman@wapa.gov; delia.patterson@srpnet.com; Zahnow, Jessica Lynn; kevin.holland@avistacorp.com; morgan.stach@avistacorp.com; cdean@wapa.gov; aust@wapa.gov; degracie@wapa.gov; paulsen@wapa.gov; Applegate, Rick; Lindgren, Neil; Tuuli Hakala; Kent.Walter@aps.com
Subject: [EXTERNAL] BA Group: ISO-NE proposal

Good afternoon,

Further to our discussions at the last BA group meeting, Jeff and I thought we'd share the information on the ISO-NE proposal that is now making its way towards approval, with implementation scheduled for 2025.
The proposal was recently approved on July 11 by ISO-NE's Markets Committee, and will now go to the Participants Committee for recommended final approval in August.

The elements that are most relevant to our virtual bidding discussion in Markets+ start on page 105 (Section 6) and continue through an FAQ that starts on page 122 that includes discussion of virtuals.

https://www.iso-ne.com/static-assets/documents/2020/04/esi-white-paper-final-with-cover-page-04152020.pdf

Here is a brief summary of our understanding of the problem that needs to be addressed and the ISO-NE proposed solution:

Problem summary:

1. Under a traditional LMP market, the day-ahead market is a financial market, with bid-in demand cleared against bid-in supply, and with the participation of both physical and virtual demand and supply.
2. However, ensuring reliability in today's grid (with increasing renewables) increasingly requires certain physical commitment actions to be taken day-ahead, particularly the commitment of sufficient physical resources to meet forecast demand plus uncertainty.

3. If in the day ahead market bid-in demand clears at a level below the market operator's forecast of demand AND/OR some of the forecasted demand is met by virtual supply, then insufficient physical resources are committed day-ahead in the market solution to achieve a reliable outcome for real-time.
4. This gap in the commitment of sufficient physical resources in the day-ahead market solution is addressed today through post-market (i.e., Residual Unit Commitment processes) and other out-of-market commitments.
    a. The post-market commitment of resources is inefficient (higher production costs) relative to committing sufficient resources through the co-optimized day-ahead market (the least cost resource mix is not selected)
    b. The cost of post-market commitments are not reflected in market prices and are instead recovered through uplift costs.
    c. Requiring a real-time "must offer" of resources that didn't get a day ahead market award (due to demand clearing to low or virtual supply displacing physical supply) to "fill the gap" is not only inequitable, it doesn't incent the investments to ensure availability of the least cost resources
    d. Virtual supply may become profitable as a result of the post-market / out-of-market commitment of additional resources that lowers the real-time price, when such supply does not improve efficiency (increases production cost);
        i. Example, $30/MWh virtual supply awarded ahead of $32/MWh physical supply, causing an additional $5/MWh unit commitment cost; Virtual may be profitable due to out-market commitment that lowers real-time price when it would have been lower cost to award physical supply.
    e. The costs of this gap are generally funded by load through higher total production costs and/or uplift allocations

ISO-NE solution

1. Continue to allow bid-in demand to clear against bid-in supply, and the participation of both physical and virtual demand and supply
2. Add new upward flexibility products that physical resources can offer into the day ahead market, that are **call options on real-time energy**
3. Add a new constraint into the day ahead market that is the **forecast energy requirement (FER)**, which is the market operators forecast of demand
4. Allow the FER to be met by a combination of **physical energy awards** and **call options on real-time energy** (from physical resources)
5. The incremental cost of meeting the forecast energy requirement above the LMPs (which continue to be calculated from bid-in demand, bid-supply, both physical and virtual) is paid to all physical energy awards and call option awards (but not to virtual supply), with the costs of this commitment allocated to real-time load

Expected outcomes include minimizing total production costs, ensuring a day ahead market solution that is reliable, improving the efficiency of virtual bids, and improve prices signals, encouraging all physical resources to take the steps necessary to be available/resilient.

Have a great weekend everyone!

Mark Holman | Managing Director | Powerex Corp. | Direct (b)(6)

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From: Dibble,Rachel L (BPA) - PT-5
Sent: Thursday, October 12, 2023 9:42 AM
To: Zimmerman,Nita M (BPA) - B-3
Cc: jbroyles@spp.org
Subject: FW: [EXTERNAL] FW: Markets + billing-2nd payment due-past due
Attachments: BPAT.pdf

Hi, Jennifer. Thanks for letting us know. I'm forwarding this to Nita as I believe this is paid out of her budget. Sorry for the delay.

From: Jennifer Broyles <jbroyles@spp.org>
Sent: Thursday, October 12, 2023 7:33 AM
To: Dibble,Rachel L (BPA) - PT-5 <rldibble@bpa.gov>
Cc: Debbie Brooks <dbrooks@spp.org>
Subject: [EXTERNAL] FW: Markets + billing-2nd payment due-past due

Good morning,

I'm reaching out to you today because we haven't received the payment for the 2nd installment of the Markets + invoice. Can you tell me if it has been set up to be paid or if it was missed. Please let me know when it can be paid.

Thank you,
Jennifer Broyles
Southwest Power Pool, Inc.
Staff Accountant II
501-688-1656

From: Jennifer Broyles <jbroyles@spp.org>
Sent: Wednesday, August 2, 2023 2:09 PM
To: Dibble, Rachel <rldibble@bpa.gov>
Cc: Debbie Brooks <dbrooks@spp.org>
Subject: Markets + billing-2nd payment due

Good afternoon,

Please find attached an invoice for Markets + Phase 1 funding fee. Let me know if you have any questions.

Thank you,
Jennifer Broyles
Southwest Power Pool, Inc.
Staff Accountant II
501-688-1656

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Southwest Power Pool
201 Worthen Drive
Little Rock, AR 72223-4936
501-614-3200
Federal Tax ID: (b)(4)

Invoice	SPP10222
Date	8/1/2023
Page	1

Customer

Bonneville Power Adminstration Trans
P.O. Box 491
Vancouver WA 98666

Purchase Order No.	Customer ID	Due Date	
	BPAT001	9/1/2023	

Item Number	Description	Amount
MISCEL005	SPP Markets + Funding Fee 2nd payment due	$294,645.00

Total	$294,645.00

Please send immediately available funds in the exact amount shown to:

Southwest Power Pool, Inc.
c/o US Bank
Routing/ABA #: 082000549
Account #: (b)(4)

29320097

From: Michael Riley <michael.b.riley@spp.org>
Sent: Friday, May 24, 2024 9:25 AM
To: Meyers,Andrew P (BPA) - MTM-3; Carrie Simpson; Miller,Todd E (BPA) - LP-7; Davis,Thomas E (BPA) - LT-7
Cc: Zimmerman,Nita M (BPA) - MT-3; Chris Nolen
Subject: RE: [EXTERNAL] RE: Phase 1 Funding Payment Question

Hi Andy –

I've asked our Accounting department about the invoice status and am waiting on a response. In response to item 2, the phase 1 agreement is fixed cost contract. If SPP were to issue a Change Notice, the contract does contemplate the parties will meet and confer to determine if a projected cost increase is appropriately identified and calculated, but that is not applicable here. As a result, there's not a contract obligation to provide the information you have requested. The $500K/rate covers the monthly burn rate to continue Markets+ work prior to Phase 2 funding. If funding stops between FERC approval and when SPP receives its funding from Phase 2, Markets+ work would stop during that (potentially few months) time period, which we want to avoid.

Thanks,
Mike

From: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Sent: Monday, May 20, 2024 11:51 AM
To: Michael Riley <michael.b.riley@spp.org>; Carrie Simpson <csimpson@spp.org>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>
Cc: Zimmerman, Nita <nmzimmerman@bpa.gov>; Chris Nolen <cnolen@spp.org>
Subject: **External Email** RE: [EXTERNAL] RE: Phase 1 Funding Payment Question

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Hi Mike,

I wanted to follow up on two things from our prior exchanges.

1. I don't believe we have received the invoice for the final payment. Do you know when that will be sent out?
2. Were you able to consider providing the accounting that Todd had asked me to try and obtain?

Thanks
Andy

Andy Meyers
apmeyers@bpa.gov
(w) 503-230-3014 | (c) (b)(6)
Bonneville Power Administration
Market Initiatives – Policy Lead
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

From: Meyers,Andrew P (BPA) - MTM-3
Sent: Thursday, March 7, 2024 12:59 PM
To: Michael Riley <michael.b.riley@spp.org>; Carrie Simpson <csimpson@spp.org>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>
Cc: Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov>; Chris Nolen <cnolen@spp.org>
Subject: RE: [EXTERNAL] RE: Phase 1 Funding Payment Question

Hi Mike,

Thanks for letting us know that the final payment will be invoiced in April. Todd is telling me that we need to request an accounting of the $9.7 million spend as justification for our last payment. Let me know if that is something that we need to discuss.

Thanks,
Andy

Andy Meyers
apmeyers@bpa.gov
(w) 503-230-3014 | (c) (b)(6) [redacted]
Bonneville Power Administration
Market Initiatives
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

From: Michael Riley <michael.b.riley@spp.org>
Sent: Wednesday, March 6, 2024 2:55 PM
To: Carrie Simpson <csimpson@spp.org>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>
Cc: Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov>; Chris Nolen <cnolen@spp.org>
Subject: [EXTERNAL] RE: Phase 1 Funding Payment Question

Hello –

I'm adding Todd and Tom to the chain. I've pasted Sections 3(a) and 4(d) of the SPP/BPA phase 1 agreement below and underlined pertinent provisions. It seems clear to me that since Phase 1 will be complete at the end of March 2024, the due date for the last Phase 1 payment would accelerate to be due at the end of April 2024. I invite Todd and/or Tom to weigh in.

Thanks
Mike

3. Markets+ Phases.

a. As described in Section 2.2.1.1 of the final proposal for SPP Markets+ ("Final Service Offering"), Bonneville will have the right to vote in the stakeholder process in Phase 1 during the Term of this Agreement. SPP will complete the Markets+ tariff and other governing documents and submit the tariff to FERC for approval. Phase 1 will be completed on the Filing Date. <u>After the Filing Date, Post Phase 1 will begin to support the responses, technical analysis and research necessitated by FERC filing.</u>

4. Funding and Payments.

(d) As set forth in the table below, Bonneville's Phase 1 Obligation will be split into four payments. Thirty (30) calendar days prior to each payment due date identified below, SPP will deliver an invoice to Bonneville for the percentage share of Bonneville's Phase 1 Obligation, as set forth in Exhibit A. In the event Phase 1 is completed prior to January 1, 2025, Bonneville's Phase 1 Obligation shall become due and payable in full no later than thirty (30) days after completion of Phase 1.

Payment No.	Payment Due Date	Percentage
1	May 20, 2023	40%
2	September 1, 2023	20%
3	February 1, 2024	20%
4	January 1, 2025	20%

From: Carrie Simpson <csimpson@spp.org>
Sent: Wednesday, March 6, 2024 9:49 AM
To: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Cc: Zimmerman, Nita <nmzimmerman@bpa.gov>; Michael Riley <michael.b.riley@spp.org>; Chris Nolen <cnolen@spp.org>
Subject: RE: Phase 1 Funding Payment Question

Hi Andy,
I've added SPP legal to the chain because I am unfamiliar with BPA's schedule of payments. Mike/Chris – can you answer Andy's question?

Thanks!
Carrie

From: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Sent: Tuesday, March 5, 2024 10:59 AM
To: Carrie Simpson <csimpson@spp.org>
Cc: Zimmerman, Nita <nmzimmerman@bpa.gov>
Subject: **External Email** Phase 1 Funding Payment Question

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Hi Carrie,

There is one item that I forgot to bring up yesterday regarding phase 1 funding payments. When the funding agreement was signed in early 2023 Bonneville established a schedule of payments for our phase 1 costs. This was due to a clause that in which the federal government is not allowed to prepay for services. Our last phase 1 funding payment, separate from the upcoming monthly run rate payments, of approximately $300K is due on January 1 2025. We are working under the assumption that the final phase 1 funding payment will remain due on January 1 2025. Can you please confirm that SPP has no intention of asking for this final payment earlier than January 1 2025.

Thanks
Andy

Andy Meyers

apmeyers@bpa.gov
(w) 503-230-3014 | (c) (b)(6)
Bonneville Power Administration
Market Initiatives
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

From: Antoine Lucas <alucas@spp.org>
Sent: Wednesday, November 29, 2023 4:12 PM
To: Zimmerman,Nita M (BPA) - MT-3
Subject: RE: **External Email** RE: [EXTERNAL] Markets+ Leaders, please take Phase 2 survey by 11/29

Nita,

There has not been more discussion of a pay as you go approach since the last round of feedback on the options.

Thanks,
Antoine Lucas
Phone: *501-614-3382*
Email: *alucas@spp.org*

From: Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov>
Sent: Wednesday, November 29, 2023 11:46 AM
To: Antoine Lucas <alucas@spp.org>
Subject: RE: **External Email** RE: [EXTERNAL] Markets+ Leaders, please take Phase 2 survey by 11/29

Thank you, Antoine. We had a great Thanksgiving and I hope you did as well.

One more question...has there been any further discussion of a pay as you go option?

Thank you,
Nita

From: Antoine Lucas <alucas@spp.org>
Sent: Tuesday, November 28, 2023 5:29 PM
To: Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov>
Subject: Re: **External Email** RE: [EXTERNAL] Markets+ Leaders, please take Phase 2 survey by 11/29

Nita,

I hope you had a great Thanksgiving holiday! We will not share results of the survey outside of the executive funding party call.

Thanks,
Antoine
Sent from my iPhone

On Nov 28, 2023, at 12:14 PM, Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov> wrote:

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nmzimmerman@bpa.gov and are expecting this email.
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Hi Antoine,

Hope you are doing well.

Quick question...will the survey responses be confidential or will they be shared publicly? We are comfortable with them being discussed at the Executive member meeting, but are hoping these will not be posted anywhere.

Thank you,
Nita

Nita Zimmerman (she/her)
Chief Business Transformation Officer
BONNEVILLE POWER ADMINISTRATION
bpa.gov | P 503-230-3935 | C (b)(6)

From: Antoine Lucas <alucas@spp.org>
Sent: Friday, November 17, 2023 1:15 PM
Subject: [EXTERNAL] Markets+ Leaders, please take Phase 2 survey by 11/29

Markets+ Leaders,

Good afternoon. Following up on Monday's Markets + leadership call, I've attached a slide deck outlining the Phase 2B funding options and timeline.

To help us plan ahead for Markets+ Phase 2, please take our survey by EOB Nov. 29.
TAKE THE PHASE 2 SURVEY

Please submit one survey per company. You may forward this email internally if you'd like someone else to complete it on your behalf. I've attached the survey questions if you'd like to review them before submitting.

After we receive the submitted names and contact information for your CFOs or people responsible for making funding decisions, we will schedule a call with our CFO.

Thank you for your partnership in building Markets+.

Antoine Lucas
Vice President, Markets
Southwest Power Pool
Phone: *501-614-3382*
Email: *alucas@spp.org*

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From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Monday, February 12, 2024 2:22 PM
To: Laura Trolese; Mantifel,Russell (BPA) - MTM-3; Ericksen, Ryan; Alyssa.Koslow@aps.com; Bobby.Olsen@srpnet.com; arichins@idahopower.com; Brian.Cole@aps.com; Justin.Thompson@aps.com; David.Rubin@nvenergy.com; cnorris@cityoftacoma.org; Spires, Jeff; crjohnson@cityoftacoma.org; seshbach@cityoftacoma.org; Chris.Hofmann@srpnet.com; Agnes.Lut@srpnet.com; Barbara.CenalmorBruquetas@srpnet.com; RJohnson@wapa.gov; nick.detmer@xcelenergy.com; sanders@wapa.gov; Cooper,Suzanne B (BPA) - P-6; Kirby,Elizabeth A (BPA) - MTM-3; shawn.smith@chelanpud.org; Aitken, Meredith; Scott.Kinney@avistacorp.com; Kevin Nordt; dchurchman@gcpud.org; rflanig@gcpud.org; (b) (6) @tep.com; joseph.c.taylor@xcelenergy.com; Lindsey.Schlekeway@nvenergy.com; mike.bradshaw@chelanpud.org; Marcie.Martin@srpnet.com; KAnderson2@idahopower.com; Kiley.Moore@nvenergy.com; Tyler.Moore@aps.com; mlyons@gcpud.org; omaya.ahmad@aps.com; DeForest,Lon C (BPA) - PTMP-5; Cook,Joel D (BPA) - K-7; Zimmerman,Nita M (BPA) - MT-3; Fredrickson,Rebecca E (BPA) - TSQ-TPP-2; Dibble,Rachel L (BPA) - PT-5; Gaube,Stephen J (BPA) - PTMP-5; Meyers,Andrew P (BPA) - MTM-3; Glasgow, Jonathan - Marketing; Macdonald, Greg; Janet Jaspers; Hayes,Matthew C (BPA) - MTM-3; Vincent.ching@pse.com; ghoffman@wapa.gov; delia.patterson@srpnet.com; Josh C Robertson; Zahnow, Jessica Lynn; kevin.holland@avistacorp.com; robert.follini@avistacorp.com; morgan.stach@avistacorp.com; Dan Williams; cdean@wapa.gov; aust@wapa.gov; degracie@wapa.gov; paulsen@wapa.gov; Applegate, Rick; Lindgren, Neil; Tuuli Hakala; Kent.Walter@aps.com; Truong,Mai N (BPA) - TSB-TPP-2; Magdalena A Johnson; Williams,Antionette L (BPA) - PTL-5; Allison.Hirsch@aps.com; (b) (6) ; Kochheiser,Todd W (BPA) - TOI-DITT-2; Britney.Morgan@aps.com
Cc: Civelli,Jarrett C (BPA) - MTM-3
Subject: [EXTERNAL] RE: 2/12/24 SPP Markets + BA Working Group
Attachments: Markets+ WRAP coordination proposal v3.docx

Please see attached the document discussed today as the first item on the agenda.

Meredith will reach out to hear your feedback.

Regards,

Mark Holman | Managing Director | Powerex Corp. | Direct (b)(6)

From: Laura Trolese <ltrolese@teainc.org>
Sent: Saturday, February 10, 2024 7:44 AM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Ericksen, Ryan <Ryan.Ericksen@avistacorp.com>; Alyssa.Koslow@aps.com; Bobby.Olsen@srpnet.com; arichins@idahopower.com; Brian.Cole@aps.com; Justin.Thompson@aps.com; David.Rubin@nvenergy.com; cnorris@cityoftacoma.org; Holman, Mark <Mark.Holman@powerex.com>; Spires, Jeff <Jeff.Spires@powerex.com>; crjohnson@cityoftacoma.org; seshbach@cityoftacoma.org; Chris.Hofmann@srpnet.com; Agnes.Lut@srpnet.com;

29320162

Barbara.CenalmorBruquetas@srpnet.com; RJohnson@wapa.gov; nick.detmer@xcelenergy.com; sanders@wapa.gov; Suzanne Cooper <sbcooper@bpa.gov>; Kirby,Elizabeth A (BPA) - B-3 <eakirby@bpa.gov>; shawn.smith@chelanpud.org; Aitken, Meredith <Meredith.Aitken@powerex.com>; Scott.Kinney@avistacorp.com; Kevin Nordt <knordt@gcpud.org>; dchurchman@gcpud.org; rflanig@gcpud.org; (b) (6) @tep.com; joseph.c.taylor@xcelenergy.com; Lindsey.Schlekeway@nvenergy.com; mike.bradshaw@chelanpud.org; Marcie.Martin@srpnet.com; KAnderson2@idahopower.com; Kiley.Moore@nvenergy.com; Tyler.Moore@aps.com; mlyons@gcpud.org; omaya.ahmad@aps.com; DeForest,Lon C (BPA) - PTMP-5 <lcdeforest@bpa.gov>; Joel Cook <jdcook@bpa.gov>; Zimmerman,Nita M (BPA) - B-3 <nmzimmerman@bpa.gov>; Fredrickson,Rebecca E (BPA) - TSQ-TPP-2 <refredrickson@bpa.gov>; Dibble,Rachel L (BPA) - PT-5 <rldibble@bpa.gov>; Gaube,Stephen J (BPA) - PTMP-5 <sjgaube@bpa.gov>; Meyers,Andrew P (BPA) - B-3 <apmeyers@bpa.gov>; Glasgow, Jonathan - Marketing <Jonathan.Glasgow@pse.com>; Macdonald, Greg <Greg.Macdonald@pse.com>; Janet Jaspers <janet.jaspers@chelanpud.org>; mchayes@bpa.gov; Vincent.ching@pse.com; ghoffman@wapa.gov; delia.patterson@srpnet.com; Josh C Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; kevin.holland@avistacorp.com; robert.follini@avistacorp.com; morgan.stach@avistacorp.com; Dan Williams <dwilliams2@teainc.org>; cdean@wapa.gov; aust@wapa.gov; degracie@wapa.gov; paulsen@wapa.gov; Applegate, Rick <rapplegate@cityoftacoma.org>; Lindgren, Neil <Lindgren@WAPA.GOV>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Kent.Walter@aps.com; Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Magdalena A Johnson <Magdalena.Johnson@srpnet.com>; Williams,Antionette L (BPA) - TSQT-TPP-2 <alsewell@bpa.gov>; Allison.Hirsch@aps.com; (b) (6) @tep.com>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Britney.Morgan@aps.com
Cc: jccivelli@bpa.gov
Subject: 2/12/24 SPP Markets + BA Working Group

Caution: External Email

Below is the agenda for our meeting on Monday. Let me know if there are any other items you'd like to add to the agenda to discuss with the group.

SPP Markets + BA Work Group
Monday, February 12 from 1:00pm – 3:00pm Pacific Time

- **WRAP/Markets + Coordination Concept –** *Mark Holman*
- **Holistic Tariff Review –** *Laura Trolese*
  - See "markets plus tariff_public_012624" attached
    - MTU for Virtuals
    - GHG Settlements
    - Other Items anyone wants to discuss?
- **Communication & Outreach -** *Laura Trolese*
- **Phase 2 Funding and Timing -** *All*
- **Other Items?**

Laura Trolese
Director, Western Markets & Strategy

Mobile: (b)(6)
Email: ltrolese@teainc.org

29320162

Laura Trolese
Director, Western Markets & Strategy

Mobile: (b)(6)
Email: ltrolese@teainc.org

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Markets+ - WRAP Coordination Concept

Background

SPP Markets+ provides an organized market solution with:

(1) independent and inclusive governance;

(2) a market design that reflects broad stakeholder input and industry best practices; and

(3) a common resource adequacy requirement, in the form of required participation in the Western Resource Adequacy Program (WRAP).

Achieving a broad and diverse footprint requires that each potential participant have a solid business case for moving forward. It is becoming clear that some entities may face near-term capacity deficiencies due to delays associated with installation of new resources, and/or associated transmission upgrades. If these entities were to join Market+ at inception—before these capacity deficiencies were fully resolved—they would face the prospect of significant WRAP Forward Showing deficiency charges, in addition to the costs of funding Markets+. This could inadvertently create incentives for entities facing such circumstances to defer Markets+ participation, which would limit the initial size and diversity of the Markets+ footprint. All Markets+ participants will benefit from finding solutions to maximize the size and diversity of the Markets+ footprint, while ensuring all participants are taking steps to meet WRAP requirements.

Markets+ / WRAP Coordination Concept

This proposed concept is intended to assist those entities with near-term resource adequacy deficits that might be deterred from joining SPP's Markets+ in the initial years due to the Markets+ requirement for WRAP participation, and the anticipated WRAP Forward Showing deficiency charges such entities might incur.

To reduce this potential burden, it is proposed that, for the first two years (four WRAP binding seasons) of Markets+, Markets+ participants would waive receiving a distribution of any WRAP Forward Showing deficiency charges assessed on another Markets+ participant, provided that the deficient Markets+ participant has submitted a viable plan to pass the WRAP Forward Showing for Summer 2029 and Winter 2029/30.

Multiple options exist to enable this outcome, including but not limited to (1) establishing an escrow agent to receive WRAP Forward Showing deficiency charges and distribute some or all of these funds back to deficient entities; or (2) working with the WRAP program operator to effect financial settlement adjustments consistent with instructions from Markets+ participants.

Note that this proposal would not seek or require any change to the WRAP tariff, nor would it apply to WRAP members that do not participate in Markets+. This proposal is also not an opening for capacity-deficient entities to participate in Markets+, since the proposal makes participation in this framework contingent upon a viable plan to achieve resource adequacy by a date certain. The proposal is strictly intended to facilitate participation in Markets+ *at inception* by entities that may initially face charges associated with the requirement to participate in WRAP.

Importantly, Market+ participants that forgo receiving WRAP Forward Showing deficiency charges from capacity deficient Markets+ participants would be no worse off financially than had the WRAP-deficient Markets+ participant not yet joined WRAP and Markets+.

Exploration of this concept is supported by:

[names]

From: Zimmerman,Nita M (BPA) - MT-3
Sent: Thursday, March 7, 2024 8:24 AM
To: Meyers,Andrew P (BPA) - MTM-3; Miller,Todd E (BPA) - LP-7; Michael Riley; Carrie Simpson; Davis,Thomas E (BPA) - LT-7
Cc: Chris Nolen
Subject: RE: [EXTERNAL] RE: Phase 1 Funding Payment Question

Thank you, all!

From: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Sent: Wednesday, March 6, 2024 4:42 PM
To: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Michael Riley <michael.b.riley@spp.org>; Carrie Simpson <csimpson@spp.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>
Cc: Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov>; Chris Nolen <cnolen@spp.org>
Subject: RE: [EXTERNAL] RE: Phase 1 Funding Payment Question

Thanks Todd. I gave Nita a heads up that this might be the case but I'll let her know that we should expect an invoice 30 days after the tariff filing for the last payment.

Andy Meyers
apmeyers@bpa.gov
(w) 503-230-3014 | (c) (b)(6)
Bonneville Power Administration
Market Initiatives
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

From: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>
Sent: Wednesday, March 6, 2024 4:38 PM
To: Michael Riley <michael.b.riley@spp.org>; Carrie Simpson <csimpson@spp.org>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>
Cc: Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov>; Chris Nolen <cnolen@spp.org>
Subject: RE: [EXTERNAL] RE: Phase 1 Funding Payment Question

Mike/Andy,

I agree that the final payment is due 30 days after the tariff filing date. At the time we entered into the agreement the assumption was that there would be a long timeline for phase one, but as stated clearly in the agreement the final payment is due 30 days after phase 1 ends. Andy, give me a call if we need to discuss this.

-Todd

From: Michael Riley <michael.b.riley@spp.org>
Sent: Wednesday, March 6, 2024 3:55 PM
To: Carrie Simpson <csimpson@spp.org>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>

Cc: Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov>; Chris Nolen <cnolen@spp.org>
Subject: [EXTERNAL] RE: Phase 1 Funding Payment Question

Hello –

I'm adding Todd and Tom to the chain. I've pasted Sections 3(a) and 4(d) of the SPP/BPA phase 1 agreement below and underlined pertinent provisions. It seems clear to me that since Phase 1 will be complete at the end of March 2024, the due date for the last Phase 1 payment would accelerate to be due at the end of April 2024. I invite Todd and/or Tom to weigh in.

Thanks
Mike

3. Markets+ Phases.

a. As described in Section 2.2.1.1 of the final proposal for SPP Markets+ ("Final Service Offering"), Bonneville will have the right to vote in the stakeholder process in Phase 1 during the Term of this Agreement. SPP will complete the Markets+ tariff and other governing documents and submit the tariff to FERC for approval. Phase 1 will be completed on the Filing Date. After the Filing Date, Post Phase 1 will begin to support the responses, technical analysis and research necessitated by FERC filing.

4. Funding and Payments.
(d) As set forth in the table below, Bonneville's Phase 1 Obligation will be split into four payments. Thirty (30) calendar days prior to each payment due date identified below, SPP will deliver an invoice to Bonneville for the percentage share of Bonneville's Phase 1 Obligation, as set forth in Exhibit A. In the event Phase 1 is completed prior to January 1, 2025, Bonneville's Phase 1 Obligation shall become due and payable in full no later than thirty (30) days after completion of Phase 1.

Payment No.	Payment Due Date	Percentage
1	May 20, 2023	40%
2	September 1, 2023	20%
3	February 1, 2024	20%
4	January 1, 2025	20%

From: Carrie Simpson <csimpson@spp.org>
Sent: Wednesday, March 6, 2024 9:49 AM
To: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Cc: Zimmerman, Nita <nmzimmerman@bpa.gov>; Michael Riley <michael.b.riley@spp.org>; Chris Nolen <cnolen@spp.org>
Subject: RE: Phase 1 Funding Payment Question

Hi Andy,
I've added SPP legal to the chain because I am unfamiliar with BPA's schedule of payments. Mike/Chris – can you answer Andy's question?

Thanks!
Carrie

From: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Sent: Tuesday, March 5, 2024 10:59 AM
To: Carrie Simpson <csimpson@spp.org>

Cc: Zimmerman, Nita <nmzimmerman@bpa.gov>
Subject: **External Email** Phase 1 Funding Payment Question

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Hi Carrie,

There is one item that I forgot to bring up yesterday regarding phase 1 funding payments. When the funding agreement was signed in early 2023 Bonneville established a schedule of payments for our phase 1 costs. This was due to a clause that in which the federal government is not allowed to prepay for services. Our last phase 1 funding payment, separate from the upcoming monthly run rate payments, of approximately $300K is due on January 1 2025. We are working under the assumption that the final phase 1 funding payment will remain due on January 1 2025. Can you please confirm that SPP has no intention of asking for this final payment earlier than January 1 2025.

Thanks
Andy

Andy Meyers
apmeyers@bpa.gov
(w) 503-230-3014 | (c) (b)(6)
Bonneville Power Administration
Market Initiatives
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

From: Antoine Lucas <alucas@spp.org>
Sent: Friday, March 8, 2024 7:25 PM
To: Lebovitz, Mallory <Mallory.Lebovitz@pinnaclewest.com>; Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov>
Cc: Crawford, Cindy M <Cynthia.Crawford@pinnaclewest.com>; Cole, Brian <brian.cole@aps.com>; Hannigan IV,Benjamin R (BPA) - A-7 <brhannigan@bpa.gov>
Subject: RE: [EXTERNAL] Re: SPP Strategic Advance Panel Prep

Mallory,

Good catch! I've sent a meeting request to John and Jeff, and have also included everyone on this email distribution for your convenience. There will be roughly 40 people in the audience consisting of SPP's Executive team, Board of Directors, and Members Committee (Executives from a subset of SPP's membership that advises the Board). We'd like to allow a question or two from the audience if there is time after the planned discussion. Let me know if this covers what you need.

Thanks,

Antoine Lucas
Phone: (b)(6) [redacted]
Email: *alucas@spp.org*

From: Lebovitz, Mallory <Mallory.Lebovitz@pinnaclewest.com>
Sent: Friday, March 8, 2024 2:01 PM
To: Antoine Lucas <alucas@spp.org>; Zimmerman, Nita <nmzimmerman@bpa.gov>
Cc: Crawford, Cindy M <Cynthia.Crawford@pinnaclewest.com>; Cole, Brian <brian.cole@aps.com>; Hannigan IV,Benjamin R (BPA) - A-7 <brhannigan@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] Re: SPP Strategic Advance Panel Prep

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Antoine – sorry if I missed this, are there login details or a link that John and Jeff should have for the panel? There is no formal SPP meeting notice on Jeff's calendar for the 14th. Also a couple other questions:

- How many people will be in the audience?
- Will there be any open Q&A time during the panelist 45 min?

Thanks and be safe,

msl

Mallory Savan Lebovitz
Chief of Staff
Office of the Chairman and CEO
O: 602.250.4441 | M: (b)(6)
Mallory.Lebovitz@pinnaclewest.com

aps.com | pinnaclewest.com

From: Antoine Lucas <alucas@spp.org>
Sent: Thursday, March 7, 2024 1:35 PM
To: Zimmerman, Nita <nmzimmerman@bpa.gov>; Lebovitz, Mallory <Mallory.Lebovitz@pinnaclewest.com>
Cc: Crawford, Cindy M <Cynthia.Crawford@pinnaclewest.com>; Cole, Brian <Brian.Cole@aps.com>; Hannigan IV,Benjamin R (BPA) - A-7 <brhannigan@bpa.gov>
Subject: RE: [EXTERNAL] Re: SPP Strategic Advance Panel Prep

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Excellent! If anything changes, just let me know. We will be taking a break at the retreat between 10:30 a.m. CT and 10:45 a.m. CT to facilitate virtual participation logistics. We should be able to work out any communication tool issues during that window of time. I think I mentioned that before, but thought it was important enough to repeat.

Thank you all for your efforts and the ease of coordination! It is clear to me that John and Jeff are in good hands!

Antoine Lucas
Phone: *501-614-3382*
Email: *alucas@spp.org*

From: Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov>
Sent: Thursday, March 7, 2024 1:30 PM
To: Lebovitz, Mallory <Mallory.Lebovitz@pinnaclewest.com>; Antoine Lucas <alucas@spp.org>
Cc: Crawford, Cindy M <Cynthia.Crawford@pinnaclewest.com>; Cole, Brian <brian.cole@aps.com>; Hannigan IV,Benjamin R (BPA) - A-7 <brhannigan@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] Re: SPP Strategic Advance Panel Prep

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I believe we are good as well. Will let you know if we have any follow up questions.

Thank you!

From: Lebovitz, Mallory <Mallory.Lebovitz@pinnaclewest.com>
Sent: Thursday, March 7, 2024 11:18 AM
To: Antoine Lucas <alucas@spp.org>; Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov>
Cc: Crawford, Cindy M <Cynthia.Crawford@pinnaclewest.com>; Cole, Brian <Brian.Cole@aps.com>; Hannigan IV,Benjamin R (BPA) - A-7 <brhannigan@bpa.gov>
Subject: Re: [EXTERNAL] Re: SPP Strategic Advance Panel Prep

I think we are good to go! I planned to take another look at the logon info tomorrow just to ensure no questions so will loop back by EOD! Thanks Antoine!

Mallory Savan Lebovitz
Chief of Staff
O: 602.250.4111 | M: (b)(6)

From: Antoine Lucas <alucas@spp.org>
Sent: Thursday, March 7, 2024 12:10:02 PM
To: Zimmerman, Nita <nmzimmerman@bpa.gov>; Lebovitz, Mallory <Mallory.Lebovitz@pinnaclewest.com>
Cc: Crawford, Cindy M <Cynthia.Crawford@pinnaclewest.com>; Cole, Brian <Brian.Cole@aps.com>; Hannigan IV,Benjamin R (BPA) - A-7 <brhannigan@bpa.gov>
Subject: RE: [EXTERNAL] Re: SPP Strategic Advance Panel Prep

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Good morning and afternoon! I'm just checking in on panel prep and reaching out to determine if you all have any questions or needs as we mover closer to next week's event. Let me know and I'll work with you to ensure that you have what you need.

Thanks,

Antoine Lucas
Phone: *501-614-3382*
Email: *alucas@spp.org*

From: Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov>
Sent: Tuesday, February 27, 2024 5:38 PM
To: Antoine Lucas <alucas@spp.org>; Lebovitz, Mallory <Mallory.Lebovitz@pinnaclewest.com>
Cc: Crawford, Cindy M <Cynthia.Crawford@pinnaclewest.com>; Cole, Brian <brian.cole@aps.com>; Hannigan IV,Benjamin R (BPA) - A-7 <brhannigan@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] Re: SPP Strategic Advance Panel Prep

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Thank you, Antoine. I will also let you know if we have any follow up questions.

Thanks,
Nita

From: Antoine Lucas <alucas@spp.org>
Sent: Tuesday, February 27, 2024 2:40 PM
To: Lebovitz, Mallory <Mallory.Lebovitz@pinnaclewest.com>; Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov>
Cc: Crawford, Cindy M <Cynthia.Crawford@pinnaclewest.com>; Cole, Brian <brian.cole@aps.com>; Hannigan IV,Benjamin R (BPA) - A-7 <brhannigan@bpa.gov>
Subject: [EXTERNAL] Re: SPP Strategic Advance Panel Prep

That's funny! Business casual will work fine for this event! Let me know if you have any other questions.

Thanks,

Antoine

Get Outlook for iOS

From: Lebovitz, Mallory <Mallory.Lebovitz@pinnaclewest.com>
Sent: Tuesday, February 27, 2024 4:27:36 PM
To: Antoine Lucas <alucas@spp.org>; Zimmerman, Nita <nmzimmerman@bpa.gov>
Cc: Crawford, Cindy M <Cynthia.Crawford@pinnaclewest.com>; Cole, Brian <brian.cole@aps.com>; Hannigan IV,Benjamin R (BPA) - A-7 <brhannigan@bpa.gov>
Subject: **External Email** RE: SPP Strategic Advance Panel Prep

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Please click the "Report Phish" button if you are unsure about this email.

Thanks Antoine, will review and let you know if questions come up. Even though virtual, assume business or business casual attire – at least from the waist up😊?

Thanks and be safe,

msl

Mallory Savan Lebovitz
Chief of Staff
Office of the Chairman and CEO
O: 602.250.4441 | M: (b)(6)
Mallory.Lebovitz@pinnaclewest.com

aps.com | pinnaclewest.com

From: Antoine Lucas <alucas@spp.org>
Sent: Tuesday, February 27, 2024 12:14 PM
To: Lebovitz, Mallory <Mallory.Lebovitz@pinnaclewest.com>; Zimmerman, Nita <nmzimmerman@bpa.gov>
Cc: Crawford, Cindy M <Cynthia.Crawford@pinnaclewest.com>; Cole, Brian <Brian.Cole@aps.com>; Hannigan IV,Benjamin R (BPA) - A-7 <brhannigan@bpa.gov>
Subject: SPP Strategic Advance Panel Prep

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Mallory/Nita,

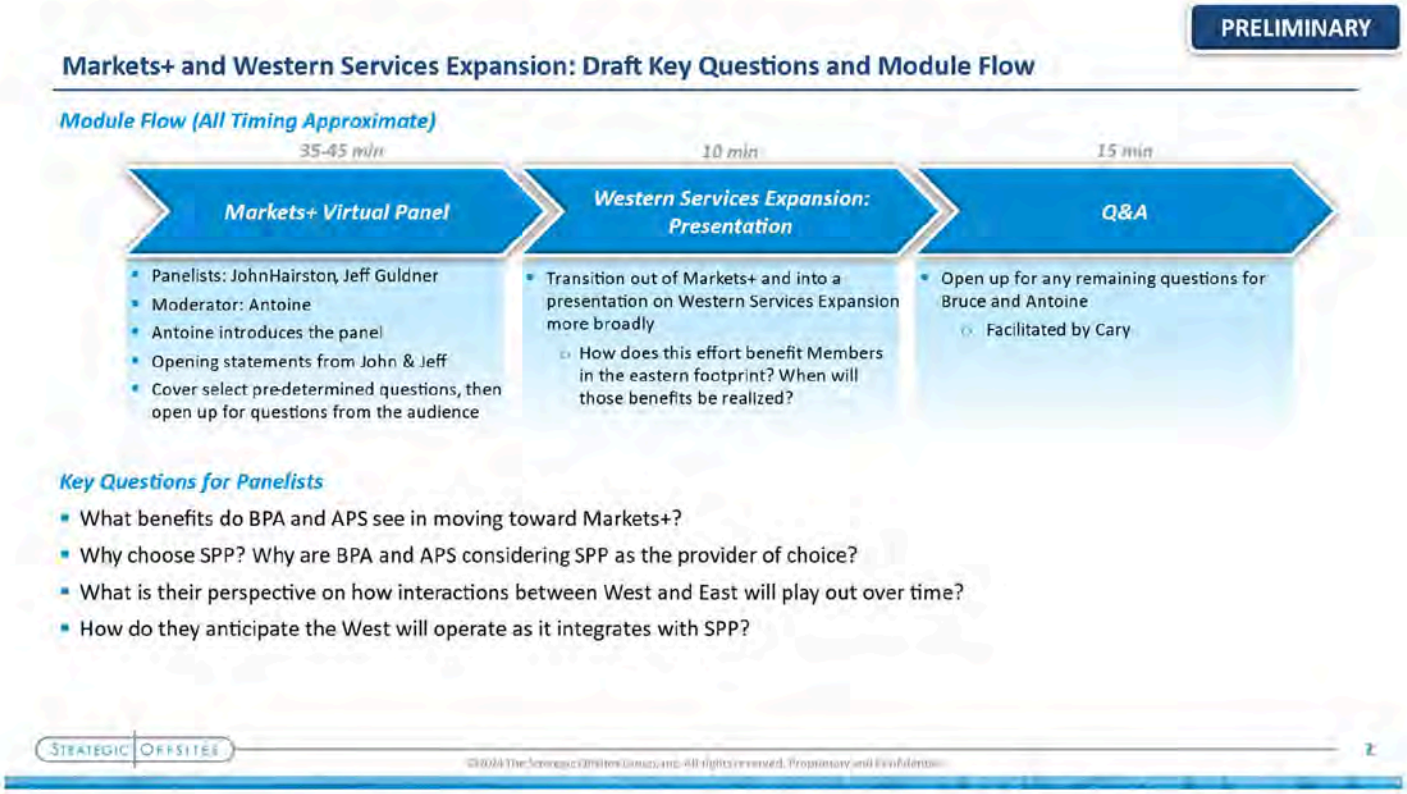
Please see the format for the panel below. The segment will be conducted in 3 blocks. John and Jeff will only need to participate for the first block of the segment, which is the CEO panel. The goal of the panel is to provide insight into the potential value of Markets+ to western utilities from a CEO level strategic perspective. Once the first block is completed, we'll let John and Jeff go and then SPP staff will begin the 2nd Block of the segment to discuss the strategic value of overall western expansion for SPP. SPP staff will complete the segment with the 3rd block that consists of Q&A. I'm sharing the full layout in case it helps in the development of John and Jeff's comments. The timing of John and Jeff's panel is below.

8:30 a.m. PT (Same as AZ time on date of the event): Sound check and virtual meeting logistics test
8:45 a.m. PT (Panel begins)
9:30 a.m. PT (Panel ends)

Sample questions that I plan to ask the panelists are included in the slide below. Please let me know in advance if the opening remarks will address some of these questions. If so, I'll prepare and share alternates.

If you would like to have a brief call for Q&A on any aspect of the panel, please let me know. My availability this week is as follows:

Wednesday, February 28th: 8:30 a.m. – 11:00 a.m. PT or 9:30 a.m. – Noon AZ time
Thursday, February 29th: 8:00 a.m. – 9:30 a.m. PT or 9:00 a.m. – 10:30 AZ time
Friday, March 1st: 9:00 a.m. – 9:30 a.m. PT or 10:00 a.m. – 10:30 a.m. AZ time



Thanks,

Antoine Lucas
Vice President, Markets
Southwest Power Pool
Phone: *501-614-3382*
Email: *alucas@spp.org*

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From: Antoine Lucas <alucas@spp.org>
Sent: Thursday, October 5, 2023 12:44 PM
To: Zimmerman,Nita M (BPA) - B-3
Cc: Mantifel,Russell (BPA) - BT-3; Dibble,Rachel L (BPA) - PT-5
Subject: RE: **External Email** RE: [EXTERNAL] RE: Funding Party Email
Attachments: 2023-10-09 Agenda Markets+ Funding Party Executives.pdf

Here you go!

Thanks,

Antoine Lucas
Phone: *501-614-3382*
Email: *alucas@spp.org*

From: Zimmerman,Nita M (BPA) - B-3 <nmzimmerman@bpa.gov>
Sent: Thursday, October 5, 2023 2:43 PM
To: Antoine Lucas <alucas@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Dibble, Rachel <rldibble@bpa.gov>
Subject: RE: **External Email** RE: [EXTERNAL] RE: Funding Party Email

No. I've heard Phase 2 funding and Transmission Planning initiative, but if you could forward that would be great. Thank you!

From: Antoine Lucas <alucas@spp.org>
Sent: Thursday, October 5, 2023 12:41 PM
To: Zimmerman,Nita M (BPA) - B-3 <nmzimmerman@bpa.gov>
Cc: Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - PT-5 <rldibble@bpa.gov>
Subject: RE: **External Email** RE: [EXTERNAL] RE: Funding Party Email

Nita,

Thanks for the notice! Did Joel provide you with the agenda? That may have gone out before you and Rachel were added to the distribution list.

Antoine Lucas
Phone: *501-614-3382*
Email: *alucas@spp.org*

From: Zimmerman,Nita M (BPA) - B-3 <nmzimmerman@bpa.gov>
Sent: Thursday, October 5, 2023 2:32 PM
To: Antoine Lucas <alucas@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Dibble, Rachel <rldibble@bpa.gov>
Subject: RE: **External Email** RE: [EXTERNAL] RE: Funding Party Email

Hi Antoine,

Just a note that I will be calling in for Joel on Monday at the exec call. As you may have heard it is a federal holiday for us and Joel already has other commitments.

Thank you!
Nita

From: Antoine Lucas <alucas@spp.org>
Sent: Wednesday, October 4, 2023 9:42 AM
To: Zimmerman,Nita M (BPA) - B-3 <nmzimmerman@bpa.gov>
Cc: Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>; Carrie Simpson <csimpson@spp.org>; Dibble,Rachel L (BPA) - PT-5 <rldibble@bpa.gov>; Meyers,Andrew P (BPA) - BT-3 <apmeyers@bpa.gov>
Subject: [EXTERNAL] RE: Funding Party Email

Nita,

I have had you added to the distribution list for the meeting. Also, Andy I apologize for not responding to your earlier request. I started a reply the day I received the email, but never completed it. In my mind, I had followed through. I may be getting old because the incomplete reply message is still sitting in my drafts folder.

All prior correspondence for these meetings has gone to both John Hairston and Joel Cook. Let me know if we need to chat to bridge any divides in information exchange.

Thanks,
Antoine Lucas
Phone: *501-614-3382*
Email: *alucas@spp.org*

From: Zimmerman,Nita M (BPA) - B-3 <nmzimmerman@bpa.gov>
Sent: Tuesday, October 3, 2023 4:17 PM
To: Antoine Lucas <alucas@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Carrie Simpson <csimpson@spp.org>; Dibble, Rachel <rldibble@bpa.gov>; Meyers,Andrew P (BPA) - BT-3 <apmeyers@bpa.gov>
Subject: **External Email** RE: Funding Party Email

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Hi Antoine,

Is it possible to add me to the executive email distribution list? I promise not to attend the meetings or do anything nefarious with the emails, but Joel gets a lot more email than I do and that may make sure we don't miss any.

Thank you,
Nita

From: Meyers,Andrew P (BPA) - B-3 <apmeyers@bpa.gov>
Sent: Wednesday, September 27, 2023 2:24 PM
To: alucas@spp.org

Cc: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Carrie Simpson <csimpson@spp.org>; Zimmerman,Nita M (BPA) - B-3 <nmzimmerman@bpa.gov>; Dibble,Rachel L (BPA) - PT-5 <rldibble@bpa.gov>
Subject: Funding Party Email

Hi Antoine,

Bonneville is aware of SPP's outreach to stakeholder executives regarding M+ phase 2 funding options. We were forwarded your email but I am writing to inquire on who at Bonneville the email was sent to as we seem to be unable to locate it. We suspect that it might have gone to Joel Cook or John Hairston? We may be missing your email due it being inadvertently diverted by a spam email filter that mis-identified it.

Could you or Carrie please confirm who at BPA should have received your email? Additionally, could you please include Rachel Dibble (Bonneville's MPEC representative) on the distribution list for future similar communications.

Thanks,
Andy

Andy Meyers
apmeyers@bpa.gov
(w) 503-230-3014 | (c) (b)(6)
Bonneville Power Administration
Market Initiatives
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

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SOUTHWEST POWER POOL, INC.
Markets+ Funding Party Executives

Oct. 9, 2023 | 10:00 a.m. CT | Virtual Meeting

Join meeting:
https://mysppmeeting.webex.com/mysppmeeting/j.php?MTID=m10cc7f2b264fad2706f99284bcd98675
Meeting number (access code): (b)(6) [redacted]
Meeting password: (b)(6) [redacted]
If unable to use the "call me" feature, please dial 877-309-3457 and enter (b)(6) [redacted]

1. Markets+ Phase 1 update: Schedule & key market design status
2. Markets+ Phase 2 update: Funding options & associated timeline
3. Western Transmission Expansion Coalition
4. Nov. 1 Fall Leadership Forum: Agenda & speakers
5. Other items

Antitrust: SPP strictly prohibits use of participation in SPP activities as a forum for engaging in practices or communications that violate the antitrust laws. Please avoid discussion of topics or behavior that would result in anti-competitive behavior, including but not limited to, agreements between or among competitors regarding prices, bid and offer practices, availability of service, product design, [illegible]

From: Antoine Lucas <alucas@spp.org>
Sent: Tuesday, February 27, 2024 11:14 AM
To: Mallory.Lebovitz@pinnaclewest.com; Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov>
Cc: Cynthia.Crawford@pinnaclewest.com; Cole, Brian <brian.cole@aps.com>; Hannigan IV,Benjamin R (BPA) - A-7 <brhannigan@bpa.gov>
Subject: [EXTERNAL] SPP Strategic Advance Panel Prep

Mallory/Nita,

Please see the format for the panel below. The segment will be conducted in 3 blocks. John and Jeff will only need to participate for the first block of the segment, which is the CEO panel. The goal of the panel is to provide insight into the potential value of Markets+ to western utilities from a CEO level strategic perspective. Once the first block is completed, we'll let John and Jeff go and then SPP staff will begin the 2nd Block of the segment to discuss the strategic value of overall western expansion for SPP. SPP staff will complete the segment with the 3rd block that consists of Q&A. I'm sharing the full layout in case it helps in the development of John and Jeff's comments. The timing of John and Jeff's panel is below.

8:30 a.m. PT (Same as AZ time on date of the event): Sound check and virtual meeting logistics test
8:45 a.m. PT (Panel begins)
9:30 a.m. PT (Panel ends)

Sample questions that I plan to ask the panelists are included in the slide below. Please let me know in advance if the opening remarks will address some of these questions. If so, I'll prepare and share alternates.

If you would like to have a brief call for Q&A on any aspect of the panel, please let me know. My availability this week is as follows;

Wednesday, February 28th: 8:30 a.m. – 11:00 a.m. PT or 9:30 a.m. – Noon AZ time
Thursday, February 29th: 8:00 a.m. – 9:30 a.m. PT or 9:00 a.m. – 10:30 AZ time
Friday, March 1st: 9:00 a.m. – 9:30 a.m. PT or 10:00 a.m. – 10:30 a.m. AZ time

29320338

PRELIMINARY

Markets+ and Western Services Expansion: Draft Key Questions and Module Flow

Module Flow (All Timing Approximate)



Key Questions for Panelists

- What benefits do BPA and APS see in moving toward Markets+?
- Why choose SPP? Why are BPA and APS considering SPP as the provider of choice?
- What is their perspective on how interactions between West and East will play out over time?
- How do they anticipate the West will operate as it integrates with SPP?

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Thanks,
Antoine Lucas
Vice President, Markets
Southwest Power Pool
Phone: *501-614-3382*
Email: *alucas@spp.org*

From: Kaye McCarty <kmccarty@spp.org>
Sent: Wednesday, January 17, 2024 10:51 AM
To: Zimmerman,Nita M (BPA) - MT-3
Cc: Cook,Joel D (BPA) - K-7; Jennelle Primm; Antoine Lucas
Subject: RE: [EXTERNAL] Markets+ Executive Leaders: Phase II Funding

Thank you for letting us know Nita.
Kaye

From: Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov>
Sent: Wednesday, January 17, 2024 12:46 PM
To: Kaye McCarty <kmccarty@spp.org>
Cc: Cook, Joel <jdcook@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] Markets+ Executive Leaders: Phase II Funding

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Hello Kaye,

I wanted to give you a heads up that I will be attending this meeting on behalf of Joel Cook. Marcus Harris will also be in attendance from BPA.

Thank you,
Nita

Nita Zimmerman (she/her)
Chief Business Transformation Officer
BONNEVILLE POWER ADMINISTRATION
bpa.gov | P 503-230-3935 | C (b)(6) [redacted]

-----Original Appointment-----
From: Kaye McCarty <kmccarty@spp.org>
Sent: Monday, January 8, 2024 1:49 PM
To: Kaye McCarty; Deborah Sterzing; Antoine Lucas; Jennelle Primm; jmertlich@gcpud.org; boverfi@gcpud.org; josh.kensok@pse.com; cara.peterman@pse.com; (b) (6) [redacted]@TEP.com; (b) (6) [redacted]@tep.com; amit.budhwar@powerex.com; bryan.r.davis@xcelenergy.com; Cook,Joel D (BPA) - K-7; Harris,Marcus A (BPA) - F-2; Aidan.McSheffrey@srpnet.com; Coggins, John; Patrick.bogle@aps.com; michael.behrens@nvenergy.com; Hakala, Tuuli
Subject: [EXTERNAL] Markets+ Executive Leaders: Phase II Funding
When: Friday, January 19, 2024 10:30 AM-11:30 AM (UTC-06:00) Central Time (US & Canada).
Where: WebEx

Friday, January 19th at 10:30am CST

Meeting title: **Markets+ Executive Leaders: Phase II Funding**
Deborah Sterzing, SPP CFO, and Sr. VP of Finance will lead this discussion focused on Markets+ Phase II Funding, including discussions on the process, available options, timeline, and the necessary steps. Your valuable insights and contributions to this discourse are highly encouraged.

Please forward this invitation to any other necessary decision makers within your organization.

You're a cohost for this Webex meeting.

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8773093457,(b)(6) ## US Toll Free

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If you are a host, click here and login site to view host information.

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From: Antoine Lucas <alucas@spp.org>
Sent: Tuesday, February 27, 2024 9:08 AM
To: Zimmerman,Nita M (BPA) - MT-3
Cc: Hannigan IV,Benjamin R (BPA) - A-7
Subject: RE: [EXTERNAL] SPP Strategic Advance Panel Participation

Nita,

I just received the information on the final layout for the event and panel. Let me read through it and put together a summary for you. We can schedule a short 30 minute call to discuss prep as well if you'd like.

Thanks,

Antoine Lucas
Phone: *501-614-3382*
Email: *alucas@spp.org*

From: Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov>
Sent: Tuesday, February 27, 2024 11:04 AM
To: Antoine Lucas <alucas@spp.org>
Cc: Hannigan IV,Benjamin R (BPA) - A-7 <brhannigan@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] SPP Strategic Advance Panel Participation

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Hi Antoine,

Checking in. Anything you need from us at this point?

Hope you are well!

Nita

From: Antoine Lucas <alucas@spp.org>
Sent: Wednesday, February 21, 2024 6:14 AM
To: Hairston,John L (BPA) - A-7 <jlhairston@bpa.gov>
Cc: Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov>; Hannigan IV,Benjamin R (BPA) - A-7 <brhannigan@bpa.gov>
Subject: Re: [EXTERNAL] SPP Strategic Advance Panel Participation

Thanks John! We couldn't have made the progress on the Markets+ Tariff without the leadership and engagement of you and your team throughout the process!

Antoine

Get Outlook for iOS

From: Hairston,John L (BPA) - A-7 <jlhairston@bpa.gov>
Sent: Tuesday, February 20, 2024 7:27:20 PM
To: Antoine Lucas <alucas@spp.org>
Cc: Zimmerman, Nita <nmzimmerman@bpa.gov>; Hannigan IV,Benjamin R (BPA) - A-7 <brhannigan@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] SPP Strategic Advance Panel Participation

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Thanks Antione,

I would like for you to work with Nita Zimmerman and my EA, Ben Hannigan. I will be in Savannah, GA at the time so will be participating from the east coast. Looking forward to the panel and congrats on getting MPEC approval for the markets plus tariff!

Bests,
John

John L. Hairston
Administrator/ CEO
Bonneville Power Administration
905 NE 11th Ave, Portland, Oregon 97232
(503) 230- 5262 (office)
(b)(6) (cell)
jlhairston@bpa.gov

From: Antoine Lucas <alucas@spp.org>
Sent: Tuesday, February 20, 2024 3:29 PM
To: Hairston,John L (BPA) - A-7 <jlhairston@bpa.gov>
Subject: Re: [EXTERNAL] SPP Strategic Advance Panel Participation

John,

I apologize for the delay in getting back to you with a specific time for the panel. It took a bit longer than I anticipated to get Jeff Guldner's participation schedule nailed down. We'd like to kick off day 2 of the Strategic Advance with your and Jeff's panel at 8:30 a.m. PT on Thursday, March 14th. Let me know if there is someone on your team that you'd like me to coordinate further details and preparation with as we near the event.

Thanks,
Antoine

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From: Antoine Lucas <alucas@spp.org>
Sent: Monday, February 5, 2024 10:18 AM
To: Hairston,John L (BPA) - A-7 <jlhairston@bpa.gov>
Subject: RE: [EXTERNAL] SPP Strategic Advance Panel Participation

I've had the same challenge here. The temperatures are back in the mid-50s and low-60s, but the rain has been relentless. I just keep doing swing drills inside and fooling myself into believing that I've cracked the code to more consistent success when I get back out there! I will get with our event planners here to provide more details on agenda timing and other virtual meeting participation logistics and reach back out!

Thank you for such a timely reply!

Antoine Lucas
Phone: *501-614-3382*
Email: *alucas@spp.org*

From: Hairston,John L (BPA) - A-7 <jlhairston@bpa.gov>
Sent: Monday, February 5, 2024 12:29 PM
To: Antoine Lucas <alucas@spp.org>
Subject: **External Email** RE: [EXTERNAL] SPP Strategic Advance Panel Participation

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Morning Antoine, great hearing from you!

I have been getting out a little with the clubs, but it's been tough with all the rain we have been getting. Hope you have had better luck!

Yes, I'd love to participate. I will unfortunately be unable to do it in person since I am in Savannah GA. that week for EPRI. However, if I get a time certain, I will be happy to participate remotely.

Bests,
John

From: Antoine Lucas <alucas@spp.org>
Sent: Monday, February 5, 2024 9:52 AM
To: Hairston,John L (BPA) - A-7 <jlhairston@bpa.gov>
Subject: [EXTERNAL] SPP Strategic Advance Panel Participation

John,

I hope you are well and starting to think about pulling the golf clubs out for the spring! I'm reaching out to ask if you'd be interested in participating in SPP's Strategic Advance, which is essentially a retreat for the SPP Board, Officers, and a small group of executives from our member companies to discuss future challenges and opportunities for the RTO. As you might imagine, this group has quite a bit of interest in the status of western expansion and specifically Markets+, and we thought it would be great to have a couple of western CEOs speak on a panel to describe the potential value they see in Markets+ and why. The Strategic Advance is scheduled for March 13th and 14th in San Antonio, TX. We'd love to have you in person, but can accommodate your virtual attendance if that is your preference. I'm confident that we can schedule the agenda item around your availability on either day. Also, if you're curious, I plan to make the same ask of Jim Pratt or Jeff Guldner to complete the two western CEO panel. Let me know if you can participate and of any accommodations you may need to make it work!

Thanks,
Antoine Lucas
Vice President, Markets
Southwest Power Pool
Phone: *501-614-3382*
Email: *alucas@spp.org*

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From: Miller,Todd E (BPA) - LP-7
Sent: Wednesday, March 6, 2024 4:38 PM
To: Michael Riley; Carrie Simpson; Meyers,Andrew P (BPA) - MTM-3; Davis,Thomas E (BPA) - LT-7
Cc: Zimmerman,Nita M (BPA) - MT-3; Chris Nolen
Subject: RE: [EXTERNAL] RE: Phase 1 Funding Payment Question

Mike/Andy,

I agree that the final payment is due 30 days after the tariff filing date. At the time we entered into the agreement the assumption was that there would be a long timeline for phase one, but as stated clearly in the agreement the final payment is due 30 days after phase 1 ends. Andy, give me a call if we need to discuss this.

-Todd

From: Michael Riley <michael.b.riley@spp.org>
Sent: Wednesday, March 6, 2024 3:55 PM
To: Carrie Simpson <csimpson@spp.org>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>
Cc: Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov>; Chris Nolen <cnolen@spp.org>
Subject: [EXTERNAL] RE: Phase 1 Funding Payment Question

Hello –

I'm adding Todd and Tom to the chain. I've pasted Sections 3(a) and 4(d) of the SPP/BPA phase 1 agreement below and underlined pertinent provisions. It seems clear to me that since Phase 1 will be complete at the end of March 2024, the due date for the last Phase 1 payment would accelerate to be due at the end of April 2024. I invite Todd and/or Tom to weigh in.

Thanks
Mike

3. Markets+ Phases.

a. As described in Section 2.2.1.1 of the final proposal for SPP Markets+ ("Final Service Offering"), Bonneville will have the right to vote in the stakeholder process in Phase 1 during the Term of this Agreement. SPP will complete the Markets+ tariff and other governing documents and submit the tariff to FERC for approval. Phase 1 will be completed on the Filing Date. After the Filing Date, Post Phase 1 will begin to support the responses, technical analysis and research necessitated by FERC filing.

4. Funding and Payments.

(d) As set forth in the table below, Bonneville's Phase 1 Obligation will be split into four payments. Thirty (30) calendar days prior to each payment due date identified below, SPP will deliver an invoice to Bonneville for the percentage share of Bonneville's Phase 1 Obligation, as set forth in Exhibit A. In the event Phase 1 is completed prior to January 1, 2025, Bonneville's Phase 1 Obligation shall become due and payable in full no later than thirty (30) days after completion of Phase 1.

Payment No.	Payment Due Date	Percentage
1	May 20, 2023	40%

29320555

2	September 1, 2023	20%
3	February 1, 2024	20%
4	January 1, 2025	20%

From: Carrie Simpson <csimpson@spp.org>
Sent: Wednesday, March 6, 2024 9:49 AM
To: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Cc: Zimmerman, Nita <nmzimmerman@bpa.gov>; Michael Riley <michael.b.riley@spp.org>; Chris Nolen <cnolen@spp.org>
Subject: RE: Phase 1 Funding Payment Question

Hi Andy,
I've added SPP legal to the chain because I am unfamiliar with BPA's schedule of payments. Mike/Chris – can you answer Andy's question?

Thanks!
Carrie

From: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Sent: Tuesday, March 5, 2024 10:59 AM
To: Carrie Simpson <csimpson@spp.org>
Cc: Zimmerman, Nita <nmzimmerman@bpa.gov>
Subject: **External Email** Phase 1 Funding Payment Question

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Hi Carrie,

There is one item that I forgot to bring up yesterday regarding phase 1 funding payments. When the funding agreement was signed in early 2023 Bonneville established a schedule of payments for our phase 1 costs. This was due to a clause that in which the federal government is not allowed to prepay for services. Our last phase 1 funding payment, separate from the upcoming monthly run rate payments, of approximately $300K is due on January 1 2025. We are working under the assumption that the final phase 1 funding payment will remain due on January 1 2025. Can you please confirm that SPP has no intention of asking for this final payment earlier than January 1 2025.

Thanks
Andy

Andy Meyers
apmeyers@bpa.gov
(w) 503-230-3014 | (c) (b)(6)
Bonneville Power Administration
Market Initiatives
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

From: Zimmerman,Nita M (BPA) - MT-3
Sent: Tuesday, February 6, 2024 8:22 AM
To: Antoine Lucas
Subject: RE: [EXTERNAL] FW: SPP Strategic Advance Panel Participation

Happy to help ☺

From: Antoine Lucas <alucas@spp.org>
Sent: Monday, February 5, 2024 12:11 PM
To: Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov>
Subject: RE: [EXTERNAL] FW: SPP Strategic Advance Panel Participation

Thank you Nita! I've already heard back from John! I appreciate the way you're always able to create connections and pull things together!

Antoine Lucas
Phone: *501-614-3382*
Email: *alucas@spp.org*

From: Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov>
Sent: Monday, February 5, 2024 12:05 PM
To: Antoine Lucas <alucas@spp.org>
Subject: **External Email** RE: [EXTERNAL] FW: SPP Strategic Advance Panel Participation

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I will follow up with him.

Thanks!

From: Antoine Lucas <alucas@spp.org>
Sent: Monday, February 5, 2024 9:56 AM
To: Zimmerman,Nita M (BPA) - MT-3 <nmzimmerman@bpa.gov>
Subject: [EXTERNAL] FW: SPP Strategic Advance Panel Participation

Nita,

I just sent the request below to John, but I'm also sending it to you because you've demonstrated an ability to get his attention within his busy schedule! I'd really appreciate it if you could help get this request in front of John in case he misses it if you can.

Thanks in advance!

Antoine Lucas
Phone: *501-614-3382*

Email: alucas@spp.org

From: Antoine Lucas
Sent: Monday, February 5, 2024 11:52 AM
To: Hairston, John <jlhairston@bpa.gov>
Subject: SPP Strategic Advance Panel Participation

John,

I hope you are well and starting to think about pulling the golf clubs out for the spring! I'm reaching out to ask if you'd be interested in participating in SPP's Strategic Advance, which is essentially a retreat for the SPP Board, Officers, and a small group of executives from our member companies to discuss future challenges and opportunities for the RTO. As you might imagine, this group has quite a bit of interest in the status of western expansion and specifically Markets+, and we thought it would be great to have a couple of western CEOs speak on a panel to describe the potential value they see in Markets+ and why. The Strategic Advance is scheduled for March 13th and 14th in San Antonio, TX. We'd love to have you in person, but can accommodate your virtual attendance if that is your preference. I'm confident that we can schedule the agenda item around your availability on either day. Also, if you're curious, I plan to make the same ask of Jim Pratt or Jeff Guldner to complete the two western CEO panel. Let me know if you can participate and of any accommodations you may need to make it work!

Thanks,
Antoine Lucas
Vice President, Markets
Southwest Power Pool
Phone: *501-614-3382*
Email: *alucas@spp.org*

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Sent: Wednesday, August 9, 2023 11:02 AM
To: Eaton,Sara L (BPA) - PTMA-5; Kristen Darden; Jim Gonzalez; Kochheiser,Todd W (BPA) - TOI-DITT-2; Carrie Simpson
Subject: RE: [EXTERNAL] RE: Grouped Hydro Tariff Language

From: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Sent: Thursday, July 27, 2023 7:44 PM
To: Kristen Darden <kdarden@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Carrie Simpson <csimpson@spp.org>
Cc: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] RE: Grouped Hydro Tariff Language

Thanks Kristen!

Sara Eaton (she/her)
Senior Markets Policy Analyst | Market Policy and Pricing | PTMP
Bonneville Power Administration
C: (b)(6) W: 503-230-5222 | sleaton@bpa.gov

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, July 27, 2023 5:57 PM
To: Jim Gonzalez <jgonzalez@spp.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Carrie Simpson <csimpson@spp.org>
Cc: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Subject: [EXTERNAL] RE: Grouped Hydro Tariff Language

Hey there –

Here is the draft language that we have so far:

Attachment A – Section 4.2.6

4.2.6 Hydro Aggregation

Hydroelectric facilities, including pumped storage facilities, meeting the following criteria may register as a Hydro Aggregation:

1) Share a common hydrological basin;
2) Share a common river system;
3) Share common ownership and operational control; and
4) Aggregation does not create a reliability issue as determined by the BA.

Physical and operational Resource characteristics, real-time telemetry and other information for each generating Resource in a Hydro Aggregation must be provided to the Market Operator.

Draft definition:

Hydro Aggregation

Hydroelectric facilities, including pumped storage facilities, which share a common hydrological basin, river system, ownership and operational control, and are registered as a Hydro Aggregation.

Hope this helps.

Thank you!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Jim Gonzalez <jgonzalez@spp.org>
Sent: Thursday, July 27, 2023 10:59 AM
To: twkochheiser@bpa.gov; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Eaton, Sara <sleaton@bpa.gov>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: RE: Grouped Hydro Tariff Language

Adding Kristen . . .

I think we have some draft language.

From: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>
Sent: Thursday, July 27, 2023 10:55 AM
To: Carrie Simpson <csimpson@spp.org>; Jim Gonzalez <jgonzalez@spp.org>
Cc: Eaton, Sara <sleaton@bpa.gov>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** Grouped Hydro Tariff Language

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Hi Carrie and Jim,

Did you have any draft language prepared for the grouped hydro resource type? If you don't that's fine.

Thank you,
Todd

Bonneville Power Administration | Transmission System Operations
5411 NE Hwy 99 | TOI-DITT2 | Vancouver, WA 98663
Direct: (b) (6) | twkochheiser@bpa.gov

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From: Sibyl Geiselman <sgeiselman@publicgeneratingpool.com>
Sent: Wednesday, October 25, 2023 10:50 AM
To: Kristen Darden; Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] RE: MDWG agenda- RA Education

Wonderful, thank you!

From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, October 25, 2023 10:49 AM
To: Sibyl Geiselman <sgeiselman@publicgeneratingpool.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: RE: MDWG agenda- RA Education

Hey Sibyl –

Thank you for bringing this up! Tyler actually emailed me earlier this week, expressing the same sentiment. We will ensure that we allow adequate time to review the RA designs tomorrow.

Thank you and see you soon!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Sibyl Geiselman <sgeiselman@publicgeneratingpool.com>
Sent: Wednesday, October 25, 2023 12:34 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** MDWG agenda- RA Education

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Hi Russ and Kristen,
Upon reviewing the materials for tomorrow, I would like to propose that you leave some extra time to finish our review of the conceptual RATF results and have some Q&A on it with Tyler before we review any tariff on that concept, and as background for the market priority, imports/exports/wheels concepts, and scarcity design. These concepts are deeply interrelated, and I think we need to have sufficient understanding of the concepts to look at them holistically. The 10 minutes of agenda time last time didn't quite get me there, and I imagine others have questions as well.

Thanks, I am looking forward to all of the interesting topics we have in store.
Sibyl

Sibyl Geiselman

Market Policy Advisor

PUBLIC GENERATING POOL

Phone: 503-730-1046
Email: sgeiselman@publicgeneratingpool.com

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From: Meghan D. Sever <msever@spp.org>
Sent: Tuesday, May 28, 2024 1:14 PM
To: Kirby,Elizabeth A (BPA) - MTM-3
Cc: Mantifel,Russell (BPA) - MTM-3; Dibble,Rachel L (BPA) - PT-5; Hayes,Matthew C (BPA) - MTM-3
Subject: RE: [EXTERNAL] RE: SPP BPA visit

Yes, please send it to me. We're having an internal discussion about the meeting and that list will be helpful in determining who will need to be present and what their availability is.

From: Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>
Sent: Tuesday, May 28, 2024 2:00 PM
To: Meghan D. Sever <msever@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Dibble, Rachel <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] RE: SPP BPA visit

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Ok got you. Russ and I are available, working on confirming with Rachel and Matt.

On the tech stuff, Kristen and I discussed having at least Jim, Carrie, and Yasser here (I know she had confirmed they were free then, not sure if she held the time on their calendars). I sent her the list of potential topics, but it's a list of everything we could think of so we're working on narrowing it down to what is doable over a couple days and saving the rest for subsequent meetings. I'll try to finalize soon, but I can send over the giant list if you're curious.

From: Meghan D. Sever <msever@spp.org>
Sent: Tuesday, May 28, 2024 11:19 AM
To: Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>
Cc: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - PT-5 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>
Subject: RE: [EXTERNAL] RE: SPP BPA visit

So, our external affairs team will be in the area at the same time as the rest of the SPP staff, but I think it may be best to have a separate conversation after the technical meeting. We want specific people (Russ, Rachel, Matt and you) in the room for the outreach discussion, and it's likely most of those people will be unavailable as they'll be involved in the technical discussion. Does your team have availability to meet with SPP external affairs July 11?

We'll be meeting with PPC and possibly other Markets+ participants during the technical discussion to make the most of our time there, but our external affairs staff would love to participate in the field trip, if possible.

Once you have an agenda, please share it, and I will coordinate with our staff to determine who needs to be part of that technical discussion and circle back with you.

Thanks again, Libby!

From: Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>
Sent: Tuesday, May 28, 2024 10:55 AM
To: Meghan D. Sever <msever@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Dibble, Rachel <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] RE: SPP BPA visit

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Got you. Dates are 7/9-7/10. Haven't set times, but assumed we'd end up using the whole thing. Also hoping to have a fieldtrip in there if possible.

From: Meghan D. Sever <msever@spp.org>
Sent: Tuesday, May 28, 2024 8:52 AM
To: Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>
Cc: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - PT-5 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>
Subject: RE: [EXTERNAL] RE: SPP BPA visit
Importance: High

Thanks, Libby. That's what we are trying to figure out – if we can have concurrent conversations or if we need to tack an external affairs meeting onto the end of the other one. We'd likely want to have some of the same people in the room so a concurrent meeting may not work. Do you have dates and times for the technical meeting?

From: Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>
Sent: Tuesday, May 28, 2024 10:46 AM
To: Meghan D. Sever <msever@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Dibble, Rachel <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] RE: SPP BPA visit

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Sorry Meghan, I was out last week so just seeing this now. We don't have a final agenda yet (working on it), but the plan is mainly technical conversations. I don't see any problem with combining a conversation on external affairs into this time. We may just have that happening simultaneously with a technical conversation, but I think that should be ok at least on our side, let me know if that would work for y'all too. I'll try to finalize the tech side of the agenda next week.

From: Meghan D. Sever <msever@spp.org>
Sent: Tuesday, May 28, 2024 8:41 AM
To: Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>
Cc: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - PT-5 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>
Subject: [EXTERNAL] RE: SPP BPA visit
Importance: High

Hi, Libby –

Just circling back on this. Do you have a final agenda for the SPP visit to BPA? Our external affairs staff is trying to get some time on BPA calendars and would really like to see if we might be able to plan a visit that coincides with this.

Thanks,

Meghan Sever, APR | Senior Communication Strategist | msever@spp.org | (b) (6)
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From: Meghan D. Sever
Sent: Wednesday, May 22, 2024 4:03 PM
To: Kirby, Libby <eakirby@bpa.gov>
Cc: Dustin B. Smith <dbsmith@spp.org>; Derek Wingfield <dwingfield@spp.org>
Subject: SPP BPA visit

Hi, Libby –

Hope you're doing well.

I'm taking over planning the July SPP visit to BPA from Kristen Darden. Can you tell me where we are on the agenda? What can we do on our end to help?

Thanks,

Meghan Sever, APR | Senior Communication Strategist | msever@spp.org | (b) (6)
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From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, July 5, 2023 2:09 PM
To: Cornelius, Adam; Detmer, Nick; Mantifel,Russell (BPA) - PGL-5; Fina, Giuseppe (Joe)
Cc: Chris Nolen; Jim Gonzalez; Emon Mahony; Rachel Kane
Subject: [EXTERNAL] RE: Markets+ MDWG comments on tariff sections
Attachments: M+_Attachment A_Sec 3 through 3.7.2_DRAFT_SNPD comments 062623 SPP Response.docx; M+_Attachment A_Sec 2 through 2.3.3_DRAFT_SNPD comments 062623 _SPP Response.docx

Good afternoon Adam –

I have attached your comments with SPP's responses. These comments will be posted within the material posting today as well. We incorporated almost all changes, with slight tweaks to a couple. We appreciate your review and comments you provided!

Thanks!

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From: Kristen Darden
Sent: Tuesday, June 27, 2023 11:44 AM
To: Cornelius, Adam <accornelius@snopud.com>; Detmer, Nick <nick.detmer@xcelenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>; Fina, Giuseppe (Joe) <gfina@snopud.com>
Cc: Chris Nolen <cnolen@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>
Subject: FW: Markets+ MDWG comments on tariff sections

Thank you for sending these over, Adam. We will discuss these internally and include these in the 7/12/2023 MDWG meeting materials. I'll reach back out if we have any additional questions/comments for discussion.

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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From: Cornelius, Adam <accornelius@snopud.com>
Sent: Monday, June 26, 2023 6:15 PM

To: Kristen Darden <kdarden@spp.org>; Detmer, Nick <nick.detmer@xcelenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: SPP Markets+ <marketsplus@spp.org>; Fina, Giuseppe (Joe) <gfina@snopud.com>
Subject: **External Email** Markets+ MDWG comments on tariff sections

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Kristen, Russ, and Nick,

Attached are some suggested edits and comments in redline to the two tariff sections discussed at the last MDWG meeting: (Attachment A, Section 2 - 2.3.3 and Attachment A, Section 3 - 3.7.3). Most notably:

- **Section 2.1:** Request for more specificity around criteria that would result in delayed posting of DA market results
- **Section 2.1.2.2:** More discussion on clearing during excess generation conditions
- **Section 2.3.3**: Question as to whether RUC processes can decommit resources if needed
- **Section 2.3.1.2:** Request for notification if Market operator cannot execute a timely RTBM solution
- **Sections 2.3.1.2, 3.5, 3.6.1:** Request to leave open the possibility of using either VRLs or Demand Curves pending further MDWG discussion and policy decision
- **Sections 3.2.1 – 3.2.2:** Suggest more precise formulas for calculating MCL and MCC
- **Section 3.**6.1: Request for more education and discussion around proposed flex reserve scarcity price formulas

There are also several other minor clarification requests and suggested edits. Please let me know if you have any questions or would like to discuss ahead of the next MDWG meeting.

Kristen: please let me know if you'd like me to post these comments and/or future comments via RMS.

Thank you,

Adam Cornelius
Principal Utility Analyst | Power Supply | Snohomish County PUD
2320 California St, Everett, WA 98201
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ACCornelius@snopud.com

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3. Locational Marginal Prices and Market Clearing Prices

DRAFT

Comment [KLD1]: Incorporated Modifications

3.1 Day-Ahead Market and RTBM Dispatch and Pricing

The Simultaneous Co-optimization Methodology used in the Day-Ahead Market and RTBM produces both a dispatch solution and a pricing solution. The dispatch solution and pricing solution are executed independent of each other. The MW quantities used in settlements for the dispatch and clearing of Energy and Flexibility Reserve Products result from the dispatch solution. Except where specified as DLMP, prices used in settlements result from the pricing solution and will be specified as LMP, MCC, MCP, MEC, and MLC. The DLMP results from the dispatch solution. The differences between the dispatch solution and the pricing solution are:

(1) Simultaneous Co-optimization Methodology dispatch solution

(a) Co-optimization of Energy and Flexibility Reserve Products is based on the Energy Offers and Bids and Flexibility Reserve Products Offers submitted by the Market Participants.

(2) Simultaneous Co-optimization Methodology pricing solution

(a) For non-FSRs, co-optimization of Energy and Flexibility Reserve Products is based on the Energy Offers and Bids and Flexibility Reserve Products Offers submitted by the Market Participants.

(b) For FSRs, excluding self-committed FSRs, the Market Operator calculates a composite Energy Offer for use in the co-optimization of Energy and Flexibility Reserve Products. The composite Energy Offer will be calculated and applied as follows:

(i) The Market Operator calculates a composite Energy Offer for an FSR by modifying each price point on the Energy Offer Curve for each market interval of the Minimum Run Time by adding amortized start-up and no-load costs. For FSRs that are MSRs, the composite Energy Offer applies only to the discharge portion of the Energy Offer curve.

1. The commitment costs (i.e., start-up cost and no-load cost) in effect at the time of the commitment are amortized over the Maximum Economic Capacity Operating Limit and the Minimum Run Time.

a. The start-up cost added to each breakpoint of the Energy Offer Curve is calculated by dividing the Start-Up Offer by the Maximum Economic Capacity Operating Limit and by the Minimum Run Time rounded up to the nearest interval.

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b. The no-load cost added to each breakpoint of the Energy Offer Curve is calculated by dividing the No-Load Offer by the Maximum Economic Capacity Operating Limit and by the ratio of the number of intervals needed to meet the Minimum Run Time to the number of intervals in an hour.

2. The application of the composite begins with the commitment interval and extends through the Minimum Run Time.

(c) Except in case of self-committed FSRs, FSRs will have their minimum operating limit relaxed to 0 MW.

For Day-Ahead Market and RTBM Simultaneous Co-optimization Methodology, mitigation measures for Energy Offers and Flexibility Reserve Products Offers, described under Sections 3.2 and 3.4 of Attachment B of this Tariff, will be performed in the Simultaneous Co-optimization Methodology pricing solution.

An FSR's composite Energy Offer curve will be subject to the Safety-net Energy Offer Cap.

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3.2 Locational Marginal Prices and Locational Marginal Price Components

LMPs are calculated by the Market Operator for each hour in the Day-Ahead Market and each Dispatch Interval in the RTBM.

In performing these calculations, Dispatchable Resources will be eligible to set the LMP under the following conditions:

(a) The Dispatchable Resource must be operating below its maximum capacity limit;

(b) The Dispatchable Resource must be operating above its minimum capacity limit; and

(c) The Dispatchable Resource output must not be ramp rate constrained such that the Dispatchable Resource cannot achieve the optimal dispatch point under the economic dispatch.

The LMP at a PNode is the cost of delivering an incremental MW of energy at that specific PNode, while satisfying all operational constraints where such cost will include applicable Demand Curve prices if the incremental MW of energy would result in a corresponding increase in shortage conditions. The LMP at any PNode is the sum of three components: the marginal costs of Energy (the MEC), the marginal cost of losses (the MLC), and the marginal cost of congestion (the MCC).

LMP Components at $PNode_i$ are calculated based upon the following formula:

$LMP_i = MEC + MLC_i + MCC_i$

Where:

(1) MEC is the component of LMP_i representing the marginal cost of Energy;

(2) MLC_i is the component of LMP_i representing the marginal cost of losses at $PNode_i$ relative to the Reference Bus;

(3) MCC_i is the component of LMP_i representing the marginal cost of congestion at $ENode_i$ relative to the Reference Bus; and

(4) The Reference Bus represents the network distributed load bus.

DRAFT

3.2.1 Marginal Losses Component Calculation

The MLC_i at each $Pnode_i$ is defined by the following equations:

$MLC_i = -MLSF_i * MEC$

$MLSF_i =$ Change in ~~(~~Losses~~)~~ / ~~P~~Node$_i$

Where:

(1) Losses = Transmission System losses in the Markets+ Footprint;

(2) $MLSF_i$ = Marginal loss sensitivity factor at $PNode_i$;

(3) MEC is the component of LMP_i representing the marginal cost of Energy;

(4) P_i = Net Injection at $Pnode_i$

The $MLSF_i$ is a linearized estimate of the change in Markets+ Transmission System losses that will result from a 1 MW injection at $PNode_i$ coupled with a corresponding withdrawal at the Reference Bus to maintain global power balance. Marginal loss sensitivity factors are dependent on topology, node injections and node withdrawals.

Comment [CA2]: My suggested edits here are intended to be slightly more precise. I used a combination of the formula used in the SPP tariff and the formula shown in presentation 04c1 from the June 13-14 MDWG meeting.

Comment [KLD3]: Incorporated a portion of modifications

Comment [CA4]: Should this be the *change* in Losses resulting from an incremental injection at $PNode_i$?

DRAFT

3.2.2 Marginal Congestion Component Calculation

The MCC at each PNode$_i$ is defined by the following equations:

$MCC_i = - \sum_{k=1}^{K} (Sensi_{ik} * SP_k)$ ~~- ($Sensi_k$ * SP_k)~~

$Sensi_k$ = Change in $Flow_k$ / ~~PNode$_i$~~

Where:

(1) ~~k~~ K is the number of transmission constraints;

(2) $Sensi_k$ is the linearized estimate of the change in the constraint k flow resulting from an incremental energy injection at PNode$_i$ coupled with an incremental energy withdrawal at the Reference Bus;

(3) $Flow_k$ = Calculated flow for constraint k;

(4) SP_k = is the Shadow Price of constraint k;

(5) P_i = Net Injection at Pnode$_i$

Comment [CA5]: My suggested edits reflect a combination of the formula used in the SPP tariff and the formula shown in presentation 04c1 from the June 13-14 MDWG meeting.

Comment [KLD6]: Incorporated a portion of modifications

Comment [CA7]: Shouldn't this be a sum function across all constraints that are impacted by an injection at node i (not just a single constraint)

Comment [CA8]: Should this be the incremental injection at Pnode,? In SPP tariff this is a different term (P_i)

Comment [CA9]: Isn't (lowercase) k an individual constraint and (uppercase) K the number of transmission constraints

DRAFT

3.2.3 Marginal Energy Component Calculation

The MEC is defined as the computed LMP at the Reference Bus. By definition, MCC and MLC components are zero (0) at the Reference Bus.

DRAFT

3.3 Application of Locational Marginal Prices

The Market Operator shall derive an LMP for each Settlement Location for the Day-Ahead Market and RTBM by aggregating the LMPs calculated at individual Price Nodes. The following rules will be used in deriving an LMP for Settlement Locations as follows:

(1) Load Settlement Location LMP shall be equal to the load weighted average of LMPs calculated for individual Price Nodes for that hour or Dispatch Interval.

(a) The load weights utilized in this calculation for the Day-Ahead Market shall be based upon a historical real-time load calculated at each Settlement Location by the State Estimator for each hour.

(b) The load weights utilized in this calculation for the RTBM shall be based upon the actual real-time load calculated at each Settlement Location by the State Estimator in that Dispatch Interval.

(2) Demand Response Load location with multiple Settlement Locations shall be equal to the load weighted average of LMPs calculated for Settlement Locations aggregated to that Settlement Location or Demand Response Load location for that hour or Dispatch Interval.

(a) The load weights utilized in this calculation for the Day-Ahead Market shall be based upon a historical real-time load calculated at each Settlement Location by the State Estimator for each hour.

(b) The load weights utilized in this calculation for the RTBM shall be based upon the actual real-time load calculated at each Settlement Location by the State Estimator in that Dispatch Interval.

(3) Resource Settlement Location LMP for an hour in the Day-Ahead Market and for a Dispatch Interval in the RTBM shall equal the LMP calculated for Price Node for the Resource.

(4) The LMP for a Trading Hub Settlement Location for an hour within the Day-Ahead Market or a Dispatch Interval within the RTBM shall be equal to the average of LMPs, MCCs and MLCs calculated for Price Nodes within the

Comment [KLD10]: Incorporated Modifications

Comment [CA11]: Should this be a weighted average?

Comment [KLD12]: No, this is just the average.

Comment [CA13]: Should this just be LMPs?

Comment [KLD14]: No, this should include LMPs, MCCs, and MLCs.

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Trading Hub aggregated to that Trading Hub Settlement Location for that hour or Dispatch Interval.

(5) The LMP for an External Interface Settlement Location for an hour within the Day-Ahead Market or a Dispatch Interval within the RTBM shall be equal to the weighted average of LMPs calculated for Price Nodes within the External Interface aggregated to that External Interface Settlement Location for that hour or Dispatch Interval.

(a) The Market Operator shall determine the weights utilized in this calculation for the Day-Ahead Market and RTBM ~~shall be determined by the Market Operator~~ at the time the External Interface is created.

DRAFT

3.4 Market Clearing Price Calculations

The MCP represents the cost of supplying an increment of Flexibility Reserve Product, taking into account lost opportunity cost and is composed of the marginal Flexibility Reserve Product costs and marginal costs associated with Flexibility Reserve Products scarcity. The Day-Ahead Market and RTBM MCPs at a Reserve Zone for Resources with cleared Flexibility Reserve Products in that Reserve Zone are equal to the summation of the applicable Shadow Prices associated with the constraints as described in subsections (1) and (2) below:

(1) There are [two sets] of constraints which apply on both a system-wide basis and a Reserve Zone basis:

(a) A [Flexibility Reserve Product Down] constraint is equal to the [Flexibility Reserve Product Down] requirement; and

(b) A [Flexibility Reserve Product Up] constraint is equal to the [Flexibility Reserve Product Up] requirement.

(2) Flexibility Reserve Products MCPs for each Reserve Zone are calculated as follows:

(a) The [Flexibility Reserve Product Down] MCP is equal to the Shadow Price for the system-wide and zonal [Flexibility Reserve Product Down] constraint; and

(b) The [Flexibility Reserve Products Up] MCP is equal to the Shadow Price for the system-wide and zonal [Flexibility Reserve Products Up] constraint.

(3) In the event a system-wide failure of the RTBM systems results in a loss of the ability to calculate MCPs, RTBM Flexibility Reserve Products will continue to be settled financially under this Tariff based upon estimated MCPs. The Market Operator shall notify Market Participants if RTBM Flexibility Reserve Product is to be settled using estimated prices.

(a) If the failure of the RTBM systems occurs for twelve (12) Dispatch Intervals or less, the estimated MCPs shall be the most recently calculated MCPs for each affected Reserve Zone and shall be utilized for settlement purposes for each of the Dispatch Intervals in which MCP pricing data is missing.

(b) To the extent that the Market Operator is unable to calculate RTBM MCPs, the Market Operator shall use the MCPs generated in the Day-Ahead Market for RTBM settlement.

DRAFT

3.5 Violation Relaxation Limit

The Day-Ahead Market, RUC and Simultaneous Co-optimization Methodology enforce a number of operating constraints in developing the market solution. In certain situations, attempting to enforce all constraints may result in a solution that is not feasible at a Shadow Price less than an appropriately priced VRL. In such cases, the Market Operator must apply VRLs. The VRL values are listed in Addendum 1 to this Attachment A.

There are four (4) categories of constraints and associated VRLs: (1) Resource capacity constraints; (2) Resource ramp constraints; (3) global power balance constraints and (4) operating constraints (which include Price Node ("Pnode"), Manual, Watch List, flowgate and real-time contingency analysis ("RTCA") constraints). A higher VRL value is an indication of the relative priority for enforcing the constraint type. For example, the VRL value assigned to a ramp rate limit exceeds that assigned to a flowgate limit indicating that the flowgate constraint should be relaxed before the ramp rate constraint. If the VRL with the lowest value will not allow the Simultaneous Co-optimization Methodology to balance the Energy obligations, a higher VRL will be applied. In the case of the operating constraint VRLs, the values limit the cost of the dispatch needed to balance system injections and withdrawals by capping the Shadow Price depending upon the level of the violation.

Comment [CA15]: We have had an introductory conversation about VRLs vs Demand Curves, but I don't think we've made a policy decision. If we approve the tariff language in this document, I recommend bracketing this section to circle back to after that policy decision has been made.

Comment [KLD16]: The market will have both VRLs and Demand Curves, although the details are to be discussed at MDWG.

DRAFT

3.5.1 Impact of Violation Relaxation Limits on Dispatch and Pricing Solutions

VRLs are applied independently in the dispatch solution and pricing solution. The applicable VRLs impact the Simultaneous Co-optimization Methodology in the following manner:

(1) When a VRL is exceeded and cannot be resolved, the applicable constraint is relaxed so that Simultaneous Co-optimization Methodology can solve. The VRL values applied by the Market Operator in this case act as a cap on the Shadow Price on the applicable constraint. LMPs/DLMPs and MCPs are calculated using the relaxed constraints; and

(2) When a VRL is reached but not exceeded, it is referred to as "binding" and has no impact on the Simultaneous Co-optimization Methodology.

DRAFT

3.5.2 Modifications to Violation Relaxation Limits

By [placeholder for future date], the Market Operator shall produce a report with supporting documentation that will analyze the effectiveness of VRLs and associated values on reliability and prices. If changes are warranted, the Market Operator shall recommend changes to the appropriate stakeholder groups for consideration.

By [placeholder for future date], taking into consideration the recommendations of stakeholders and staff, any changes to the VRLs or associated values must be approved for filing by the SPP Board of Directors and then filed with FERC. The most recent FERC-approved VRLs and associated values are in Addendum 1 to this Attachment A.

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3.6 Pricing during Scarcity Conditions

If capacity is insufficient to meet the Energy requirements on a system-wide basis, Energy requirements are reduced to meet available capacity and LMPs are calculated as described under Section 3.6.1.

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3.6.1 Impact of Scarcity Pricing on Locational Marginal Prices and Market Clearing Prices

(1) Demand Curves are applied independently in the dispatch solution and pricing solution. The Market Operator shall use Demand Curves to reflect Scarcity Prices in both the Day-Ahead Market and RTBM during times of Energy and/or Flexibility Reserve Product shortages, either on a system-wide and/or Reserve Zone basis.

(2) Scarcity Prices are reflected in MCPs using the following Demand Curves:

(a) [Flexibility Reserve Product Up] – The Market Operator calculates and posts [Flexibility Reserve Product Up] Scarcity Pricing in accordance with the following rules:

(i) The maximum Scarcity Price is calculated as the average cost per MW for all eligible Resources to recover their qualified cold Start-Up Offer, No-Load Offer, and Energy at minimum cost at their Maximum Normal Operating Limit. Eligible Resources are Resources which offer a cold start-up time of 10 minutes or less, a Minimum Run Time of 60 minutes or less, and are not on outage. The maximum Scarcity Price is equal to the cold Start-Up Offer plus the product of the Minimum Run Time and the No-Load Offer plus the Energy at minimum cost all divided by the Resource's Maximum Normal Capacity Operating Limit or Maximum Discharge Limit as applicable.

(ii) The maximum Scarcity Price will be calculated each month using the previous three months offer data.

(iii) The Demand Curve levels for [Flexibility Reserve Product Up] will be equal to:

1. Shortages up to or equal to 5% of the requirement will equal, to the nearest dollar, 1/6 of the maximum Scarcity Price.

2. Shortages greater than 5% but less than or equal to 10% of the requirement will equal, to the nearest dollar, 1/3 of the maximum Scarcity Price.

Comment [CA17]: I had thought that SPP staff recommended choosing between only using VRLs or only using Demand Curves, but this tariff references both.

Comment [KLD18]: See above comment regarding VRLs and Demand Curves.

Comment [CA19]: Some education around the basis for this formula may be useful. These elements seem based around a thermal fleet and it's not clear that they are appropriate for a hydro-dominated region

Comment [KLD20]: Noted. Additional education will be provided.

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3. Shortages greater than 10% but less than or equal to 15% of the requirement will equal, to the nearest dollar, 1/2 of the maximum Scarcity Price.

4. Shortages greater than 15% but less than or equal to 25% of the requirement will equal, to the nearest dollar, 2/3 of the maximum Scarcity Price.

5. Shortages greater than 25% but less than or equal to 40% of the requirement will equal, to the nearest dollar, 5/6 of the maximum Scarcity Price.

6. Shortages greater than 40% of the requirement will equal, to the nearest dollar, the maximum Scarcity Price.

(iv) The minimum amount for the [Flexibility Reserve Product Up] Demand Curve prices will be limited to $10.

(b) [Flexibility Reserve Product Down] – The Market Operator calculates and posts [Flexibility Reserve Product Down] Scarcity Pricing in accordance with the following rules:

(i) The maximum Scarcity Price is calculated as the average cost per MW for all eligible Resources to recover their qualified cold Start-Up Offer, No-Load Offer, and Energy at minimum cost at their Maximum Normal Operating Limit. Eligible Resources are Resources which offer a cold Start-Up Time of 10 minutes or less, a Minimum Run Time of 60 minutes or less, and are not on outage. The maximum Scarcity Price is equal to the cold Start-Up Offer plus the product of the Minimum Run Time and the No-Load Offer plus the Energy at minimum cost all divided by the Resource's Maximum Normal Capacity Operating Limit or Maximum Discharge Limit as applicable.

(ii) The maximum Scarcity Price will be calculated each month using the previous three months offer data.

(iii) The Demand Curve levels for [Flexibility Reserve Product Down] will be equal to:

1. Shortages up to or equal to 5% of the requirement will equal, to the nearest dollar, 1/6 of the maximum Scarcity Price.

Comment [CA21]: Is it appropriate to use the same scarcity pricing formula for downward flexibility reserve as upward?

Comment [KLD22]: Yes. Although the issues are different, the fix is the same. However, if additional discussion on this point is necessary, please let us know.

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2. Shortages greater than 5% but less than or equal to 10% of the requirement will equal, to the nearest dollar, 1/3 of the maximum Scarcity Price.

3. Shortages greater than 10% but less than or equal to 15% of the requirement will equal, to the nearest dollar, 1/2 of the maximum Scarcity Price.

4. Shortages greater than 15% but less than or equal to 25% of the requirement will equal, to the nearest dollar, 2/3 of the maximum Scarcity Price.

5. Shortages greater than 25% but less than or equal to 40% of the requirement will equal, to the nearest dollar, 5/6 of the maximum Scarcity Price.

6. Shortages greater than 40% of the requirement will equal, to the nearest dollar, the maximum Scarcity Price.

(iv) The minimum amount for the [Flexibility Reserve Product Down] Demand Curve prices will be limited to $0.

(3) Scarcity Prices will be reflected in LMPs when serving an incremental MW of energy worsens the Flexibility Reserve Product capacity shortage condition.

(4) During Flexibility Reserve Product shortage conditions on a system wide basis and/or zonal basis, Market Clearing Prices are impacted by Demand Curves as follows:

(a) If there is a system-wide shortage of [Flexibility Reserve Product Up], the [Flexibility Reserve Product Up] MCP will be set equal to the [Flexibility Reserve Product Up] Demand Curve price. The [Flexibility Reserve Product Up] Demand Curve price will be reflected in the LMP.

(b) If there is a system-wide shortage of [Flexibility Reserve Product Down], the [Flexibility Reserve Product Down] MCP will be set equal to the [Flexibility Reserve Product Down] Demand Curve price. The [Flexibility Reserve Product Down] Demand Curve price will be reflected in the LMP.

Comment [CA23]: This intro mentions shortage conditions for both a system wide and zonal basis, but subsections (a) and (b) only reference system-wide shortages. Do we also need language around how MCPs are impacted by zonal shortages of FRP?

Comment [KLD24]: The impacts are the same. SPP has revised (a) and (b) to remove the limitation to only "system wide" shortage.

3.7 Special Scenarios Locational Marginal Pricing and Market Clearing Pricing

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3.7.1 Locational Marginal Prices and Market Clearing Prices during System Outages

(1) In the event a failure of the Day-Ahead Market systems results in the loss of the ability to clear the Day-Ahead Market in a timely manner, the charge type described under Section 8.5.11 shall continue to be settled as part of the Day-Ahead Market settlement using the MCCs calculated for the corresponding Operating Day for the RTBM and the congestion revenue collected as part of the RTBM settlement. [Congestion Rent] calculated under Section 8.5.12 shall be set equal to zero and the differences between amounts paid under Section 8.5.11 and available real-time congestion revenue shall be accounted for under Section 8.8. In the event a failure of the Day-Ahead Market systems results in the loss of the ability to clear the Day-Ahead Market, the Market Operator will set the Day-Ahead Market LMP, MLC, and MCP to zero.

(2) In the event a failure of the RTBM systems results in a loss of the ability to calculate LMPs, RTBM Energy will continue to be settled financially under this Tariff based upon estimated LMPs. The Market Operator shall notify Market Participants if RTBM Energy is to be settled using estimated prices.

(a) If the failure of the RTBM systems occurs for twelve (12) Dispatch Intervals or less, the estimated LMPs and LMP components shall be the most recently calculated LMPs, MCCs, and MLCs for each affected Settlement Location and shall be utilized for settlement purposes for each of the Dispatch Intervals in which LMP pricing data is missing.

(b) If the failure of the RTBM systems occurs for more than twelve (12) Dispatch Intervals, the Market Operator shall calculate LMPs, MCCs, and MLCs for the RTBM using mitigated Offers in a manner that reflects, as closely as practicable, the LMPs, MCCs, and MLCs that would have resulted but for the RTBM systems failure and shall use such LMPs, MCCs, and MLCs for settlement purposes for each of the Dispatch Intervals in which LMP pricing data is missing. To the extent that the Market Operator is unable to calculate RTBM LMPs, MCCs, MLCs, and

Comment [CA25]: This section is difficult to evaluate without the referenced sections (8.5.11, 8.5.12, 8.8). I'm not clear on what the overall impacts of this section are, but setting all prices to zero seems concerning.

Comment [KLD26]: An interesting point. SPP will conduct further analysis to determine whether this language (taken from the IM) is appropriate in Markets+.

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MCPs, the Market Operator shall use the LMPs, MCCs, MLCs, and MCPs generated in the Day-Ahead Market for RTBM settlement.

3.7.2 Locational Marginal Prices and Market Clearing Prices during Island Conditions and Markets+ Footprint Expansion Cutovers

If a portion of generation and load within the Markets+ footprint [becomes isolated] from the rest of the Markets+ Footprint ("Island"), the Market Operator shall calculate LMPs, MCCs, and MLCs for the Day-Ahead Market and the RTBM within the Island using Mitigated Offers for Resources within the Island in a manner that reflects, as closely as practicable, the LMPs, MCCs, and MLCs within the Island that would have resulted if the RTBM systems had calculated the values, and shall use such LMPs, MCCs, and MLCs for settlement purposes within the Island for each of the Dispatch Intervals.

If an RTBM does not approve for the first interval a Markets+ Settlement Location is effective, the Market Operator shall calculate LMPs, MCCs, and MLCs for that Settlement Location using Mitigated Offers for Resources in a manner that reflects, as closely as practicable, the LMPs, MCCs, and MLCs that would have resulted if the RTBM systems had calculated the values, and shall use such LMPs, MCCs, and MLCs for settlement purposes for that Settlement Location until an RTBM approves.

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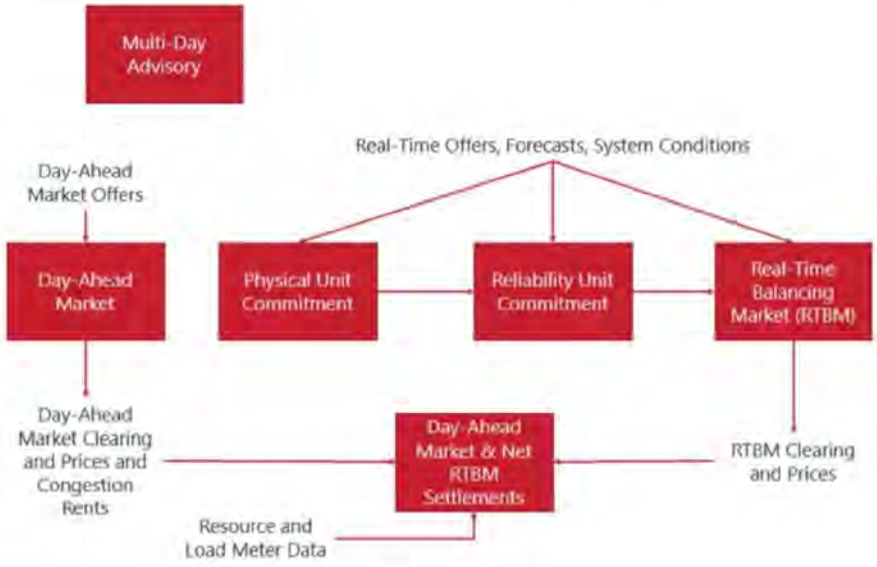
1. Introduction

This Attachment sets forth the Bidding, Offering, and dispatching responsibilities of the Market Operator and Market Participants relating to Markets+, and sets forth the operation, pricing, and settlement of the Day-Ahead Market and the Real-Time Balancing Market ("RTBM"). All time references in this Attachment A shall be the prevailing time as specified in the Markets+ Protocols. Figure 1 shows the relationships and general timing sequence between the various market processes.



2. Day-Ahead and Operating Day Activities

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2.1 Day-Ahead Activities

The Market Operator shall conduct the Day-Ahead Market as described in the subsections below. Offers and Bids must be submitted by the close of the Day-Ahead Market which is [TBD] hours Day-Ahead. The Market Operator shall post the Day-Ahead Market results from the dispatch solution by [TBD] hours Day-Ahead. The Market Operator may extend these times as necessary, and shall notify Market Participants of any such timing delays. The Market Operator will post the Day-Ahead Market LMP and MCP results from the pricing solution after the posting of the dispatch solution results.

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Comment [FJ1]: Unclear what criteria would apply to the Market Operator's decision to extend the time.

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2.1.1 Day-Ahead Market Inputs

Inputs to the Day-Ahead Market will include the following:

(1) Day-Ahead Market Resource Offers, Virtual Energy Offers, Demand Bids and Virtual Energy Bids;

(2) Through Interchange Transactions;

(3) Export Interchange Transaction Bids;

(4) Import Interchange Transaction Offers;

(5) Balancing Authority Operating Reserve Requirements;

(6) Flexibility Products requirements (system-wide and Reserve Zone minimum and maximum);

(7) Transmission System topology consistent with the Network Model in place for the upcoming Operating Day;

(8) Scheduled Outages (Resource and Transmission);

(9) Service Flow Constraints;

(10) GHG info needed; and

(11) Instantaneous Load Capacity requirements.

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2.1.2 Day-Ahead Market Execution

Comment [KLD2]: Incorporated modifications

The Market Operator will employ a Simultaneous Co-optimization Methodology to perform the following tasks ~~in order~~ to clear the Day-Ahead Market for each hour of the upcoming Operating Day, while recognizing Transmission System security constraints, Service Flow Constraints, and the Resource operating parameter constraints submitted as part of the Day-Ahead Market Offers:

(1) Commit Offered Resources, Import Interchange Transaction Offers and Virtual Energy Offers to meet the Demand Bids, Virtual Energy Bids, Export Interchange Transactions Bids, Instantaneous Load Capacity requirements, and Flexibility Reserve Products requirements on a least-cost basis.

(2) Using the Resource commitment results, clear Resource Offers, Virtual Energy Offers and Import Interchange Transaction Offers to meet Demand Bids, Virtual Energy Bids, Export Interchange Transaction Bids and Flexibility Reserve Products requirements on a least-cost basis.

2.1.2.1 Clearing During Capacity Shortage

Comment [KLD3]: Incorporated Modifications

(1) In the event of a Flexibility Reserve Product shortage in any hour, the Market Operator shall implement Scarcity Pricing ~~shall be implemented~~.

(2) In the event of a capacity shortage to meet the fixed Demand Bids, fixed firm Export Interchange Transactions, and Resources' charge MWs in any hour, the Market Operator will (a) reduce the fixed Demand Bids, fixed firm Export Interchange Transactions, and Resources' charge MWs ~~will be reduced~~ on a pro-rata basis based on the MW amounts to match the available capacity, and (b) implement Scarcity Pricing ~~shall be implemented~~.

(3) If a transmission constraint cannot be relieved due to a shortage of capacity in any hour, the price sensitive demands will clear on a pro-rata basis based upon the impact on relieving the constraint.

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2.1.2.2 Clearing During Excess Generation Conditions

If the cleared demands in any hour are less than the sum of the minimum outputs of the committed Resources in that hour, then the Market Operator will relax enforcement of Resource minimum limits ~~will be relaxed~~ on a pro-rata basis to clear Resource Offers to meet Demand Bids, Export Interchange Transaction Bids and Flexibility Reserve Products requirements on a least cost basis.

Comment [CA4]: My understanding based on the in-person meeting is that the real-time equivalent is covered in an emergency operations section – after reviewing that section, we may need to circle back here.

Comment [CA5]: Is this only for footprint-wide oversupply? What about a regional excess generation condition (e.g. BPA BAA or multiple NW BAAs in the spring) behind a transmission constraint to the rest of the footprint? If only footprint-wide, how is regional oversupply addressed? Is there some tradeoff between min gen constraints and transmission limits?

Comment [KLD6]: Market-wide

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2.1.3 Day-Ahead Market Results

The Market Operator will notify each Market Participant of the Day-Ahead Market results for each hour of the Operating Day.

A. The following results are communicated to each Market Participant for only its specific Resources, no later than the posting of the Day-Ahead Market:

(1) Cleared Resource quantities for Energy and Flexibility Reserve Products;

(a) Cleared Offers for Energy associated with Resource Offers represent a Market Commitment.

(b) Resources committed by the Market Operator in the Day-Ahead Market that incur one or more start-up costs within the Operating Day as a result of the Market Commitment are guaranteed to receive revenues that are at least equal to the Resource Offer costs for the cleared amount of Energy and Flexibility Reserve Products.

(2) Cleared Virtual Energy Offers;

(3) Cleared Import Interchange Transaction Offers;

(4) Cleared Demand Bids;

(5) Cleared Virtual Energy Bids;

(6) Cleared Export Interchange Transaction Bids; and

(7) Cleared Through Interchange Transactions.

B. The following dispatch solution results are communicated to all Market Participants prior to the posting of the pricing solution results:

(1) DLMPs for each Settlement Location, the marginal Energy component ("MEC") of the DLMP, the Marginal Congestion Component ("MCC") of the DLMP and the Marginal Loss Component ("MLC") of the DLMP for each Settlement Location; and

(2) MCPs for Flexibility Reserve Products.

C. The following pricing solution results are communicated to all Market Participants after the posting of the dispatch solution results:

(1) LMPs for each Settlement Location, the marginal Energy component ("MEC") of the LMP, the Marginal Congestion Component ("MCC") of the LMP and the

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Marginal Loss Component ("MLC") of the LMP for each Settlement Location; and

(2) MCPs for Flexibility Reserve Products.

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2.2 Reliability Unit Commitment

The Market Operator will begin the RUC [TBD] minutes following the posting of the Day-Ahead Market results to assess capacity adequacy during the Day-Ahead period and the remainder of the current Operating Day.

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Comment [CA7]: This appears to reference a single DA RUC process. My understanding is that there are multiple intraday RUC runs as well – should these be included here as well or are they covered in a different section?

Comment [KLD8]: Incorporated "processes" into the RUC definition to show there are more than one.

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2.2.1 Reliability Unit Commitment Inputs

Inputs to the RUC will include the following:

(1) RTBM Resource Offers;

(2) Approved Export Interchange Transaction;

(3) Approved Import Interchange Transaction;

(4) Approved Through Interchange Transactions;

(5) Flexibility Reserve Products requirements (system-wide and Reserve Zone minimum and maximum);

(6) Market Operator load forecast;

(7) Transmission System topology consistent with Network Model in place for the upcoming RUC study period;

(8) Service Flow Constraints;

(9) Resource commitment schedules;

(10) The Market Operator's wind and solar Resource MWh output forecast;

(11) Actual and approved scheduled Transmission System outages as documented in the [Transmission Provider's] outage scheduler;

(12) Instantaneous Load Capacity requirements; and

(13) Balancing Authority overrides.

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2.2.2 Reliability Unit Commitment Execution

Comment [KLD9]: Incorporated Modifications

The Market Operator will employ a simultaneous co-optimization methodology with the objective of committing Resources to meet the Market Operator load forecast, Export Interchange Transactions, Instantaneous Load Capacity requirements, and Flexibility Reserve Products requirements less Import Interchange Transactions over the study period such that commitment costs are minimized while recognizing Transmission System security constraints, Service Flow Constraints, and the Resource operating parameter constraints submitted as part of the RTBM Offers.

(1) Commitment costs are defined as Start-Up Offer, No-Load Offer and incremental cost to operate at minimum output as defined in the submitted Energy Offer Curve.

(2) If available capacity plus Import Interchange Transactions is not sufficient on a system-wide basis to meet the Market Operator load forecast, Export Interchange Transactions, the upper bound of Instantaneous Load Capacity requirement, and Flexibility Reserve Products requirements, the Market Operator will communicate and coordinate with participating BAs.

(3) If there is a capacity surplus on a system-wide basis identified when the sum of (a) self-committed and reliability must-run capacity at minimum output, (b) fixed Import Interchange Transactions, (c) the lower bound of Instantaneous Load Capacity requirement, and (d) the Flexibility Reserve Products requirements is in excess of the sum of the Market Operator load forecast and fixed Export Interchange Transactions, the Market Operator will communicate and coordinate with participating BAs.

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2.2.3 Reliability Unit Commitment Results

The Market Operator shall communicate the following results to Market Participants:

(1) Modification of existing Market Commitments; and

(2) New Market Commitments.

Comment [CA10]: Does this include potential de-commitments of resources previously committed due to local/regional/system oversupply conditions?

Comment [KLD11]: This would only include commitment extensions. SPP would not be de-committing since those instructions would come from the BA and communicated to the MP.

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2.3 Operating Day Activities

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2.3.1 Real-Time Balancing Market

Comment [KLD12]: Incorporated Modifications

The Market Operator will employ the Simultaneous Co-optimization Methodology ~~in order to~~to clear the RTBM while meeting Flexibility Reserve Products requirements within the Markets+ Footprint.

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2.3.1.1 Real-Time Balancing Market Inputs

Inputs into the RTBM will include the data provided prior to each Operating Hour and data provided within each Operating Hour, including the following:

(1) RTBM Resource Offers;

(2) Approved Through Interchange Transactions;

(3) Approved Export Interchange Transaction Bids;

(4) Approved Import Interchange Transaction Offers;

(5) Balancing Authority Operating Reserve Requirements;

(6) Flexibility Products requirements (system-wide and Reserve Zone minimum and maximum);

(7) Scheduled Transmission System outages;

(8) Instantaneous Load Capacity requirements;

(9) Latest State Estimator solution;

(10) Real-Time Resource telemetry;

(11) Active transmission constraints;

(12) Service Flow Constraints;

(13) Market Operator overrides to Resource Offer physical operating parameters due to changes in a Resource's capability;

(14) Market Operator load forecast; and

(15) The Market Operator's wind and solar Resource output forecast.

Comment [CA13]: Is it appropriate for the market operator or resource operator to make these overrides? Is this process described elsewhere?

Comment [KLD14]: Relocated language to a different section

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2.3.1.2 Real-Time Balancing Market Execution

The Market Operator will attempt to execute the RTBM every five (5) minutes for the next Dispatch Interval based on the inputs described above. In the event the Market Operator is unable to execute the RTBM or to approve a valid solution for the RTBM, the clearing from the last approved RTBM will carry forward until the approval of a new RTBM.

(1) A Simultaneous Co-optimization Methodology is employed to calculate Resource Dispatch Instructions and clear Flexibility Reserve Products to meet the Market Operator load forecast and Flexibility Reserve Products requirements at minimum costs based upon submitted Offers while recognizing Resource operating constraints, transmission constraints, and Service Flow Constraints.

(a) In certain situations, enforcing constraints may result in a solution that is not feasible at a Shadow Price less than an appropriately priced [VRL/Demand Curve]. In such cases, the Market Operator must apply [VRLs/Demand Curves].

(b) During shortage situations:

(i) If there is an actual Flexibility Reserve Products shortage during a Dispatch Interval, either on a system-wide or a Reserve Zone basis, the system-wide or Reserve Zone Scarcity Prices will be implemented.

(ii) If there is a shortage of available capacity to meet Energy requirements on a system-wide basis, LMPs will be set through Scarcity Pricing procedures [need to add verbiage after receive feedback from the MORWG].

(iii) [Market Operator will notify market of shortage]

(c) During surplus conditions:

(i) If there is a surplus of available capacity to meet Energy requirements on a system-wide basis, LMPs will be set through Scarcity Pricing procedures [need to add verbiage after receive feedback from the MORWG].

(ii) [Market Operator will notify market of surplus]

Comment [KLD15]: Incorporated simple modifications

Comment [FJ16]: The Market Operator should notify Market Participants after any issues executing RTBM in a timely fashion.

Comment [KLD17]: This could happen in a 30-40 second interval, so by the time the MO notifies MPs, ten minutes may have been spent to formally notify MPs, which could create further issues. However, MPs do get notifications that another RTBM has cleared. Also, the protocols will include more information regarding notifications.

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Comment [CA18]: At the 6/13-14 in-person meeting we had an initial discussion around VRLs vs Demand Curves. It seems this is still an open policy question on whether to use VRLs or Demand Curves.

Comment [KLD19]: SPP intends that both VRLs and Demand Curves will be used, although the details have not been finalized.

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Comment [KLD20]: Tariff or Protocols

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Comment [CA21]: Is this referring to an inability to meet the power balance constraint due to oversupply? I'm not sure "surplus capacity" is the right term here as there is frequently surplus available capacity but no issue with oversupply (reserves could be considered surplus capacity). Maybe consider "excess generation" as defined in 2.1.2.2?

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Comment [KLD22]: Tariff or Protocols

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2.3.1.3 Real-Time Balancing Market Results

(1) Following execution of the Simultaneous Co-optimization Methodology, the Market Operator shall communicate the results to Market Participants for only their specific Resources prior to the start of the applicable Dispatch Interval:

(a) Resource Dispatch Instructions; and

(b) Cleared Flexibility Reserve Products.

(2) The following pricing solution results are communicated to all Market Participants after the posting of the dispatch solution and are used for settlement purposes;

(a) LMPs for each Settlement Location, the MCC of LMP for each Settlement Location and the MLC of LMP for each Settlement Location.

(b) MCPs for Flexibility Reserve Products for each Reserve Zone.

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2.3.1.4 Out-of-Merit Energy Dispatch

[Need details on who will be communicating the OOME to the Market Operator from MDWG/MORWG]

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When the Market Operator receives notification of an OOME, the Market Operator will incorporate and reflect the OOME in the RTBM at either the fixed MW level or an OOME cap and/or OOME floor MW level the Resource is expected to produce.

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2.3.1.4.1 Determination of Non-Discriminatory Manual Resource Selection

Comment [KLD23]: Incorporated Modifications

Any process used by BAs, reliability coordinators, and Transmission Operators to manually select Resources for out-of-merit energy dispatch must not be unduly discriminatory. The Market Monitor will consider cost, any affiliation with selected Resources, resource operating parameters, availability of non-selected Resources relative to the selected Resources and any prior instances where the Resources were committed to resolve the same reliability issue. The commitment will be considered non-discriminatory if the Resource selection was made without regard to ownership and the selected Resource effectively and economically mitigated the reliability issue, as verified by the Market Monitor. The Market Monitor will make best efforts to perform such verification before the S120 Scheduled Settlement Statements are issued, for the Operating Day in which the manual commitment occurred.

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2.3.2 Congestion Management

Comment [KLD24]: Incorporated Modifications

(1) The Market Operator will incorporate the data provided by reliability coordinators and participating Balancing Authorities for congestion management in the dispatch solution. This data includes:

(a) Out-of-Merit Energy;

(b) Binding transmission constraints; and

(c) Changes to Interchange Transactions.

(2) The Market Operator will constrain the least-cost dispatch to the transmission capability made available for use in Markets+ through the continuous activation of Service Flow Constraints.

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2.3.3 Inadvertent Interchange Payback

[MORWG Needs to Discuss]

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From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, September 28, 2023 5:38 PM
To: Spires, Jeff; Jared Greenwalt
Cc: Mantifel,Russell (BPA) - PGL-5; Detmer, Nick; Aitken, Meredith
Subject: [EXTERNAL] RE: Powerex Comments on Attachment B & C

Follow Up Flag: Follow up
Flag Status: Completed

Thank you for sending this over, Jeff. It's very helpful in assisting with the discussion. We will review these during the 10/10 MDWG.

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Thursday, September 28, 2023 7:09 PM
To: Kristen Darden <kdarden@spp.org>; Jared Greenwalt <jgreenwalt@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>; Aitken, Meredith <meredith.aitken@powerex.com>
Subject: **External Email** Powerex Comments on Attachment B & C

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - Jeff.Spires@powerex.com and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Hi Kristin and Jared,

Please see attached Powerex's comments on the current draft of Attachment B (Market Power Mitigation Plan) and Attachment C (Market Monitoring Plan).

Regards,
Jeff

This email may contain information that is confidential. If you are not the intended recipient you may not distribute or copy this email or any attachments. If you have received this email in error, please notify the sender and delete this email and attachments from your system immediately. Thank you.

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From: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>
Sent: Monday, July 15, 2024 1:53 PM
To: Spires, Jeff; Josh Robertson; Hakala, Tuuli; Kent.Walter@aps.com; Mantifel,Russell (BPA) - MTM-3
Cc: Ching, Vincent; Haines, Philip - Marketing; Hayes,Matthew C (BPA) - MTM-3; Ahmad, Omaya
Subject: [EXTERNAL] RE: Latest Draft of Issue Alert on Governance After Today's Call

One more small edit from PSE under the explanation for why Pathways doesn't offer a solution at this time. When we've said in the past Pathways will not advance before entities make their decisions, we're countered with, "you should slow down and wait for Pathways to develop". To BPA's point in their workshops, PSE cannot wait for everyone else around us to force us into a decision, or be left with an illiquid bilateral market as others enter a market.

1. A fully independent governance framework will not realistically be achieved until well after most western entities must make their market participation decisions, even if the significant and numerous uncertainties are ultimately overcome.

Thanks again, Jeff!

Jessica Zahnow
State & Regional Policy – Regional Markets
Phone: (b)(6)

PUGET SOUND ENERGY

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Monday, July 15, 2024 11:39 AM
To: Josh Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Kent.Walter@aps.com; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Ahmad, Omaya <Omaya.Ahmad@aps.com>
Subject: Latest Draft of Issue Alert on Governance After Today's Call

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Hi all,

Thanks again for the call this morning. I've attached a clean and redline that incorporates the discussion today. As mentioned, it would be ideal to receive any additional feedback by the end of today so we can share with the broader group.

Jeff

Jeff Spires | Director, Power | Powerex Corp. | Cell (b)(6)

From: Spires, Jeff
Sent: Sunday, July 14, 2024 9:46 PM
To: Josh Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Kent.Walter@aps.com; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Ahmad, Omaya <Omaya.Ahmad@aps.com>
Subject: Updated Draft of Issue Alert on Governance

Hi everyone,

Thanks to those that have provided edits and thoughts on the initial draft. In advance of tomorrow's call, please see the latest version based on the input and feedback we've received so far. There was a fair bit of re-wording to tighten up the document as well as a few new sentences related to competition between two markets driving better outcomes in the long run. Overall I think this is a significant improvement on the previous version. Given the fair number of modifications I thought it best to share a clean copy.

Jeff

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From: Tracy Wolfgang <twolfgang@utilicast.com>
Sent: Monday, June 10, 2024 11:47 AM
To: Detmer, Nicholas J; Carman Ruder
Cc: Kelli Schermerhorn; Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] RE: Approval items for MDWG

Hi Nick/Russ,

Thanks for bringing this to our attention. We are moving 4 – 4.1.6 and 4.3 – 4.4.4.1.2 out of the approval agenda section to a second review category for the agenda, since those were only shared for the first time on the 5/14/24 meeting. We do have comments in there received from SRP that we will be reviewing and providing feedback. We also received and included comments from SRP on section 4.2 – 4.2.5.2. Those are the only comments received since the last meeting.

We will be sending out a notice about updated meeting materials later today with the revised agenda.

Also, another minor but could take some time in the beginning of the meeting, is getting everyone on the right Webex. They were unable to delete Kristen's original MDWG meetings from everyone's calendars so there could be some trying to use her link and not registering for the new ones. We are going to send out a reminder about this again today but wanted to give you a heads up to share the latest registration link with your colleagues, if you can.

Thanks,
Tracy Wolfgang

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Monday, June 10, 2024 11:39 AM
To: Tracy Wolfgang <twolfgang@utilicast.com>; Carman Ruder <cruder@spp.org>
Cc: Kelli Schermerhorn <kschermerhorn@spp.org>; rxmantifel@bpa.gov
Subject: FW: Approval items for MDWG

[WARNING: External Email]

I meant to include Carman and Tracy. I agree with Russ we need to make sure participants have the appropriate time between introduction of language, comment, and approvals.

From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Saturday, June 8, 2024 6:23 PM
To: Detmer, Nicholas J <nick.detmer@xcelenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: Re: Approval items for MDWG

EXTERNAL - STOP & THINK before opening links and attachments.

Hi Russ & Nick,

Carman and Tracy are the interim staff secretaries for MDWG- so I forwarded this to Carman.

Thank you,

Get Outlook for iOS

From: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Sent: Friday, June 7, 2024 9:12:55 AM
To: Kelli Schermerhorn <kschermerhorn@spp.org>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: **External Email** Approval items for MDWG

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Hi Kelli and Nick,

I wanted to flag some items that are up for approval next week. The highlighted sections were only shared at the last meeting and haven't gone through comment submittal and review…
Also, to my recollection, they were not highlighted as items that would be up for approval at the last MDWG. Is that memory right? If so it might be that we need to keep approval until a later MDWG but can discuss in the meeting if needed.

1. Markets+ Protocols: Approval..... SPP Staff (60)

    A. Section 2 (Introduction) **and** Section 3 (Overview)

    B. Section 4.2 (Pre-Day Ahead Activities) **to** Section 4.2.5.2 (Multi-Day Forecast Analysis Results)

    C. Section 4 (Energy and Flexibility Reserve Products Markets Requirements and Processes) **to** Section 4.1.6 (Outage Scheduling and Reporting)

    D. Section 4.3 (Day-Ahead Activities) **to** Section 4.4.4.1.2 (Load Deviation Exemptions)

Russell Mantifel (he/him/his)
Director: Market Initiatives | MTM | Business Transformation Office
BONNEVILLE POWER ADMINISTRATION
rxmantifel@bpa.gov | O: 503-230-4372



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From: Aaron Shipley <ashipley@spp.org>
Sent: Thursday, September 7, 2023 10:13 AM
To: Williams, Dan; Holman, Mark; Kochheiser,Todd W (BPA) - TOI-DITT-2; Clint Savoy; Morelock, Kevin; Blair, Twyana; Conn, Stephanie; Gruesner, Brett; Johnson,Kevin M (TFE) (BPA) - TOO-DITT-1; Jerry Stone; Hakala, Tuuli; Wendy Weaver; Carman Ruder; Ken Quimby; Brad Johnston; Shari Brown; Russell, Derek; Hofmann, Chris; Rubin, David; Moore, Kiley; Schlekeway, Lindsey; Mantifel,Russell (BPA) - PGL-5; Kirby,Elizabeth A (BPA) - BT-3
Subject: [EXTERNAL] M+ Market Transmission Priority Meeting
Attachments: Prioritization of Clearing in Energy Shortage_V3_MSWG_20230815.pptx; M+MTWG_MSWG-MORWG - Priority of Flow.pptx

Hello,

Chairs of MSWG/MTWG/MORWG would like to re-engage this sub-group to continue discussion around M+ Transmission Priority as it left off at the MSWG 8/15 meeting. The goal is to have the sub-group come to consensus in the near term, then move to review and approval at working group meetings of MORWG/MTWG/MSWG end of September early October. Then we would seek approval of developed Tariff language October 25 at joint meeting of the three working groups.

Below is a doddle poll with three options. I would like to have this group meet weekly so please mark all times you can make. Of course we will go with the majority.

https://doodle.com/meeting/participate/id/e5LY2rqd

For a refresher, attached are the final documents as discussed at the MSWG meeting on 8/15. One is provided from SPP Staff and the other is the working document the sub-group created. We will be looking to align the approaches and direction M+ stakeholders would like to take regarding this matter.

Aaron Shipley
Southwest Power Pool
Sr. Interregional Strategist, Interregional Strategy and Engagement
Email: ashipley@spp.org
Office: 501.482.2197

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Southwest Power Pool
WESTERN
ENERGY
SERVICES
CLEARING IN SHORTAGES
SPP
Working together to responsibly and economically keep the lights on today and in the future.
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MARKETS+
[Au
toD
ate]

BACKGROUND

- In circumstances where the market load exceeds available market generation, the market requires a methodology for clearing.
- Process for DA-Market clearing will be different than Real-Time Market because the DA Market is a financial position, where as the real-time market implicates physical deliveries.

SPP MARKETS+

29330253

PRIORITIZATION OF CLEARING IN ENERGY SHORTAGE

- DA Market shortage: more load bid into the market than generation available to clear in the DA Market
  - What load is cleared for a day-ahead financial position?
    - Load un-cleared by the DA-market, simply does not have a forward financial position to hedge pricing ahead of real-time.
  - "Priority of Clearing": First priority is the portion of load served by a Market Participant's owned or contracted supply, then any remaining energy would be:
    1. Any load of WRAP binding participants who met must offer, then
    2. Any load of WRAP non-binding participants who met must offer, then
    3. Any load of WRAP participants (binding or not) who did NOT meet must offer
    4. Any non-WRAP or non-capacity backed exports
  - Pricing will be based on the highest dispatchable plus impacts from congestion and losses plus any adjustments for demand curve of flex products.

SPP MARKETS+

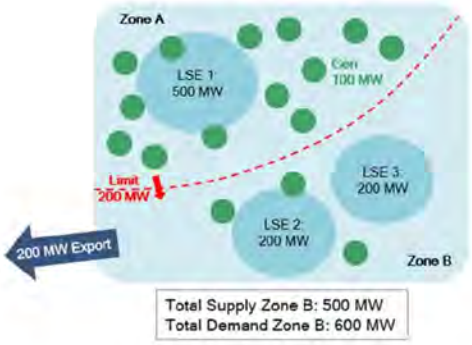
PRIORITIZATION OF CLEARING IN ENERGY SHORTAGE

- Real-Time Market shortage: more load than available generation to clear.
  - What load and exports are cleared by the real-time market?
    - All load and exports are cleared in real-time, even if there is insufficiency in energy supply.
      - The market solution relaxes the insufficiency and re-solves the clearing with the reduced load and export amount to enable power balance.
      - Balancing Authorities continue to manage BA requirements for gen and load balancing as normal.
  - Pricing will be based on the highest dispatchable resource offer plus impacts from congestion and losses plus any adjustments for demand curve of flex products.
    - All deviations from the day-ahead market, settle at real-time.
    - All real-time quantities settle at LMP.

SPP

MARKETS+

PRIORITIZATION OF CLEARING IN A CONSTRAINED AND DEFICIENT BA FROM MARKET PERSPECTIVE



For purposes of the example, assume Zone A is one or more BAs in Markets+ and Zone B is a BA "B" in Markets+

Here, the market is unable to serve all of BA B's demand because of transmission constraint that results in BA B being generation deficient

- Market will limit transfers to Zone B to based on the constraint limit

- In DA: market clearing within Zone B will be based on "Priority of Clearing" in energy shortage identified in slide 3, which can prevents all of the load in BA B from receiving a financial position.
- In real-time: market clearing will prevent deliveries the full delivering to BA B for sufficiency and BA B will be responsible for managing load priority and exports based on OATT processes.

SPP

MARKETS+


QUESTIONS
SPP
MARKETS+
6

From: Fina, Joe <GFina@SNOPUD.com>
Sent: Wednesday, August 16, 2023 10:53 AM
To: Kristen Darden; Chris Nolen
Cc: Emon Mahony; Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] RE: [External Sender] Upcoming MDWG Meetings

Kristen, that is great news. We won't have anything ready for the 8/29 meeting. The legal group is meeting next on 8/31. I'll follow-up with you and Russ after that meeting.

Thanks,

Joe

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, August 14, 2023 2:48 PM
To: Fina, Joe <GFina@SNOPUD.com>; Chris Nolen <cnolen@spp.org>
Cc: Emon Mahony <emahony@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: [External Sender] Upcoming MDWG Meetings

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Joe and Chris –

First off let me say - great work at the M+ Legal sub-group! If you were not able to dial-in during the 8/10 MDWG meeting held at BPA last week, I am thrilled to report the MDWG unanimously approved (without any discussion) Attachment A Section 10 (Confidentiality Provisions) and Attachment F (NDA Agreements), given your team's thorough review. Given this, I want to go ahead and reach out to start lining out some items that you would be comfortable with putting on the upcoming MDWG agendas for approval: 8/29, 9/20, and 10/10.

Anything you have ready you would like to pass on to us?

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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From: Laura A Olson <Laura.Olson@srpnet.com>
Sent: Friday, January 5, 2024 7:30 AM
To: Kristen Darden; Barbara B Cenalmor Bruquetas
Cc: Detmer, Nick; Mantifel,Russell (BPA) - MTM-3; Marcie L Martin; Carrie Simpson
Subject: [EXTERNAL] RE: **External Email** RE: New SRP Voting member for MDWG

Hi Kristen,

I've filled in the nomination form below. Let me know if anything else is needed.

Thanks!
Laura

Laura Olson, JD, PE (she/her)
Manager
SRP | Short-term Trading | PAB360 | Telework
P: (602) 236-2276 | M: (b)(6)

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, January 4, 2024 4:17 PM
To: Barbara B Cenalmor Bruquetas <Barbara.CenalmorBruquetas@srpnet.com>
Cc: Detmer, Nick <nick.detmer@xcelenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>; Laura A Olson <Laura.Olson@srpnet.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Carrie Simpson <csimpson@spp.org>
Subject: RE: **External Email** RE: New SRP Voting member for MDWG

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Barbara –

Here's the info from the template that will be sent out to the MPEC email distribution list, seeking nominations.

The following questions can help you decide if you are ready to apply. When selecting members, the MDWG chair and secretary will consider these factors:

- *Do you have the necessary expertise to represent your company on this group?*
- *Have you participated in the MDWG as an attendee? If not, how can you demonstrate your expertise and ability to be an effective MDWG member?*
- *Do you think your participation in MDWG has been viewed by others as productive?*
- *Do you have time to prepare for, attend and actively engage in MDWG meetings?*
- *Will you be able to advocate for the region's needs in addition to your company's needs?*

- *Are you willing to collaborate with the MDWG to find solutions to identified issues?*
- *Will you positively contribute to the MDWG's balance (sector representation, geographical diversity, underrepresented skillset, etc.)?*

Nominations should include the following:

Nominee Name:	**Laura Olson**
Member Company:	**Salt River Project**
Email:	**Laura.Olson@srpnet.com**
Phone:	**602-236-2276**
Describe your relevant experience or involvement with the MDWG, considering the above factors:	**I have managed SRP's short-term trading team for almost 3 years. I also have experience in utility regulation and policy. I have attended MDWG meetings, have been Barbara Cenalmor's proxy at times, and have been participating in conversations on Attachments B & C with SPP, the MMU, and other member companies to ensure they adequately address operational concerns.**

Please let me know if you have questions regarding the MDWG or the nomination process!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, January 4, 2024 10:07 AM
To: Cenalmor, Barbara <barbara.cenalmorbruquetas@srpnet.com>
Cc: Detmer, Nick <nick.detmer@xcelenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>; Laura A Olson <Laura.Olson@srpnet.com>; Martin, Marcie <Marcie.Martin@srpnet.com>
Subject: Re: **External Email** RE: New SRP Voting member for MDWG

Thank you Nick for sending that over! Let me get together the nominations email and have Comms send out to the larger M+ stakeholder group. When I get back to my computer, I'll send over the nomination form to you, to go ahead and fill out for Laura.

I have documented Laura as your proxy for the 1/11 and 1/16 MDWG (hasn't been posted on SPP.org yet). Thanks!

Kristen Darden
Western Services Development
Southwest Power Pool
501-749-3339

On Jan 4, 2024, at 9:42 AM, Barbara B Cenalmor Bruquetas <Barbara.CenalmorBruquetas@srpnet.com> wrote:

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Ah, thank you for doing the research, Nick. In this case, I designate Laura Olson as my proxy until a time when the MPEC can discuss approval.

Kristen, let me know what you need to put together a recommendation for MPEC.

Barbara Cenalmor Bruquetas
Senior Resource Development Project Manager
SRP | Future System Assets and Strategy | PAB355
P.O. Box 52025, Phoenix, AZ 85072-2025
P: (602) 236-2322 | **M**: (b)(6) [redacted]

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From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Wednesday, January 3, 2024 3:00 PM
To: Barbara B Cenalmor Bruquetas <Barbara.CenalmorBruquetas@srpnet.com>; Kristen Darden <kdarden@spp.org>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Subject: RE: New SRP Voting member for MDWG

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I am fine with the swap out – *my New Years Resolution is to be more attentive to details which I hope to fail at due to exhaustion by Mid-February.*

I went through the Markets + Offering and I think the MPEC would need to approve this. I think for the time being Barbara can make Laura the proxy until MPEC can confirm Laura.

2.3.4.1.1 COMPOSITION AND TERMS Unless otherwise provided in these bylaws, each working group shall have a chair to preside over meetings. The chair of all organizational groups shall be nominated by the MPEC for consideration and appointment by the MIP. The term of the chair of all working groups shall be two years. Working groups have discretion to determine the need for a vice-chair. Should a working group establish a vice-chair position, the vice-chair shall be elected by the working group.

Following a solicitation of nominations by SPP staff, working group representatives shall be recommended by SPP staff to the MPEC for approval. The recommendation and approval of representatives shall consider the various types and expertise of Markets+ Market Participants (MMPs) and Markets+ Market Stakeholders (MMS) and their geographic locations to achieve a widespread and effective representation of MMPs and MMSs. Criteria and sector representation for serving on a working group will be determined in the group's scope. An appointment to a working group is for an individual, not a corporate entity.

From: Barbara B Cenalmor Bruquetas <Barbara.CenalmorBruquetas@srpnet.com>
Sent: Wednesday, January 3, 2024 11:01 AM
To: Kristen Darden <kdarden@spp.org>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Cc: Laura A Olson <Laura.Olson@srpnet.com>; Marcie L Martin <Marcie.Martin@srpnet.com>
Subject: New SRP Voting member for MDWG

You don't often get email from barbara.cenalmorbruquetas@srpnet.com. Learn why this is important

EXTERNAL - STOP & THINK before opening links and attachments.

Russ, Nick and Kristen,
I am moving to a different role at SRP and I propose that Laura Olson, Manager of Short-Term Trading, takes my place as the MDWG voting member. Is there anything else I need to do to make this official?

Thanks!

Barbara Cenalmor Bruquetas
Senior Resource Development Project Manager
SRP | Future System Assets and Strategy | PAB355
P.O. Box 52025, Phoenix, AZ 85072-2025
P: (602) 236-2322 | **M**: (b)(6) [redacted]

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ATTACHMENT H
Credit Policy

Style Definition ...

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Comment [DL1]: BPA is reviewing this policy. Not ready on 8/10/23 to provide edits or comments yet.

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WORKING DRAFT

ARTICLE ONE

General Provisions

1.1 Policy Statement. In furtherance of competition and the orderly administration of the Tariff, Southwest Power Pool ("SPP") shall administer, implement and enforce this Credit Policy. This Credit Policy is intended to encourage the maximum participation of large and small participants in all market sectors while minimizing the likelihood of losses due to default and to establish eligibility requirements for market participation.

1.2 Applicability of Credit Policy and Overview.

1.2.1 This Credit Policy is applicable to each Credit Customer. It applies to each Credit Customer regardless of whether SPP previously extended credit to, or established a Total Credit Limit for, the Credit Customer.

1.2.2 As a condition to taking any service subject to this Credit Policy, SPP must determine that the Credit Customer satisfies SPP's credit requirements and minimum criteria for market participation under this Credit Policy and the terms and conditions for an extension of credit. SPP's determination is a Credit Assessment. The Credit Assessment is based upon quantitative and qualitative credit scoring under the formulae and procedures set forth in this Credit Policy. This Credit Policy provides for initial and ongoing Credit Assessments. In order to facilitate continuous evaluation of credit, it requires the submission of Credit Information to SPP periodically and, additionally, upon the occurrence of certain events. Based upon the ongoing Credit Assessment, SPP is authorized, at any time, to revise a Credit Customer's Total Credit Limit and the terms and conditions for the extension of credit.

1.2.3 SPP shall conduct initial and ongoing Credit Assessments for each Credit Customer, based, as applicable, upon the Credit Application, Credit Information, and Credit Ratings. Credit Information includes: (a) the information contained in and submitted with the Credit Customer's duly executed Credit Application; and (b) updated and additional information the Credit Customer is required to submit from time to time under this Credit Policy. Credit Information and Credit Ratings, if any, shall be sufficient to enable SPP to determine under this Credit Policy whether to approve an extension of credit, and the amount, terms, and conditions thereof, including the extent and nature of any Guaranty or Financial Security.

1.2.4 Based upon its Credit Assessment, SPP will: (a) determine the Credit Customer's Total Potential Exposure; (b) determine the amount of credit the Credit Customer requires; (c) determine whether to grant, and the amount of, any Unsecured Credit Allowance; (d) evaluate any Guaranty the Credit Customer offers to provide, including a Credit Assessment for the proposed Guarantor; (e) determine the amount of any required Financial Security; and (f) determine if the Credit Customer meets the minimum criteria for market participation under Sections

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Comment [GJ2]: Double check defined term – Tariff vs Markets Plus Tariff.

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Comment [GJ3]: Should this be Tariff generally?

General comment – there are requirements for market participation in the Credit Policy that are not necessarily credit-related. Is there (or will there be) a provision in the Tariff that cross-references the Credit Policy for convenience of reviewers looking for market participation requirements?

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WORKING DRAFT

3.1.1.8 and 3.1.1.9. Based on these determinations, which shall include consideration of the Credit Customer's ability to fulfill SPP's requirements to obtain credit, SPP will set the Total Credit Limit for the Credit Customer.

1.2.5 To facilitate the Credit Assessment, each Credit Customer shall submit a duly executed Credit Application in the form attached as Appendix "A," and the Credit Information required under this Credit Policy. If SPP determines that an extension of credit to a Credit Customer must be supported by Financial Security, the Credit Customer shall, upon SPP's request, duly execute the Credit and Security Agreement in the form attached as Appendix "B," ~~without variation~~. Any Irrevocable Letter of Credit shall be substantially in the form attached as Appendix "C," any Guaranty shall be substantially in the form attached as Appendix "D," and any Surety Bond shall be substantially in the form attached as Appendix "F." Any variations in the forms of Credit and Security Agreement, Irrevocable Letter of Credit, Guaranty, or Surety Bond must be approved by SPP, and may not materially modify or impair SPP's rights under such form, in SPP's sole discretion.

1.3 Components of Credit Policy. This Credit Policy includes the following elements:

1.3.1 Requirements for the establishment and maintenance of credit applicable to Credit Customers.

1.3.2 The basis for establishing a Total Credit Limit for a Credit Customer in order to extend credit, but diminish the possibility of failure of payment under the Tariff and Agreements.

1.3.3 Forms of Guaranty and Financial Security acceptable to SPP, to be provided if SPP does not approve an Unsecured Credit Allowance sufficient to cover the Credit Customer's Total Potential Exposure.

1.3.4 Requirements to facilitate ongoing Credit Assessments.

1.3.5 Specification of Defaults under this Credit Policy and remedies.

1.3.6 Minimum criteria for market participation.

1.4 Fairness, Objectivity, and Non-Discrimination. SPP will seek and receive information and explanation from a Credit Customer as appropriate to help ensure that the Credit Assessment is fair and thorough. SPP will base each Credit Assessment upon SPP's evaluation of the Credit Information, Credit Ratings, and other pertinent indicators of financial strength identified under this Credit Policy. SPP shall make each Credit Assessment objectively and without undue discrimination in favor of or against any market sector. Whenever this Credit Policy permits SPP to exercise discretion in the implementation of the provisions of this Credit Policy, SPP shall exercise that discretion in a fair and impartial manner that treats all Credit Customers in a non-discriminatory manner.

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Comment [GJ4]: This seems too restrictive. Variations are permitted for forms of security (see below in this paragraph)

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1.5 Construction and Interpretation.

1.5.1 The word "including" shall be understood to mean "including without limitation." The singular form of a word shall be understood to include the plural form, and vice versa, as appropriate to implement the applicable term or condition.

1.5.2 Except as otherwise stated, the words "Section" and "Article" refer to sections and articles of this Credit Policy. A Section reference includes all subsections and subparts of the Section.

1.5.3 All references to amounts of cash, cash deposits, and to monies paid, provided, due or otherwise, shall be construed to refer to United States dollars.

1.5.4. Financial Statements prepared according to either United States Generally Accepted Accounting Principles (US GAAP) or International Financial Reporting Standards (IFRS) will be accepted for the ~~purposes of~~ all determinations, calculations or other assessments pursuant to this Credit Policy.

1.6 Disputes. Any disputes arising under this Credit Policy will be subject to the dispute resolution procedures set forth in Section 6~~12~~ of the Tariff.

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Comment [GJ5]: Confirm cross-reference

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ARTICLE TWO

Definitions

2.1 Definitions. The following definitions apply in this Credit Policy. Capitalized terms used herein and not defined herein shall be given the meaning assigned to them under the Tariff.

Affiliate
A business concern, organization, or individual is an affiliate of another business concern, organization, or individual, including a Credit Customer, that directly or indirectly: (a) has the power to control or is controlled by it; or (b) is under common control of a third party. Elements of control include interlocking management or ownership, shared facilities and equipment, and common use of employees.

Affiliated Credit Customers
Credit Customers that are Affiliates.

Agreements
The Tariff, including this Credit Policy, any and all agreements entered into by the Credit Customer under, pursuant to or in connection with the Tariff and/or this Credit Policy, and any and all other AgreementsAa~~greements~~ to which SPP and the Credit Customer are both parties.

Business Day

[Please insert definition for Business Day if not in Tariff Definitions]

Cash Deposit
Cash collateral provided to SPP to secure a Credit Customer's performance under the Tariff, this Credit Policy, and/or any other Agreements, and any other cash to which the Credit Customer has title or rights in the possession of SPP (cash SPP has applied to payment of an obligation under the Tariff or Agreements is not cash to which a Credit Customer has title or rights).

Composite Credit Score or Credit Score
This term shall have the meaning given in Section 4.2.

Credit and Security Agreement
A legal document, outlining certain terms pursuant to which a security interest in certain collateral is granted to SPP, in the form incorporated herein as Appendix "B".

Credit Application
The completed, executed, and submitted Credit Application in the form attached as Appendix "A" hereto, together with the Credit Information required under this Credit Policy.

Credit Assessment
This term shall have the meaning given in Article Three.

Credit Contact

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Comment [KLD6]: Go through and add in definition from subsections below where applicable

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Comment [GJ7]: Is this just for agreements related to Markets Plus, or other markets/purposes as well?

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Comment [KLD8]: May add specificity

This term shall have the meaning given in Section 9.1.

Credit Customer
Any person who takes or seeks to take service under the Tariff.

Credit Information
This term shall have the meaning given in Section 1.2.3.

Credit Ratings
Rating assigned by a Rating Agency based on an obligor's creditworthiness to pay financial obligations.

Default or Event of Default
Any default under Article Eight or otherwise under this Credit Policy.

Estimated Virtual Exposure ("EVE")
This term shall have the meaning given in Section 4A.2.

Comment [CR9]: Where is 4A.2?

Financial Security
A Cash Deposit, Irrevocable Letter of Credit, Surety Bond, or Federal Power Marketing Agency Letter in amount and in forms as described in Article Seven of this Credit Policy, provided by a Credit Customer to SPP as security.

Comment [GJ10]: Confirm included in defined terms

Financial Statements
This term shall have the meaning given in Section 3.1.1.1.

Guarantor
An entity that guarantees the obligation of a Credit Customer ~~another entity~~ under a Guaranty.

Guaranty
A legal document used by an Affiliate of a Credit Customer pursuant to Article Six to guarantee the obligations of such Credit Customer for the benefit of SPP.

IFRS

International Financial Reporting Standards, which are globally-recognized accounting standards.

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Irrevocable Letter of Credit
An irrevocable standby letter of credit, with SPP as beneficiary, substantially in the form attached as Appendix "C" to this Credit Policy and acceptable to SPP.

Large Company Credit Customers or Large Company
This term shall have the meaning given in Section 4.2.1.

Market Exposure

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This term has the meaning given in Section 5.2.1.

Material
The lesser of (i) the materiality standard established by the certified public accounting firm performing the Credit Customer's annual audit, (ii) an amount that equals or exceeds five percent (5%) of the Credit Customer's Tangible Net Worth using the last audited financial statements, calculated in accordance with generally acceptable accounting principles or IFRS; and (iii) a change, event, proceeding, or other occurrence, that results (or if adversely determined could result) in a change of five percent (5%) or more in the Credit Customer's Tangible Net Worth compared to the Tangible Net Worth of the Credit Customer using the last audited financial statements, calculated in accordance with generally acceptable accounting principles or IFRS.

Material Adverse Change
This term shall have the meaning given in Section 3.2.7.

Not-For-Profit Credit Customers or Not-For-Profit
This term shall have the meaning given in Section 4.2.3.

Peak Market Activity Day
The day in which a Credit Customer's calculated charges owed to SPP are the greatest, over a specified period.

Potential Exposure Window
The number of days of credit exposure for a Credit Customer equal to the sum of days of service that have been invoiced but not paid, days of service that have been calculated but not invoiced, days of service in the cure period, and days before service can be terminated.

Qualitative Score
This term has the meanings applicable under Article Four.

Quantitative Score
This term has the meanings applicable under Article Four.

Rating Agency
SAnyS&P Global Ratings (or its successor) ("S&P"), Moody's Investor Services, Inc. (or its successor) ("MoodysMoody's"), Fitch Ratings, Inc. (or its successor) ("Fitch") or Aany other "Nationally Recognized Statistical Rating Organization" as defined by the US Securities and Exchange Commission.

SEC
The Securities and Exchange Commission.

Small Company Credit Customers or Small Company
This term shall have the meaning given in Section 4.2.2.

Comment [CR11]: Is this known? Are they asking audit firm to provide it directly to them every year?

Comment [CR12]: Should this be "delivered"? Also, are there additional days between end of cure and when you can terminate?

Comment [GJ13]: The Credit Policy specifically refers to these ratings agencies

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Surety Bond
A surety bond, with SPP as beneficiary, substantially in the form attached as Appendix "F" to this Credit Policy and acceptable to SPP.

Tangible Net Worth
This term shall have the meaning given in Section 4.3.

Total Credit Limit
This term shall have the meaning given in Section 4.5.

Total Potential Exposure or TPE
SPP's estimate of the Credit Customer's current or anticipated transaction activity and resulting obligations for all services under the Tariff or otherwise.

Total Potential Exposure Violation
This term shall have the meaning given in Section 5.4.1.

Unsecured Credit Allowance
This term shall have the meaning given in Section 4.3.

Virtual Energy Bid,
This term shall have the meaning given in Attachment of the Tariff.

Virtual Energy Offer
This term shall have the meaning given in Attachment of the Tariff.

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Comment [JB14]: Will need correct attachment/tag here

Comment [JB15]: Will need correct attachment/tag here

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ARTICLE THREE

Credit Assessment

3.1 Minimum Criteria for Market Participation and Initial Credit Assessment.

3.1.1 Credit Application and Credit Information. A Credit Customer must submit a completed and duly executed Credit Application. The Credit Application shall be renewed and updated for each successive year and shall be submitted to SPP no later than April 30 of each year. A completed Credit Application includes submission of the Credit Application form (Appendix "A"), all information required under Section 3.1.1, and additional information that SPP may request. The Credit Customer must submit the following information with its Credit Application.

3.1.1.1 Audited Financial Statements and Related Information. All annual Financial Statements submitted must be audited. Financial Statements that are not filed or made available publicly by the Credit Customer are Confidential Information of the Credit Customer. Financial Statements are the following.

a. If the Credit Customer is subject to SEC reporting requirements, Financial Statements are:

i. Annual Reports on Form 10-K for the three fiscal years most recently ended, together with any amendments thereto;

ii. Quarterly Reports on Form 10-Q for each completed fiscal quarter of the then current fiscal year, together with any amendments thereto; and

iii. Form 8-K reports, if any, filed after the most recent Form 10-K.

b. If the Credit Customer is not subject to SEC reporting requirements, Financial Statements are:

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Comment [GJ16]: Can we please specify that financials are CI (unless publicly available)

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i. For each of the three fiscal years most recently ended, the Report of Independent Accountants (for each of the three fiscal years most recently ended); and audited financial statements, including balance sheet, income statement, statement of cash flow, and statement of stockholder's equity;

ii. For each completed fiscal quarter of the then current fiscal year; financial statements as described in (i) above. Unaudited quarterly financial statements are acceptable.

iii. Notes to financial statements; and

iv. Management's discussion and analysis, if any.

c. The Credit Customer may submit Financial Statements by informing SPP, in writing, where the Financial Statements can be retrieved through the internet. Successful retrieval by SPP will satisfy the Financial Statements submission requirements of this Section. If SPP is not satisfied with the retrieval through the internet, it may require the Credit Customer to submit Financial Statements in hard copy form.

d. In the event any parts of the Financial Statements required under this Section are inapplicable to the Credit Customer, SPP may specify alternate requirements. SPP may request additional Financial Statements and related information at its sole discretion.

e. For Not-For-Profit Credit Customers, some of the above financial submittals may not be applicable, and alternate requirements may be specified by SPP.

f. In the credit evaluation of Not-For-Profit Credit Customers, SPP may request additional information as part of the overall financial review process and will consider other relevant factors in determining financial strength and creditworthiness.

Comment [GJ17]: Confirm terminology. Some entities with audited financials may not have this standard auditors report so may need some flexibility on this terminology (or other acceptable report of the auditors of the Credit Customer)

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3.1.1.2 **References.** The Credit Customer must provide at least one bank reference with the exception of Federal Power Marketing Agencies. ~~and at least three references from entities that have significant commercial relationships with the Credit Customer~~.

3.1.1.3 **Loss Contingencies.** The Credit Customer must fully and accurately identify and describe each of the following, or state that there are no such matters applicable to the Credit Customer:

a. known pending or, to the Credit Customer's knowledge, threatened, court actions, arbitration proceeding, publicly disclosed investigations, commitments, claims, contingencies, or existing or potential liabilities that are or would be Material if determined adversely to the Credit Customer; that are not reflected in the Credit Customer's financial statements;

~~b. ongoing investigations by the SEC, the FERC, or of any other governing, regulatory, or standards body that is Material or would be Material if determined adversely to the Credit Customer;~~

c. prior bankruptcy declarations or petitions, voluntary or involuntary, by or against the Credit Customer, its predecessors, subsidiaries or Affiliates; and

d. Material defalcations or fraud by or involving the Credit Customer, its predecessors, subsidiaries or Affiliates, or any of their respective assets.

3.1.1.4 **Affiliates.** The Credit Customer must identify all Affiliates that are Credit Customers.

3.1.1.5 **Total Potential Exposure Information.** The Credit Customer shall provide an estimate of its current or anticipated transaction activity for all services under the Tariff or otherwise over the

Comment [SK(-L18]: This is problematic for the Federal Power Marketing Agencies (WAPA and BPA). Their bank is US Treasury.

Provided proposed edit.

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Comment [GJ19]: What is a "significant" commercial relationship (objective or subjective)? Commercial relationships are typically confidential.

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Comment [KLD20]: Reference Information Sharing Docket

Comment [GJ21]: A few things:
1.This is covered by a.
2.Investigations by FERC, SEC and other regulators are typically carried out confidentially, the subject of the investigations has not been determined to have done anything wrong at the investigation stage, in some cases the subject does not have a clear idea of the scope of the investigation or allegations or whether they are an actual target (vs data collection etc.), and in many cases there is no finding of wrong-doing or matters are settled without admission. Requiring a market participant to speculate on outcomes or disclose these investigations at this stage may be very prejudicial and not a position in which a market participant should be. If an investigation has been made public and the market participant identified as a target then it should be listed (and explained as necessary)
3.If a contingency is reflected in the Credit Customer's financials, separate disclosure should not be required.

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succeeding twelve (12) months sufficient to permit SPP to determine the Credit Customer's Total Potential Exposure.

3.1.1.6 **Attestation Minimum Criteria for Market Participation and of Risk Management Capabilities.** Each applying Market Participant shall submit to SPP a sworn, attested or notarized statement signed by an authorized officer in the form attached as "Appendix E" to this Attachment H, attesting that:

a. The officer has signature authority or, if a Federal Power Marketing Agency, the officer has delegated authority to make the statement;

b. Employees or agents transacting in markets and services provided pursuant to the Tariff on behalf of the applying Market Participant have received, or will receive, applicable training with regard to their participation under this Tariff as a condition of being authorized to transact on behalf of the Market Participant;

c. The applying Market Participant will maintain current written risk management policies and procedures that address those risks that could materially affect the applying Market Participant's ability to pay its SPP invoices when due;

d. The applying Market Participant has available appropriate personnel resources, operating procedures, and technical abilities to promptly and effectively respond to SPP communications and directions related to, but not limited to, settlements, billing, credit requirements and other financial matters;

e. The applying Market Participant will maintain the minimum capitalization or alternate capitalization requirements set forth in Section 3.1.1.8 of this Attachment H; and

f. Certifying that the Market Participant meets the minimum criteria for market participation set forth in Section 3.1.1.8.

Such attestation shall be renewed and updated for each successive year of market participation, and shall be submitted to SPP no later than April 30 of each year.

The applying Market Participant shall be declined participation in Markets+ if: (i) the risk management capabilities of the applying Market Participant are deemed insufficient by SPP, (ii) SPP determines that the applying Market Participant does not meet the minimum criteria for market participation, (iii) the attestation is deemed insufficient by SPP to determine the risk management

Comment [GJ22]: Note – in Canada, statements are sworn (or attested) before a commissioner for affidavits, typically, rather than a notary.

Comment [GJ23]: Is e captured in f?

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Comment [GJ24]: Is this only if requested by SPP or a positive obligation on market participants? Suggest using a date that is maybe XXX days after the end of the market participant's fiscal year rather than April 30.

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capabilities of the applying Market Participant, or (iv) the attestation is deemed insufficient by SPP to determine whether the applying Market Participant meets the minimum criteria for market participation. An applying Market Participant will have two (2) Business Days from receipt of notice from SPP that its attestation was deemed insufficient to cure any deficiency identified by SPP prior to being declined participation in Markets+.

3.1.1.7 **Additional Information.** At any time and from time to time, SPP may request such additional information as SPP determines is necessary and appropriate for the Credit Assessment and the Credit Customer shall timely provide such additional information. At any time, the Credit Customer may provide SPP with additional information that the Credit Customer considers relevant to the Credit Assessment.

3.1.1.8 **Minimum Criteria for Market Participation.**

3.1.1.8.1 **Minimum Eligibility Requirements**

In order to be eligible to transact in Markets+, each Market Participant must demonstrate to SPP that it qualifies as one of the following:

a. An "appropriate person," as defined under Section 4(c)(3)(A) through (J) of the Commodity Exchange Act (7 U.S.C. § 6(c)(3)(A) through (J)). A Market Participant may qualify as an "appropriate person" by providing either: (i) an unlimited Corporate Guaranty in a form acceptable to SPP as described in Article 6 of this Attachment H and Appendix D of this Attachment H from an entity that demonstrates to SPP that it has in excess of $1 million of total net worth or in excess of $5 million of total assets per Market Participant for which that guarantor has issued an unlimited Corporate Guaranty, or (ii) an Irrevocable Letter of Credit or Surety Bond in an amount of $5 million or greater

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that the Market Participant acknowledges is separate from, and cannot be applied to meet, its credit requirements under this Attachment H.

b. An "eligible contract participant," as defined in Section 1a(18) of the Commodity Exchange Act (7 U.S.C. § 1a(18)) and in the Commodity Futures Trading Commission's regulation 1.3(m) (17 C.F.R. § 1.3(m))

c. A person or entity that is in the business of: (1) generating, transmitting or distributing electric energy or (2) providing electric services that are necessary to support the reliable operation of the transmission system (78 Fed. Reg. 19880, page 19914).

~~For purposes of meeting the minimum criteria for market participation under this Credit Policy, SPP shall accept annual audited Financial Statements prepared according to either United States Generally Accepted Accounting Principles (US GAAP) or International Financial Reporting Standards (IFRS).~~

If a Market Participant is unable to meet the minimum eligibility requirements for market participation set forth in this Section 3.1.1.8.1, the Market Participant shall immediately notify SPP and immediately cease conducting transactions in Markets+. When SPP receives such notification from a Market Participant or determines that a Market Participant does not meet the minimum eligibility requirements set forth in this Section 3.1.1.8.1, SPP shall immediately terminate that Market Participant's transaction rights in Markets+.

In the event that a Market Participant is no longer able to demonstrate that it meets the minimum

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Comment [GJ25]: Moved up to 1.5.4 and broadened

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eligibility requirements set forth in this Section 3.1.1.8.1, and possesses, obtains, or has rights to possess or obtain any open or forward position in Markets+, SPP may take any action it deems necessary with respect to such open or forward positions. Such action may include but is not limited to, liquidation, transfer, assignment, or sale. The Market Participant will be entitled to any positive market value of such positions, net of any obligations due to SPP, notwithstanding its ineligibility to participate in Markets+. Nothing in this paragraph shall restrict SPP's ability to enforce SPP's rights to pursue and collect any amounts Market Participants may owe to SPP.

3.1.1.8.2 Minimum Capitalization Requirements

Each Market Participant that meets the minimum eligibility requirements in Section 3.1.1.8.1 shall also, at a minimum, possess one of the following:

a. A Tangible Net Worth of one million dollars ($1,000,000) as shown in the most recent fiscal year end audited financial statements as described in Section 3.1.1.1; or
b. Ten million dollars ($10,000,000) in assets as shown in the most recent fiscal year end audited financial statement as described in Section 3.1.1.1; or
c. A Credit Rating of, or equivalent to, BBB-; or
d. A Guaranty as described in Article Six of this Attachment II, and approved by SPP, through which the audited financials or Credit Rating of the Guarantor is used to meet at least one of the alternatives specified in (a) through (c) above; or
e. In the event a Market Participant cannot meet at least one of the alternatives specified in (a) through (d) above, the Market Participant shall, at a minimum, deposit with SPP two hundred thousand dollars ($200,000) in Financial Security to be segregated and unavailable to secure any market activity. Pursuant to election of this alternative, if the anticipated activity at time

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of application or actual market activity as determined in Article Five, of the Market Participant exceeds one hundred thousand dollars ($100,000) in Market Exposure, the Market Participant shall provide SPP twice the amount of Financial Security that would otherwise be required of the Market Participant pursuant to Section 4.4.

If the applying Market Participant is unable to meet the applicable minimum capitalization requirements in this Section 3.1.1.8.2, the applying Market Participant shall be declined participation in Markets+.

Failure at any time of a Market Participant to continue to satisfy these minimum capitalization requirements in this Section 3.1.1.8.2 shall be deemed a Material Adverse Change pursuant to Section 3.2.7.

3.1.1.9 Minimum Criteria and Risk Management Verification Process

Through a periodic compliance verification process, SPP shall review and verify Market Participants' eligibility for market participation based upon SPP's minimum criteria for market participation, risk management policies, practices, and procedures pertaining to the Market Participants' activities in Markets+. Such review ~~may~~shall include verification that:

1. The risk management framework is documented in a risk policy addressing market, credit, and liquidity risks;
2. The Market Participant maintains an organizational structure with clearly defined roles and responsibilities that clearly segregates trading and risk management functions;
3. There is clarity of authority specifying the types of transactions into which traders are allowed to enter;
4. The Market Participant has requirements that traders have adequate training or expertise relative to their authority in the systems and Markets+ in which they transact;
5. As appropriate, risk limits are in place to control risk exposures;
6. Reporting is in place to ensure that risks and exceptions are adequately communicated throughout the organization;
7. Processes are in place for qualified independent review of trading activities; and
8. As appropriate, there is periodic valuation or mark-to-market of risk positions.

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9. The Market Participant meets the minimum participation criteria, including capitalization requirements, set forth in Section 3.1.1.8.

SPP may select Market Participants for review on a random basis and/or based on identified risk factors such as, but not limited to, the SPP markets in which the Market Participant is transacting, the magnitude of the Market Participant's transactions, or the volume of the Market Participant's open positions. Those Market Participants notified by SPP that they have been selected for review shall, upon fourteen (14) Calendar Days notice, (or such longer time as SPP may agree), provide a copy of their current governing risk control policies, procedures, and controls applicable to their SPP market activities and shall also provide such further information or documentation pertaining to the Market Participants' activities in Markets+ as SPP requests. Market Participants selected for risk management verification through a random process and satisfactorily verified by SPP shall be excluded from such verification process based on random selection for the subsequent two years. SPP shall annually randomly select for review no more than twenty percent (20%) of the Market Participants.

Each selected Market Participant's continued eligibility to participate in Markets+ is conditioned upon SPP notifying the Market Participant of successful completion of SPP's verification. If SPP notifies the Market Participant in writing that it could not verify the Market Participant's continued eligibility to participate, SPP shall allow such Market Participant fourteen (14) Calendar Days to provide sufficient evidence for verification prior to declaring the Market Participant as ineligible to continue to participate in Markets+. The declaration of ineligibility shall be in writing with an explanation of why SPP could not complete the verification. If, prior to the expiration of such fourteen (14) Calendar Days (or longer period as SPP may provide), the Market Participant demonstrates to SPP that it has filed with FERC an appeal of SPP's risk management verification determination, then the Market Participant shall retain its transaction rights, pending FERC's determination on the Market Participant's appeal. SPP may retain outside expertise to perform the review and verification function described in this section. SPP and any third party it may retain will treat as confidential the documentation provided by a Market Participant under this section, consistent with the applicable provisions of the Tariff.

3.1.2 Rating Agency Information. In the initial Credit Assessment and in subsequent and ongoing assessments, SPP will consider Rating Agency reports applicable to the Credit Customer. This review will be focused on the Credit Customer's

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Comment [GJ26]: Can we please clarify that these materials will be customer's Confidential Information?

Comment [GJ27]: Should this be stated in reverse failure to successfully complete verification may result in the selected Market Participant losing eligibility to participate in Markets Plus? Seems to sync better with the rest of this paragraph

Comment [GJ28]: This this is in RTO tariff – wondering why it was deleted.

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unsecured, senior long-term debt ratings. If these ratings are not available, SPP will consider issuer ratings.

3.1.3 Power Supply Agent Disclosure Requirements. A Not-For-Profit Credit Customer may request that its suggested Unsecured Credit Allowance calculation reflect as equity the outstanding balance of revenue bonds issued by the Not-For-Profit Credit Customer when such revenue bonds are issued solely in support of the Not-For-Profit Credit Customer's role as power supply agent for not-for-profit electric distribution utilities. In support of such request, the Not-For-Profit Credit Customer must provide SPP with the following information:

(a) Management representation letter stating:

(i) Principal amount, in dollars, of revenue bonds outstanding;

(ii) Prior to default and after default, debt service on the revenue bonds is payable only after operating expenses are paid;

(iii) Amounts payable to SPP under this Tariff are operating expenses for purposes of the revenue bonds; and

(iv) The trustee for the revenue bonds has a valid and binding security interest in the revenues or net revenues from the power supply contracts to secure payment of the revenue bonds and the Not-For-Profit Customer has not granted any lien thereon prior to the lien of the bond resolution.

(b) Opinion of counsel stating:

(i) The power supply contracts are binding obligations of the Not-For-Profit Credit Customer enforceable in accordance with their terms;

(ii) The trustee of the revenue bonds has a valid and binding security interest in, or assignment and pledge of, the revenues or net revenues from the power supply contracts to secure payment of the revenue bonds;

(iii) The resolution or other document creating the security interest or pledge and providing for the priority of payment is enforceable in accordance with its terms;

(iv) Prior to default and after default, debt service on the revenue bonds is payable only after operating expenses are paid; and

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(v) All amounts payable to SPP arising from transactions under this Tariff are operating expenses for purposes of the revenue bonds.

(c) All Rating Agency ratings on revenue bond(s).

The opinion of counsel referenced above shall be provided to SPP together with copies of the most recent written opinions of counsel, if any, for each member of the Not-For-Profit Credit Customer that relate to the enforceability of the power supply contract(s).

3.1.4 Guarantees. If the Credit Customer proposes a Guaranty to establish, contribute to, or maintain an Unsecured Credit Allowance, Credit Information required under Section 3.1.1 must be submitted with respect to both the Credit Customer and the proposed Guarantor.

3.2. Annual and Other Ongoing Credit Assessments.

3.2.1 Purpose of Annual and Other Ongoing Credit Assessments. At least once annually, SPP will review and update its Credit Assessment for each Credit Customer. This will include a review of the Credit Customer's creditworthiness and consideration of revisions of the Credit Customer's (a) Unsecured Credit Allowance; (b) Financial Security requirements; and (c) Total Credit Limit. In its sole discretion, SPP may conduct additional reviews and updates, including reviews in response to new facts or occurrences that may bear upon the Credit Customer's creditworthiness. Unless otherwise stated, all annual information required under Section 3.2 shall be provided to SPP no later than 120 Calendar Days after the end of the Credit Customer's fiscal year, or such later date as SPP may agree.

3.2.2 Procedures for Posting Additional Financial Security or Taking Other Corrective Measures. In the event a Credit Customer experiences a Material Adverse Change, SPP may invoke its right to require the Credit Customer to post additional Financial Security, cease one or more transactions, or take other measures to restore confidence in the Credit Customer's ability to transact safely. In addition, based upon the annual or other Credit Assessment, SPP may, at any time, revise any (a) Unsecured Credit Allowance; (b) Financial Security requirements; and (c) Total Credit Limit, applicable to the Credit Customer. If SPP has upwardly revised the required amount of Financial Security, the Credit

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Customer will have two (2) Business Days from receipt of the notice from SPP to provide the required Financial Security, in an amount and form acceptable to SPP. Failure to provide additional required Financial Security shall be a Default under this Credit Policy and a default under the Tariff.

3.2.3 Rating Agency Information. The Credit Customer will give notice to SPP of any changes to its Credit Ratings within five (5) Business Days of the announcement of the change.

3.2.4 Financial Statements. On an annual basis, and except as otherwise stated with respect to quarterly reports, each Credit Customer must provide SPP with updated Financial Statements within ten (10) Business Days after they become available, and in no event later than 120 Calendar Days after the end of the Credit Customer's fiscal year,, or such later date as SPP may agree;. Quarterly reports must be provided quarterly, within ten (10) Business Days after they become available,, unless Credit Customer does not produce quarterly financial statements;. Financial Statements may be submitted in the manner provided under Section 3.1.1.1.

3.2.5 Power Supply Agent Disclosure Requirements. A Not-For-Profit Credit Customer that initially qualified to have its suggested Unsecured Credit Allowance calculation reflect as equity the outstanding balance of revenue bonds issued by the Not-For-Profit Credit Customer, and is requesting to continue to have its suggested Unsecured Credit Allowance calculation reflect as equity the outstanding balance of revenue bonds issued by the Not-For-Profit Credit Customer when such revenue bonds are issued solely in support of the Not-For-Profit Credit Customer's role as power supply agent for not-for-profit electric distribution utilities, must at all times comply with the following information reporting requirements:

(a) The Not-For-Profit Credit Customer must advise SPP of the principal amount of revenue bonds outstanding on an annual basis;

(b) The Not-For-Profit Credit Customer must advise SPP within ten (10) Business Days if the principal amount of the revenue bonds outstanding is reduced by more than twenty percent (20%) from the amount last certified by the Not-For-Profit Credit Customer;

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(c) The Not-For-Profit Credit Customer must advise SPP immediately if the security interest of the trustee is released or the Not-For-Profit Credit Customer grants any lien prior to the lien of the bond resolution; and

(d) The Not-For-Profit Credit Customer must advise SPP within ten (10) Business Days of any downgrade of any of the Not-For-Profit Credit Customer's revenue bond ratings issued by a Rating Agency.

3.2.6 Other Credit Information. On an annual basis, each Credit Customer must provide SPP with the information specified in Section 3.1.1.3 (Loss Contingencies), 3.1.1.4 (Affiliates), 3.1.1.6 (Additional Information).

3.2.7 Material Adverse Changes. Each Credit Customer must give SPP notice of any Material Adverse Change in its financial condition (and, as applicable, the financial condition of its Guarantor) within two (2) Business Days of the occurrence of the Material Adverse Change. If a Credit Customer or Guarantor files a Form 10-K, Form 10-Q, or Form 8-K with the SEC, notice of such filing, timely delivered to SPP in accordance herewith, will suffice on the condition that such notice states that the filing addresses a Material Adverse Change.

A Material Adverse Change in financial condition includes any Material change in operations or financial condition that a reasonable examiner of creditworthiness would deem material to decisions concerning the extension of credit, including but not limited to, any of the following ("Material Adverse Change"):

a. A downgrade of three (3) notches or greater or below investment grade (below "BBB-" or equivalent) on any debt rating issuer rating, or a change in outlook to "Negative" with a credit rating of "BBB-" or equivalent~~any debt rating or issuer rating, or change in the outlook of any Credit Rating, including debt rating or issuer rating~~;

b. Any placement on a credit watch with negative implication by a Rating Agency with a "BBB-" rating;

c. The filing of a lawsuit or initiation of an arbitration~~, investigation~~ or other proceeding (including regulatory proceeding) which if decided adversely could have a Material effect on any current or future financial results or financial condition;

d. The merger, acquisition or any other form of business combination involving the credit customer.

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Comment [SK(L729]: Concerned that some of the MAC triggers are too sensitive. Suggested edits are below.

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Comment [GJ30]: Same comment as above

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e. Any adverse changes in financial condition which, individually, or in the aggregate, are Material;

f. Any adverse changes, events or occurrences which, individually or in the aggregate, could affect the ability of the Credit Customer to pay its debts as they become due or could have a Material adverse effect on any current or future financial results or financial condition;

g. Discovery or disclosure of conflict of interest issues;

h. Resignation or removal of a key officer or director;

i. Any action requiring the filing of a Form 8-K;

j. Decline in Tangible Net Worth (TNW) of 5% or greater compared to the prior period (could be duplicate of Item e above as "Material" has been defined as a 5% reduction of TNW). ~~Any report of a quarterly or annual loss or a decline in earnings of ten (10) percent or greater compared to the prior period~~;

k. Any restatement of prior financial statements; and

l. Failure of a Market Participant to continue to satisfy the minimum capitalization criteria for market participation specified in Section 3.1.1.8.2.

3.2.7.1 Notification of a Material Adverse Change by SPP to a Credit Customer. Upon the occurrence of a Material Adverse Change and prior to SPP compelling a Credit Customer to post additional Financial Security, cease one or more transactions, or take other measures to restore the creditworthiness of ~~confidence in~~ the Credit Customer~~'s ability to transact business safely~~ as a result of any Material Adverse Change, SPP shall provide, when feasible, reasonable advance notice in writing, by ~~fax,~~ electronic mail, hand delivery, reputable overnight courier, or first-class mail, to the Credit Contact designated by the Credit Customer pursuant to Section 9.1 of this Credit Policy. If delivery to the Credit Contact fails, then SPP may effect delivery to any officer, executive, or manager of the Credit Customer. Such notice shall identify the reasoning behind the invocation of the Material Adverse Change clause and be signed by an authorized representative of SPP.

3.2.8 Affiliates. Each Credit Customer must identify all Affiliates that are Credit Customers.

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Comment [SK(L731]: Strongly suggest using Total Net Worth as a measure and not earnings. BPA's net income often fluctuates by more than 10% year to year.

2022 - $964.1M
2021 - $397.8M
2020 - $245.7M

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3.2.9 Additional Information. At any time and from time to time, SPP may request such additional information as SPP reasonably determines is necessary and appropriate for the Credit Assessment and the Credit Customer shall timely provide such additional information. At any time, the Credit Customer may provide SPP with additional information that the Credit Customer considers relevant to the Credit Assessment. SPP will provide Credit Customer with an explanation for its request.

3.2.10 Guaranties. If the Credit Customer relies upon a Guaranty to maintain an Unsecured Credit Allowance, Credit Information required under Section 3.2 must be submitted with respect to both the Credit Customer and the Guarantor.

3.2.11 Alternate Requirements. For Not-For-Profit Credit Customers, some of the above financial submittals may not be applicable, and alternate requirements may be specified by SPP.

3.2.12 In the credit evaluation of Not-For-Profit Credit Customers, SPP may request additional information as part of the overall financial review process and will consider other relevant factors in determining financial strength and creditworthiness.

3.3 SPP Rights to Use Other Information. Notwithstanding any provision of this Credit Policy, SPP shall have the right to utilize, in a Credit Assessment, any information of which it is aware concerning the Credit Customer.

3.4 Positive Material Change in Financial Condition of the Credit Customer. If there is a positive Material change in the financial condition of the Credit Customer, a significant reduction in the Total Potential Exposure of the Credit Customer, or any other change that the Credit Customer believes may warrant an increase in the Credit Customer's Unsecured Credit Allowance and/or a reduction in the Financial Security required of the Credit Customer, the Credit Customer may make a written request to SPP to update the Credit Assessment and include or refer to any supporting information. SPP may request any Credit Information described in Section 3.2 to evaluate the merit of the Credit Customer's request. SPP anticipates that it will respond to the Credit Customer's request within a reasonable period of time, generally within ten (10) Business Days after receiving all information that is required.

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ARTICLE FOUR

Creditworthiness and Total Credit Limit

4.1 Creditworthiness Overview. SPP will establish a Total Potential Exposure for each Credit Customer based on the Credit Customer's estimated cumulative financial obligation arising under the Tariff or otherwise to SPP as provided in Article 5. The Total Potential Exposure is the amount that the Credit Customer must support with credit. The credit will consist of a combination of the Unsecured Credit Allowance and Financial Security, or either of them. SPP will determine the Credit Customer's Unsecured Credit Allowance based upon the Composite Credit Score. The Composite Credit Score, as defined herein, is a determination of financial strength and creditworthiness, based upon the Credit Assessment. Where Credit Customers are Affiliates of each other, an aggregate Unsecured Credit Allowance will be established for the Affiliates, as provided below. If the Credit Customer's Unsecured Credit Allowance is less than its Total Potential Exposure, the Credit Customer will be required either to establish additional credit in the amount of the difference by posting Financial Security or to decrease its Total Potential Exposure. A Credit Customer's total credit with SPP under the Markets+ Tariff, consisting of the Unsecured Credit Allowance and any Financial Security, is the Credit Customer's Total Credit Limit. A Credit Customer may provide additional Financial Security at any time to increase or maintain its Total Credit Limit, for example, in order to increase its Total Potential Exposure or to compensate for a reduction in its Unsecured Credit Allowance.

4.1.1 Unsecured Credit Allowance during the Initial Three-Years of Markets+. During the initial three-years of Markets+, granting of an Unsecured Credit Allowance will be suspended.

4.2 Composite Credit Score. The "Composite Credit Score" is the numerical result of SPP's scoring process based upon various quantitative and qualitative predictors of creditworthiness as set forth in this Section. The results are scaled from one (1) to six (6) with one (1) being the strongest score and six (6) being the weakest. Key factors in the scoring process include financial ratios, years in business, and Credit Ratings. SPP will apply all measures used to determine Composite Credit Scores in a consistent manner. The respective models SPP will use to determine the Composite Credit Score for Large Company Credit Customers, Small Company Credit Customers, and Not-For-Profit Credit Customers are set forth in this Section.

4.2.1 Large Company Credit Scoring. The Large Company Credit Customer model will be utilized for Credit Customers with net fixed assets equal to or in excess of $250 million ("Large Company Credit Customers" or "Large Company"). The Large Company Credit Score will be comprised of a Quantitative Score and a Qualitative Score. Each score is then weighted as shown below to build a Composite Credit Score.

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Large Company Analysis	Weight
Quantitative Score	70%
Qualitative Score	30%

4.2.1.1 **Quantitative Score.** The Quantitative Score is based on the financial ratios below. These measures will be calculated for each Large-Company Credit Customer and compared with benchmarks to assign a score of one (1) to six (6) for each measure. A score of one (1) indicates that the Credit Customer has a strong financial health with regard to the measure, while a score of six (6) indicates poor financial health with regard to the measure. The following measures are used:

a. Current Ratio—Current Assets/Current Liabilities

b. EBIT Interest Coverage—(Interest Expense + Income Taxes + Net Income) / Interest Expense

c. Total Debt to Total Capitalization ("TD/TC")—(Long Term Debt + Current Portion + Other Short Term Borrowings) / (Total Debt + Preferred Equity + Common Equity)

d. Funds from Operations ("FFO") to Total Debt—(Cash from Operating Activities - Changes in Operating Assets and Liabilities) / (Long Term Debt + Current Portion + Other Short Term Borrowings)

The measures are then assessed as follows to calculate the total Quantitative Score:

Scale	Current	EBIT Interest	TD/TC	FFO to Total Debt
1	>1.34	>4.99	<.30	>.350
2	1.15 – 1.34	3.50 – 4.99	.30 - .39	.271 - .350
3	1.00 – 1.14	2.50 – 3.49	.40 - .49	.181 - .270
4	0.85 – 0.99	2.00 – 2.49	.50 - .59	.120 - .180
5	0.70 – 0.84	1.25 – 1.99	.60 - .69	.070 - .119
6	<0.70	<1.25	>.69	<.070

The measures are weighted as follows:

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Large Company Financial Ratios	Weight
Current Ratio	10%
EBIT Interest Coverage	25%
Total Debt to Total Capitalization	25%
FFO to Total Debt	40%
	100%

If one or more ratios cannot be calculated due to insufficient data to calculate the ratio, the weight that would have been assigned to that ratio or ratios will be allocated equally among the remaining ratios.

4.2.1.2 **Qualitative Score.** The Qualitative Score, also on a scale of one (1) to six (6), will assess non-financial measure information about a Credit Customer's creditworthiness. A score of one (1) indicates that the Credit Customer has strong qualitative measures, while a score of six (6) indicates poor qualitative measures. The qualitative analysis will take into account a variety of information, but at a minimum will include the assessment of the following characteristics:

-Management
-Regional / Commodity Diversity
-Physical Liquidity
-Financial Liquidity
-Quality of Equity
-Volatility of Earnings
-Regulation/Rates
-Senior Unsecured Debt Rating
-SPP Payment Record
-Risk Procedures

4.2.1.3 **Composite Credit Score.** The Composite Credit Score is the weighted average of the Quantitative Score and the Qualitative Score. To illustrate, assume the following:

Large Company Qualitative Score = 4.0

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Large Company Financial Measures:

	Value	Score	Weight
Current Ratio	.82	5	10%
EBIT Interest Coverage	2.08	4	25%
Total Debt to Total Capitalization	.63	5	25%
FFO to Total Debt	.17	4	40%

Large Company Quantitative Score =
(5 x 10%) + (4 x 25%) + (5 x 25%) + (4 x 40%) = 4.35

Large Company Credit Score = (4.35 x 70%) + (4 x 30%) = 4.25

4.2.2 Small Company Credit Scoring. The Small Company model will be utilized for Credit Customers with net fixed assets less than $250 million ("Small Company Credit Customers" or "Small Company"). The Small Company Composite Credit Score will be comprised of a Quantitative Score and a Qualitative Score. Each score is then weighted as shown below to build a Composite Credit Score.

Small Company Analysis	Weight
Quantitative Score	70%
Qualitative Score	30%

4.2.2.1 Quantitative Score. The Quantitative Score is based on the financial ratios below. These measures will be calculated for each Small Company Credit Customer and compared with benchmarks to assign a score of one (1) to six (6) for each measure. A score of one (1) indicates that the Credit Customer has a strong financial health with regard to the measure, while a score of six (6) indicates poor financial health with regard to the measure. The following measures are used:

a. Current Ratio—Current Assets/Current Liabilities

b. EBIT Interest Coverage—(Interest Expense + Income Taxes + Net Income) / Interest Expense

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c. Total Liabilities to Total Net Worth ("TL/TNW")—(Total Liabilities) / (Total Equity-Intangibles-Treasury Stock)

d. Funds from Operations ("FFO") to Total Debt—(Cash from Operating Activities - Changes in Operating Assets and Liabilities) / (Long Term Debt + Current Portion + Other Short Term Borrowings)

e. Return on Assets ("ROA")—Net Income / Total Assets

The values are then assessed as follows to calculate the total Quantitative Score:

Scale	Current	EBIT Interest	TL/TNW	FFO to Total Debt	ROA
1	>2.50	>4.99	<0.40	>.350	>.120
2	1.75 – 2.50	3.50 – 4.99	0.40 - 0.70	.271-.350	.100 - .120
3	1.40 – 1.74	2.50 – 3.49	0.71 – 1.49	.181 - .270	.075 - .099
4	1.15 – 1.39	2.00 – 2.49	1.50 – 2.25	.120 - .18	.045 - .074
5	1.00 – 1.14	1.25 – 1.99	2.26 – 4.00	.070 - .119	.015 - .044
6	<1.00	<1.25	>4.00	<.070	<.015

The measures are weighted as follows:

Small Company Financial Ratios	Weight
Current Ratio	25%
EBIT Interest Coverage	10%
Total Liabilities / Total Net Worth	25%
FFO to Total Debt	15%
ROA	25%
	100%

If one or more ratios cannot be calculated due to insufficient data to calculate the ratio, the weight that would have been assigned to that ratio or ratios will be allocated equally among the remaining ratios.

4.2.2.2 **Qualitative Score.** The Qualitative Score, also on a scale of one (1) to six (6), will assess non-financial measure information about a Credit Customer's creditworthiness. A score of one (1) indicates that the Credit Customer has strong qualitative measures, while a score of six (6) indicates poor qualitative

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measures. The qualitative analysis will take into account a variety of information, but at a minimum will include the assessment of the following characteristics:

-Management
-Regional / Commodity Diversity
-Physical Liquidity
-Financial Liquidity
-Quality of Equity
-Volatility of Earnings
-Regulation/Rates
-Peer Comparison using SIC codes
-Senior Unsecured Debt Rating
-SPP Payment Record

4.2.2.3 Composite Credit Score. The Composite Credit Score is the weighted average of the Quantitative Score and the Qualitative Score. To illustrate, assume the following:

Small Company Qualitative Score = 4

Small Company Financial Measures:

	Value	Score	Weight
Current Ratio	1.10	5	25%
EBIT Interest Coverage	1855.00	1	10%
Total Liabilities / Total Net Worth	2.47	5	25%
FFO to Total Debt	0.03	6	15%
ROA	0.02	5	25%

Small Company Quantitative Score =
(5 x 25%) + (1 x 10%) + (5 x 25%) + (6 x 15%) + (5 x 25%) = 4.75

Small Company Credit Score =
(4.75 x 70%) + (4 x 30%) = 4.53

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4.2.3 Not-For-Profit Credit Scoring. The Not-For-Profit model will be utilized for Credit Customers who are not structured to generate profits for investors ("Not-For-Profit Credit Customers" or "Not-For-Profit"), including electric cooperatives, municipalities, and government agencies. The Not-For-Profit Composite Credit Score will be comprised of a Quantitative Score and a Qualitative Score. The lower of the Composite Credit Score calculated using two alternative weights for the Quantitative Score and the Qualitative Score as shown below shall be used in determining the allocation of the Not-For-Profit Credit Customer's Unsecured Credit Allowance.

Not For Profit Credit Customer Analysis	Weight	
	Alternative 1	Alternative 2
Quantitative Score	40%	50%
Qualitative Score	60%	50%

4.2.3.1 Quantitative Score. The Quantitative Score is based on the financial ratios below. These measures will be calculated for each Not-For-Profit Credit Customer and compared with benchmarks to assign a score of one (1) to six (6) for each measure. A score of one (1) indicates that the Credit Customer has a strong financial health with regard to the measure, while a score of six (6) indicates poor financial health with regard to the measure. The following measures, or their substantive equivalents for not-for-profit entities, are used:

a. Current Ratio ("CR")—Current Assets / Current Liabilities

b. Debt Service Coverage ("DSC")—(Operating Income + Interest Expense + Depreciation + Interest Income + Cash Portion of Capital Credits - Onetime Charges)/(Interest Expense + Debt Amortization)

c. Times Interest Earned Ratio ("TIER")—(Interest Expense + Patronage Capital or Margins or Changes in Net Assets) / (Interest Expense)

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d. Total Debt to Total Capitalization ("TD/TC")—(Long Term Debt + Current Portion + Other Short Term Borrowings) / (Total Debt + Preferred Equity + Common Equity). Members' Equity could also be called Net Assets or Patronage Capital.

The values are then assessed as follows to calculate the total Quantitative Score:

Not-For-Profit Credit Customer Model Ratio Scales

Scale	CR	DSC	TIER	TD/TC
1	>1.34	>1.99	>2.00	<.50
2	1.15 – 1.34	1.50 – 1.99	1.50 – 2.00	.51 - .74
3	1.00 – 1.14	1.00 – 1.49	1.00 – 1.49	.75 - .85
4	0.85 – 0.99	0.80 – 0.99	0.80 – 0.99	.86 - .93
5	0.70 – 0.84	0.60 – 0.79	0.50 – 0.79	.94 - .99
6	<0.70	<0.60	<0.50	>.99

The measures are weighted as follows:

Not-For-Profit Credit Customer Financial Ratios	Weight
Current Ratio	15%
Debt Service Coverage	35%
Times Interest Earned Ratio	20%
Total Debt / Total Capitalization	30%
	100%

If one or more ratios cannot be calculated due to insufficient data to calculate the ratio, the weight that would have been assigned to that ratio or ratios will be allocated equally among the remaining ratios.

4.2.3.2 Qualitative Score. The Qualitative Score, also on a scale of one (1) to six (6), will assess non-financial measure information about a Credit Customer's creditworthiness. A score of one (1) indicates that the Credit Customer has strong qualitative measures, while a score of six (6) indicates poor qualitative measures. The qualitative analysis will take into account a variety of information, but at a minimum will include the assessment of the following characteristics:

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-Regulation/Rates
-Terms of wholesale power contracts
-Customer count served
-Power supply portfolio (e.g., contracts, assets, etc)
-Management
-Ability to access short-term capital
-Senior Unsecured Debt Rating
-SPP Payment Record

4.2.3.3 Composite Credit Score. The Composite Credit Score is the weighted average of the Quantitative Score and the Qualitative Score. To illustrate, assume the following:
Not-For-Profit Qualitative Score = 2

Not-For-Profit Financial Measures:

	Value	Score	Weight
Current Ratio	1.42	1	15%
Debt Service Coverage	1.17	3	35%
Times Interest Earned Ratio	0.73	5	20%
Total Debt / Total Capitalization	1.50	6	30%

Not-For-Profit Quantitative Score =
(1 x 15%) + (3 x 35%) + (5 x 20%) + (6 x 30%) = 4.00

Not-For-Profit Credit Score =
(4.00 x 40%) + (2.0 x 60%) = 2.80 using Alternative 1, or;

(4.00 x 50%) + (2.0 x 50%) = 3.00 using Alternative 2.

The lower Composite Credit Score resulting from utilizing the two alternatives is 2.80, so it will be the Composite Credit Score used in allocating this Not-For-Profit Credit Customer's Unsecured Credit Allowance as described in Section 4.3 below.

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4.3 Unsecured Credit Allowance.

The Composite Credit Score is converted into an "Unsecured Credit Allowance," which is a percentage of Tangible Net Worth. (Tangible Net Worth = Total Equity – Intangibles – Treasury Stock). The Composite Credit Score is a numeric value on a scale of one (1) to six (6) with one (1) indicating stronger creditworthiness and six (6) indicating weaker creditworthiness. The conversion into an Unsecured Credit Allowance is based on the percentage values stated in Table 1.

Table 1

Composite Credit Score	% Tangible Net Worth Small Company Model	% Tangible Net Worth Large Company Model	% Tangible Net Worth Not For Profit Model
1.00 - 1.99	5.00%	5.00%	7.500%
2.00 - 2.99	3.00%	3.00%	4.500%
3.00 - 3.59	2.00%	2.00%	3.000%
3.60 - 4.39	0.75%	0.75%	1.125%
4.40 - 4.99	0.25%	0.25%	0.375%
5.00 - 6.00	0%	0%	0.000%

To illustrate, a Large Company Credit Customer with a Composite Credit Score of 4.36 and Tangible Net Worth of $501,468,000 would have a suggested Unsecured Credit Allowance calculated as follows:

Unsecured Credit Allowance = Table 1 Percentage x Tangible Net Worth

= 0.75% x $501,468,000

= $3,761,010

4.3.1 Revenue Bond Adjustment to Tangible Net Worth Value for Power Supply Agents. For Not-For-Profit Credit Customers that issue revenue bonds solely in support of their role as power supply agent for not-for-profit electric distribution utilities and meet: (a) the disclosure requirements in: (i) Section 3.1.3 of this Credit Policy and (ii) Section 3.2.5 of this Credit Policy; and (b) have a revenue bond rating or revenue bond ratings equal to or better than Baa1 issued by Moody's ~~Investor Services~~ or BBB+ issued by ~~Standard & Poor's~~, the calculation of the suggested

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Unsecured Credit Allowance shall be based on an adjusted value for Tangible Net Worth. The adjusted value for Tangible Net Worth shall include the outstanding balance of revenue bonds as of the date of the calculation.

To illustrate, if the Not-For-Profit Credit Customer met all of the disclosure requirements for power supply agents, had a Tangible Net Worth of $2,000,000, and had $8,000,000 principal amount of revenue bonds outstanding, the adjusted Tangible Net Worth to be used in computing the suggested Unsecured Credit Allowance would be $10,000,000 (the sum of the adjusted Tangible Net Worth and the principal amount of revenue bonds outstanding as of the date of the calculation).

4.3.2 Maximum and Minimum Unsecured Credit Allowances. Notwithstanding the calculation under Section 4.3:

4.3.2.1 No Credit Customer shall have an Unsecured Credit Allowance in excess of $50 million; and

4.3.2.2 On the condition that a Not-For-Profit provides all required Credit Information and executes all documents required under this Credit Policy, and subject to the Default provisions of this Credit Policy, a Not-For-Profit Credit Customer shall have a minimum Unsecured Credit Allowance in the amount of $250 thousand.

4.3.3 Guaranty. In the event that the Credit Customer has a Guaranty, the Unsecured Credit Allowance will be based on the higher of the Credit Assessments of the Credit Customer and the Guarantor.

4.3.4 Unsecured Credit Allowance for Affiliates.

4.3.4.1 Determination of Creditworthiness of Combined Affiliates. If two or more Credit Customers are Affiliates, and each is granted an Unsecured Credit Allowance and a corresponding Total Credit Limit, SPP will consider the overall creditworthiness of the Affiliated Credit Customers when determining the Unsecured Credit Allowances in order not to grant more unsecured credit than the overall group of affiliated entities could support. SPP will work with Affiliated Credit Customers to allocate the total Unsecured Credit Allowance among the Affiliates while assuring that no individual Credit Customer, nor common guarantor, exceeds the Unsecured Credit Allowance appropriate for its credit strength. A $50 million maximum Unsecured Credit Allowance shall apply to all Affiliates as though the Affiliates are a single Credit Customer.

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Example: Credit Customers A and B each have a $10.0 million Guaranty from their common parent, a holding company with an Unsecured Credit Allowance calculation of $12.0 million. SPP may limit the Unsecured Credit Allowance for each Credit Customer to $6.0 million, so the total Unsecured Credit Allowance does not exceed the corporate total of $12.0 million.

4.3.4.2 **Guaranty.** If the Guaranty is applicable to Affiliates (i.e., more than one Credit Customer), then the Unsecured Credit Allowance of the Guarantor shall be allocated among such Affiliates and the applicable allocation shall be utilized in determining each Affiliated Credit Customer's Unsecured Credit Allowance.

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4.3.5 **Continuous Right to Modify.** SPP has the right at any time to modify any Unsecured Credit Allowance and/or require additional Financial Security as may be reasonably necessary to support the Credit Customer's ability to pay for any market services SPP may provide. If the modification results in a reduction or revocation of Unsecured Credit Allowance and the reduction or revocation results in the need to provide Financial Security, then the rights and duties of SPP and the Credit Customer shall be as set forth in Section 3.2.2.

4.4 **Financial Security Requirement.** If a Credit Customer (i) is denied an Unsecured Credit Allowance, or (ii) is granted an Unsecured Credit Allowance that is below its Total Potential Exposure calculated pursuant to Article 5, then the Credit Customer may submit Financial Security to cover or exceed the difference in the amount of the Unsecured Credit Allowance granted to the Credit Customer and the amount of its Total Potential Exposure. A Credit Customer electing to satisfy the alternative criteria for market participation specified in Section 3.1.1.8.2(e) and whose anticipated or actual market activity, as determined in Article Five, exceeds One Hundred Thousand Dollars ($100,000) in Market Exposure shall provide Financial Security that is twice the amount calculated to satisfy its Financial Security Requirement pursuant to this Section 4.4. Any Credit Customer may provide Financial Security in lieu of or in addition to the Unsecured Credit Allowance it was granted. Upon the Credit Customer's request, SPP shall provide a written explanation of how it determined the amount of required Financial Security for that Credit Customer.

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4.5 **Total Credit Limit.** The "Total Credit Limit" is the amount of any Unsecured Credit Allowance approved by SPP for the Credit Customer, plus the amount of any Financial Security the Credit Customer has provided to SPP. SPP shall determine the Total Credit Limit for each Credit Customer. Upon the Credit Customer's request, SPP shall provide a written explanation of how it determined the Unsecured Credit Allowance and the amount of required Financial Security for that Credit Customer. SPP will respond to the Credit Customer's request within five (5) Business Days.

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ARTICLE FOUR A

Virtual Energy Bids and Virtual Energy Offers

4A.1 Overview.

4A.1.1 Virtual Energy Bids and Virtual Energy Offers create potential exposure of non-payment, and therefore, have a credit requirement. SPP does not require the Credit Customer to segregate, allocate, or reserve a portion of its Total Credit Limit to support its Virtual Energy Bids and Virtual Energy Offers in the Day-Ahead Market. However, SPP analyzes the Credit Customer's Virtual Energy Bids and Virtual Energy Offers to determine if the Credit Customer has credit available to support its Virtual Energy Bids and Virtual Energy Offers at the time the Bids or Offers are submitted. Only the Virtual Energy Bids and Virtual Energy Offers that the Credit Customer has credit available to support will be credit approved for the Day-Ahead Market.

4A.1.2 In its analysis, SPP will calculate the Estimated Virtual Exposure ("EVE") based on the Credit Customer's Virtual Energy Bids and Virtual Energy Offers. Using the EVE, SPP will determine if the Credit Customer has available credit to support its Virtual Energy Bids and Virtual Energy Offers. After the close of the Day-Ahead Market for an Operating Day, the credit requirement associated with the Credit Customer's cleared Virtual Energy Bids and Virtual Energy Offers will be adjusted to reflect the actual megawatts that cleared.

4A.1.3 The total EVE for a Credit Customer includes both (i) the calculation of EVE for Virtual Energy Bids and Virtual Energy Offers prior to the close of the Day-Ahead Market; and (ii) the EVE calculations post Day-Ahead Market clearing updated to reflect the actual cleared Virtual Energy Bids and Virtual Energy Offers.

4A.1.4 This Article addresses the calculation of the EVE and the credit requirements associated with the submission of Virtual Energy Bids and Virtual Energy Offers in the Day-Ahead Market and the Virtual Energy Bids and Virtual Energy Offers that clear in the Day-Ahead Market.

4A.2 Calculation of Estimated Virtual Exposure (EVE) Prior to the Close of the Day-Ahead Market for an Operating Day. When a Virtual Energy Bid or Virtual Energy Offer is submitted, SPP will calculate the EVE using reference prices for the Virtual Energy Bid or Virtual Energy Offer and the maximum megawatts submitted. If multiple Virtual Energy Bids and Virtual Energy Offers are submitted in a single submission, the EVE will be calculated for the single submission as a whole. If a Virtual Energy Bid or Virtual Energy Offer contains multiple hours, all of the hours will be included in the EVE calculation.

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The EVE is calculated for the submittal of Virtual Energy Bids and Virtual Energy Offers. In the event that both a Virtual Energy Bid and Virtual Energy Offer are submitted in the same submission for the same node and same operating hour, the one with the higher dollar value will be used in the EVE calculation for that submission.

4A.2.1 For a given Virtual Energy Bid the Virtual Energy Bid EVE is the sum of (i) the product of the Virtual Energy Bid reference price for the Settlement Location of the Virtual Energy Bid times the maximum megawatt value of the submitted Bid curve plus (ii) the virtual transaction fee. For a given Virtual Energy Offer the Virtual Energy Offer EVE is the sum of (i) the product of the Virtual Energy Offer reference price for the Settlement Location of the Virtual Energy Offer times the maximum megawatt value of the submitted Offer curve plus (ii) the virtual transaction fee.

4A.2.1.1 If a Market Participant submits both a Virtual Energy Bid and a Virtual Energy Offer at the same location for the same hour, only the Virtual Energy Bid or Virtual Energy Offer with the greater EVE is included in the calculation of the EVE for the submission.

4A.2.1.2 The EVE for a single submission of Virtual Energy Bids and Virtual Energy Offers is equal to the sum of the hourly Virtual Energy Bid EVEs for each Virtual Energy Bid in the submission and the sum of the hourly Virtual Energy Offer EVEs in the submission, with the adjustment described in 4A.2.1.1 if both a Virtual Energy Bid and Virtual Energy Offer are received for the same location and hour. If Credit Customer cancels a Virtual Energy Bid or Virtual Energy Offer prior to the close of the Day-Ahead Market for the Operating Day for which it is submitted, the EVE associated with the canceled portion of the submission is removed from the calculation of the EVE for the submission.

4A.2.1.3 The Virtual Energy Bid reference price is based on the difference between the Day-Ahead Locational Marginal Prices and the Real-Time Locational Marginal Prices in the prior year, at each node. The Virtual Energy Bid reference price for a given day is the 97th percentile hourly difference from the same quarter in the previous year. For virtual transactions occurring in the first quarter of 2022, the calculation of the Virtual Energy Bid reference price will not include the hourly differences from the operating hours in February 12, 2021 through February 19, 2021.

4A.2.1.4 The Virtual Energy Offer reference price is based on the difference between the Real-Time Locational Marginal Price and the Day-Ahead Locational Marginal Price in the prior year, at each node. The Virtual Energy Offer reference price for a given day is the 97th percentile hourly difference from the same quarter in the previous year. For virtual transactions occurring in the first quarter of 2022, the

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calculation of the Virtual Energy Offer reference price will not include the hourly differences from the operating hours in February 12, 2021 through February 19, 2021.

4A.2.1.5 Calculation of Virtual Energy Bid and Virtual Energy Offer Reference Prices During the Initial Six-Months of the Virtual Market in Markets +. During the initial six-months of the virtual market within Markets +, prior to the accumulation of complete Real-Time and Day-Ahead Locational Marginal Price data sufficient to calculate the Virtual Energy Bid and Virtual Energy Offer references prices pursuant to sections 4A.2.1.3 and 4A.2.1.4, SPP shall use data representative of the expected Day-Ahead and Real-Time Market results based on the Real-Time and Day-Ahead Locational Marginal Prices settled during the initial five-months of Markets + operations or other available information.

Comment [JB34]: Best estimate of approach at this time.

4A.2.1.6 Calculation of Virtual Energy Bid and Virtual Energy Offer Reference Prices for New Settlement Locations. When a new Settlement Location is created and until actual Virtual Energy Bid and Virtual Energy Offer reference prices can be calculated pursuant to section 4A.2.1.3 and 4A.2.1.4 for that Settlement Location, SPP will use the system average virtual reference price. The system average virtual reference price for a given quarter is the mean of all of the Virtual Energy Bid and Virtual Energy Offer reference prices for that quarter.

4A.3 Determination of Credit Approved Virtual Energy Bids and Virtual Energy Offers.

4A.3.1 If the EVE for a submission of Virtual Energy Bids and Virtual Energy Offers is less than the Credit Customer's available credit, which is equal to the Credit Customer's Total Credit Limit less its Total Potential Exposure, then the submission is credit approved. Credit approved Virtual Energy Bids and Virtual Energy Offers, unless withdrawn will be included in the Day-Ahead Market.

4A.3.2 If the EVE for a submission of Virtual Energy Bids and Virtual Energy Offers is greater than the Credit Customer's available credit, which is equal to the Credit Customer's Total Credit Limit less its Total Potential Exposure, then the submission will be rejected. Rejected Virtual Energy Bids and Virtual Energy Offers will not be included in the Day-Ahead Market and will not affect the Total Potential Exposure calculation.

4A.3.3 Modifications to Virtual Energy Bids and Virtual Energy Offers prior to the close of the Day-Ahead Market for the Operating Day for which they were submitted will be evaluated using the same procedures. Modifications are

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evaluated based on their net credit impact. The EVE for the modified Virtual Energy Bids and Virtual Energy Offers submission will be revised to incorporate the modifications to the submission.

4A.3.3 The EVE for credit approved Virtual Energy Bids and Virtual Energy Offers submissions that have not yet settled or cleared in the Day-Ahead Market is included in the Total Potential Exposure calculation as set forth in Article 5. Therefore, the determination of whether a Virtual Energy Bid and Virtual Energy Offer submission is credit approved will take into account the credit requirements for previously determined credit approved Virtual Energy Bids and Virtual Energy Offers.

4A.3.4 If a Credit Customer cancels a credit approved Virtual Energy Bid or Virtual Energy Offer submission prior to the close of the Day-Ahead Market for the Operating Day for which it is submitted, that Virtual Energy Bid or Virtual Energy Offer will no longer have a credit requirement associated with it and its EVE will be zero.

4A.4 Updated EVE Calculations Post Day-Ahead Market Clearing. After clearing of the Day-Ahead Market for an Operating Day, the EVEs for credit approved Virtual Energy Bids and Virtual Energy Offers shall be updated to replace the maximum megawatts with the actual megawatts that cleared. If there are Virtual Energy Bids and Virtual Energy Offers that cleared at the same location, the megawatt amounts will be netted in the updated EVE calculation.

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ARTICLE FIVE

Calculation of Total Potential Exposure

5.1 Overview. The Total Potential Exposure is a calculated value applied to assure that the Credit Customer engages in activities within its Total Credit Limit. The Total Potential Exposure is based on the Credit Customer's estimated cumulative financial obligation under the Tariff or otherwise to SPP. Potential Exposure to non-payment is calculated separately for each applicable category of service and then summed together to obtain the amount of Total Potential Exposure. This Article addresses the calculation and use of the value for Total Potential Exposure.

5.2 Calculation of Total Potential Exposure for a Credit Customer. A Credit Customer's Total Potential Exposure shall be the sum of the potential exposure to non-payment for market transactions billed pursuant to the Tariff.

5.2.1 Market Exposure ("ME"). Potential exposure to non-payment associated with market transactions in Markets+ is calculated under the following formula:

ME = IMSC + CMSC + MEMERT + MEMEDA + EVE

IMSC = Invoiced Market Settlement Charges (all Real-Time Balancing Market and Day-Ahead Market, including virtual transaction activity–, charges or credits that have been invoiced but not yet paid).

CMSC = Calculated Market Settlement Charges (all Real-Time Balancing Market and Day-Ahead Market, including virtual transactions, daily settlement activity, including charges or credits, that has been calculated but not yet invoiced).

MEMERT = Maximum Estimated Market Exposure for Real-Time Balancing Market activity shall be the greater of:

(a) The average of the last three hundred sixty five (365) days of daily Real Time Balancing Market settlement activity (or if settlement activity occurred for a lesser period, the average settlement activity during such lesser period), or

(b) The average of the last seven (7) days of daily Real-Time Balancing Market settlement activity (or if settlement activity occurred for a lesser period, the average settlement activity during such lesser period).

Once the greater value is determined that value is multiplied by the number of days remaining in the Potential Exposure Window. Inasmuch as the Potential Exposure Window refers to "days before service can be terminated," the time period for purposes of calculating the MEMERT does not include additional time for service termination.

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MEMEDA = Maximum Estimated Market Exposure for Day-Ahead Market activity shall be the greater of:

(a) The average of the last three hundred sixty five (365) days of most recently calculated Settlement Statements for Day-Ahead Market activity (or if settlement activity occurred for a lesser period, the average settlement activity during such lesser period), or

(b) The average of the seven (7) most recent Operating Days for which SPP has calculated either (i) updated estimated Day-Ahead Market activity results calculated four days after the Operating Day; or (ii) initial Settlement Statements for Day Ahead Market activity (or if updated estimated activity results or settlement activity occurred for a lesser period, the average updated estimated activity and settlement activity resulting during such lesser period). The initial Settlement Statements are created at the end of the 7th calendar day following the Operating Day. As initial Settlement Statements become available such statements will be used instead of the updated estimated activity results calculated four days after the Operating Day.

For the time period prior to commencement of the Day-Ahead Market for which there are no calculated initial Settlement Statements for Day-Ahead Market activity for use in the determination of the MEMEDA for a Credit Customer, SPP shall use data representative of the expected Day-Ahead Market activity for the Credit Customer based on simulations of the Day-Ahead Market or other available information.

Once the greater value is determined that value is multiplied by the number of days remaining in the Potential Exposure Window. Inasmuch as the Potential Exposure Window refers to "days before service can be terminated," the time period for purposes of calculating the MEMEDA does not include additional time for service termination.

EVE = Estimated Virtual Exposure, calculated pursuant to Article 4A (for all credit approved Virtual Energy Bids and Virtual Energy Offers prior to the close of the Day-Ahead Market for an Operating Day or Days that have not yet been settled and cleared Virtual Energy Bids and Virtual Energy Offers)

5.2.2 Total Potential Exposure Calculation. A Credit Customer's Total Potential Exposure ("TPE") shall be the sum of the potential exposure to non-payment for market transactions billed pursuant to the Tariff.

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5.3 Total Potential Exposure Violations.

5.3.1 Transaction Limits. At all times, the Credit Customer shall maintain its Total Potential Exposure to a value equal to or less than its Total Credit Limit. A "Total Potential Exposure Violation" occurs when a Credit Customer's Total Potential Exposure equals or exceeds its Total Credit Limit. SPP will regularly monitor each Credit Customer's use of services and associated financial obligations. If a Credit Customer's Total Potential Exposure equals or exceeds ninety percent (90%) of its Total Credit Limit, SPP shall promptly give notice to the Credit Customer. Failure by SPP to give this notice shall not relieve the Credit Customer of its duties under this Section.

5.3.2 Cure of Total Potential Exposure Violation. A Credit Customer shall cure a Total Potential Exposure Violation by: (i) payment to SPP of invoiced amounts to reduce the Credit Customer's Total Potential Exposure, and/or (ii) provision of Financial Security in an amount sufficient to increase the Credit Customer's Total Credit Limit, such that after making such payments of invoiced amounts and/or providing such Financial Security, the Credit Customer's Total Potential Exposure will not exceed its Total Credit Limit. The Credit Customer shall have two (2) Business Days from receipt of notice from SPP to cure the violation. SPP, in its sole discretion, may determine to treat any amount tendered under (i) as an increase of Financial Security under (ii) and not as a payment to SPP.

5.3.3 Failure to Cure Total Potential Exposure Violation. A failure to cure a Total Potential Exposure Violation as required under Section 5.3.2 is a Default. In the event of such a Default, SPP has all rights under section 7 of the Tariff or section 10.5 of Attachment AE and all other rights and remedies in accordance with applicable law. Without prejudice to other remedies, a Credit Customer that fails timely to cure a Total Potential Exposure Violation shall be suspended from requesting any future services, including all market services SPP may provide, unless and until the Credit Customer's Total Potential Exposure Violation is cured.

5.4. Excess Financial Security. In the event a Credit Customer has provided additional Financial Security under Section 5.3.2 to address a Total Potential Exposure Violation, and the Credit Customer's outstanding invoiced amounts subsequently return to levels preceding that violation such that the total amount of Financial Security exceeds the amount required under this Credit Policy, the Credit Customer may request return of the excess Financial Security and SPP shall comply with the request within two (2) Business Days; provided, that if SPP determines to review the Credit Assessment for the Credit Customer due to the violation, it shall not be required to respond to the request, including return of any excess Financial Security, until two (2) Business Days after completing the new Credit Assessment.

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ARTICLE SIX

Guaranties

6.1 Guaranty. A Guaranty approved by SPP transfers to the Credit Customer a portion of the Guarantor's creditworthiness and thereby increases the Credit Customer's Total Credit Limit. Unlike an Irrevocable Letter of Credit or Surety Bond, a Guaranty is not Financial Security. A Guaranty that is backed by Financial Security will have the same impact upon the Total Credit Limit as Financial Security. A Guaranty that is not backed by Financial Security is unsecured and will be considered unsecured credit in the determination of the Unsecured Credit Allowance.

6.2 Approval Process. SPP will determine whether to approve a Guaranty based upon the creditworthiness of the proposed Guarantor as though it were a Credit Customer under this Credit Policy. All Credit Information required under this Credit Policy with respect to a Credit Customer must be submitted initially for the proposed Guarantor and regularly thereafter. SPP will evaluate the Credit Information and determine any Unsecured Credit Allowance and the Total Credit Limit for the Credit Customer beneficiary of the proposed Guaranty. SPP shall have the right to revise the Unsecured Credit Allowance and Total Credit Limit from time to time based upon continued assessment of the Credit Information of the Guarantor.

6.3 Requirements for Guaranty. A Credit Customer can utilize a Guaranty if all of the following conditions are satisfied:

6.3.1 Guarantor's Satisfaction of Financial Standards under this Credit Policy. A Guarantor is subject to the same financial review procedures as a Credit Customer. A Guarantor will be eligible to provide a Guaranty to the extent, if any, of the Guarantor's creditworthiness under this Credit Policy.

6.3.2 The Form and Substance of the Guaranty Acceptable to SPP. Appendix "D" of this Credit Policy is a form of Guaranty. The Guaranty must:

6.3.2.1 Be duly authorized by the Guarantor and signed by an officer of the Guarantor

6.3.2.2 State an effective period, or provide for automatic renewal or other basis for periodicity subject to cancellation on no less than sixty (60) Calendar Days notice and provided that in all events the Guaranty is effective for all obligations of the Credit Customer undertaken prior to cancellation.

6.3.2.3 Include certification of the corporate secretary that the execution, delivery, and performance of the Guaranty have been duly authorized;

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6.3.2.4 Certify that the Corporate Guaranty is not in violation of other undertakings or requirements applicable to the Guarantor, and enforceable against the Guarantor in accordance with its terms;

6.3.2.5 Obligate the Guarantor to submit Credit Information on an ongoing basis as required under this Credit Policy;

6.3.2.6 Incorporate default provisions, including default provisions referred to in Section 6.3.4;

6.3.2.7 Secure, in combination with other forms of Financial Security, all obligations of the Credit Customer under or in connection with this Tariff and/or other Agreements; and

6.3.2.8 Be supported by adequate consideration and be otherwise binding as a matter of law.

6.3.2.9 Include as an attachment thereto the resolution(s) of the board of directors or other governing body of the Guarantor authorizing the ~~Corporate~~ Guaranty, unless the issuance of the Guaranty does not require a resolution(s) of the board of directors or other governing body of the Guarantor.

6.3.3 Default. Any breach of the Guaranty by the Guarantor or the requirements of the Guarantor under this Credit Policy shall be deemed a Default of this Credit Policy and a default under the Tariff by the Guarantor and the Affiliates whose obligations are supported by the Guaranty. The following also shall be a Default of this Credit Policy and a default under the Tariff: (i) the Guaranty expires or terminates (other than in accordance with its terms or upon the written consent of SPP); (ii) the Guarantor disaffirms, disclaims, repudiates, rejects or challenges the validity of all or any part of the Guaranty; or (iii) the Guaranty or any material provision of the Guaranty ceases to be in full force and effect (other than in accordance with its terms or upon the written consent of SPP).

6.4 Guaranty for Affiliates. A single Guaranty may support the Total Credit Limits of Affiliates. With respect to such a Guaranty, the sum value of the Unsecured Credit Allowance of all such Affiliates and the Guarantor shall not exceed the lesser of:

(i) the approved Unsecured Credit Allowance for the Guarantor based on SPP's financial review of Guarantor; or

(ii) $50 million.

If a Guaranty is utilized to establish an Unsecured Credit Allowance for a Credit Customer, the value of the Guaranty shall be no greater than the lesser of:

(i) The credit limit imposed in the Guaranty; or

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(ii) The portion of the Unsecured Credit Allowance calculated for the Guarantor that is allocated to such Credit Customer in SPP's sole discretion; provided that the Unsecured Credit Allowance calculated for the Guarantor may not exceed $50 million; or

(iii) $50 million.

6.5 Guaranteics~~Guaranties~~ for Not for Profit Credit Customers. SPP shall allow other guarantics for Not for Profit Credit Customers so long as any guarantics for such customer satisfy the requirements of Section 6.3. The form in Appendix D shall be used (subject to modifications to reflect the not for profit nature of the customer and the structure of the guaranty). An example of a permissible guaranty would be individual cities guaranteeing the payments by a municipal energy entity.

6.6 Costs. The Credit Customer shall bear all costs of obtaining and maintaining the Guaranty.

6.7 Withdrawal. A Credit Customer or the Guarantor may request the withdrawal of the Guaranty by written request to SPP. A Guaranty may be withdrawn and/or terminated only upon SPP's written approval, except for any termination in accordance with its terms. SPP will not approve withdrawal or termination of a Guaranty unless and until:

(i) alternate Financial Security acceptable to SPP has been provided; or

(ii) all financial obligations of a Credit Customer under the Agreements have been irrevocably satisfied in full, all Service Agreements have been terminated, and the Credit Customer is no longer a Credit Customer.

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ARTICLE SEVEN

Financial Security

7.1 Acceptable Forms of Financial Security. Financial Security may be a Cash Deposit, an Irrevocable Letter of Credit, a Surety Bond or, for a Credit Customer that is a Federal Power Marketing Agency, a letter as specified in Section 7.1.4 of this Article. These forms of Financial Security may be submitted separately or in combination to equal the full amount of any required or provided Financial Security. In addition, SPP requires the execution of a Credit and Security Agreement (with respect to Cash Deposit, Irrevocable Letter of Credit, and/or Surety Bond).

7.1.2 Cash Deposits. A Cash Deposit will be Financial Security in accordance with this Section.

7.1.2.1 Deposit and Related Agreements. The initial Cash Deposit must be accompanied by execution and delivery of a Credit and Security Agreement substantially in the form attached to this Credit Policy as Appendix "B." Under the Credit and Security Agreement, the Credit Customer shall grant to SPP a first priority security interest in and to any and all Cash Deposits, cash collateral, and deposit accounts held or controlled by SPP then existing or thereafter opened, and any and all proceeds of such collateral, including, without limitation, the cash and interest deposited therein. This security interest secures the prompt payment when due of any and all obligations of the Credit Customer under or in connection with the Tariff, and/or any and all other Agreements. ~~SPP may amend the Credit and Security Agreement from time to time, either for general applicability or on an individual basis. The Credit Customer will accept such amendment and, upon request, execute an amendatory document.~~

7.1.2.2 Segregated Account. The Cash Deposit will be placed in a segregated, interest bearing account in SPP's name and held within the sole control of SPP solely to secure the payment of the Credit Customer's obligations to SPP and subject to the terms and conditions of the Credit and Security Agreement. All interest earned will accrue to the benefit of the Credit Customer, will be added to the segregated account, and will be deemed additional Cash Deposit; provided, that all such accrued and unpaid interest that has not been applied to satisfy the Credit Customer's obligations will be released and paid to the Credit Customer quarterly, and further provided, that SPP shall not be obligated to pay any interest to the Credit Customer or release any amount from the segregated account during any uncured Default. Interest will be calculated per Section 7.3 of the Tariff.

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Comment [GJ40]: This is an overstep. I don't think even banks have this right with long term significant credit facilities.

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7.1.2.3 **Use of Cash Deposit.** In the event a Credit Customer fails to make a timely payment ~~timely~~ to SPP and such failure has not been cured within the applicable cure period, SPP may apply the Cash Deposit as necessary to satisfy the deficit. In such event, within three (3) Business Days of SPP's notice to Credit Customer that it has used the Cash Deposit to satisfy the deficit, the Credit Customer must replenish the Cash Deposit in an amount equal to SPP's draw or in such other amount as SPP may require under this Credit Policy and failure to replenish shall be a Default under this Credit Policy. ~~SPP's application of the Cash Deposit hereunder shall not cure the Default due to the Credit Customer's failure to make timely payment until and unless the Cash Deposit is timely replenished or other Financial Security is provided under Section 7.1.2.4.~~

7.1.2.4 **Replacement of Cash Deposit.** A Credit Customer may replace any part of a Cash Deposit with other Financial Security acceptable to SPP under this Credit Policy.

7.1.3 **Irrevocable Letter of Credit.** An Irrevocable Letter of Credit will be Financial Security in accordance with this Section.

7.1.3.1 **Form, Requirements, and Related Agreement.** Appendix "C" of this Credit Policy is an acceptable form of an Irrevocable Letter of Credit. ~~SPP may amend the form of Irrevocable Letter of Credit from time to time, either for general applicability or on a case-by-case basis, and the Credit Customer will accept such amendment and, upon request, execute an amendatory document.~~ SPP may accept an Irrevocable Letter of Credit, in its sole discretion, in revised form. Upon the Credit Customer's request, SPP shall provide a written explanation of why SPP did not accept that Credit Customer's proposed variation to the form of Irrevocable Letter of Credit set forth in Appendix "C" of this Credit Policy. ~~The Credit Customer must execute the Credit and Security Agreement with respect to the Irrevocable Letter of Credit.~~ Under the Credit and Security Agreement, the Credit Customer grants SPP a first priority security interest in and to any and all proceeds of any and all Irrevocable Letters of Credit then existing or thereafter issued with SPP as Beneficiary and the Credit Customer as Account Party under the Irrevocable Letter of Credit, including, without limitation, the cash issued upon a draw thereon. This security interest secures the prompt payment when due of any and all obligations of the Credit Customer to SPP, provided that the grant of a security interest shall not diminish SPP's rights to apply draws on the Irrevocable Letter of Credit to pay any and all

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Comment [GJ41]: Not following the logic here. Failure to replenish is a default.

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Comment [GJ42]: This is a bit confusing. If talking about the "form", the tariff allows SPP to accept some variations, otherwise it would need to update the tariff to include a new form. If talking about an issued L/C, this would involve the bank/issuer not the market participant and, same as security agreement, this is an overstep.

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Comment [GJ43]: This is covered by 7.1

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amounts due. ~~SPP may amend the Credit and Security Agreement from time to time, either for general applicability or on an individual basis. The Credit Customer will accept such amendment and, upon request, execute an amendatory document.~~

Comment [GJ44]: Same as above

7.1.3.2 **Ratings of Issuing Financial Institution.** At the time of issuance and at all times the Irrevocable Letter of Credit is outstanding, the issuer must be a financial institution organized under the laws of the United States or any state of the United States or the District of Columbia or a branch or agency of a foreign commercial bank located in the United States, with a minimum corporate debt rating of an "A-" by S&P, "A3" by Moody's, "A-" by Fitch or an equivalent short-term debt rating by any of these agencies, or equivalent rating by another Rating Agency. SPP may accept an Irrevocable Letter of Credit from a financial institution that does not meet the debt rating requirements, provided that the Irrevocable Letter of Credit has a confirmation of third-party support (as governed by the Uniform Customs and Practice for Documentary Credits – International Chamber of Commerce Publication No. 500, Effective January 1, 1994 "UCP500" as stated in Article 9 Section B), in a form acceptable to SPP, from a financial institution that does meet or exceed the debt rating requirements stated in this Section. If after the Irrevocable Letter of Credit has been issued, the rating for the corporate debt of the financial institution is less than "A-" by S&P, "A3" by Moody's or "A-" by Fitch or equivalent rating by another Rating Agency, SPP may give the Credit Customer notice to submit substitute Financial Security no later than three (3) Business Days after the notice.

Comment [GJ45]: Should this be updated to ISP 98 – which is the market standard for standbys and the standard in the form of L/C? Not sure ISP98 has a similar provision, may require a confirming bank meeting the requirements.

7.1.3.3 **Costs.** The applicable Credit Customer shall bear all costs of providing and maintaining the Irrevocable Letter of Credit.

7.1.3.4 **Substitution of Irrevocable Letter of Credit.** The Credit Customer may replace an Irrevocable Letter of Credit with a substitute Irrevocable Letter of Credit or other Financial Security in form and amount acceptable to SPP. SPP will return the initial Irrevocable Letter of Credit upon receipt of an effective and acceptable substitute.

7.1.3.5 **Term and Renewal.** The Irrevocable Letter of Credit must automatically renew unless the issuing financial institution provides a notice to SPP at least ninety (90) days prior to its expiration date stating its decision not to renew the Irrevocable Letter of Credit. If the Irrevocable Letter of Credit is not renewed, at least ninety (90) days prior to its stated expiration date (a "Non-Renewal Event"), the Credit Customer must submit substitute

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Financial Security acceptable to SPP, in SPP's sole discretion, no later than forty-fiveeighty-seven (8745) Calendar Days prior to the stated expiration date.

7.1.3.6 Use of Irrevocable Letter of Credit. In the event a Credit Customer fails to make any timely payment to SPP and such failure has not been cured within the applicable cure period, SPP may draw upon the Irrevocable Letter of Credit as necessary to satisfy any and all amounts due from the Credit Customer pursuant to the Agreements. In such event, within three (3) Business Days, the Credit Customer must replenish the Irrevocable Letter of Credit or provide SPP with other Financial Security in an amount equal to the draw or in such other amount as SPP may require under this Credit Policy, and failure to satisfy this requirement shall be a Default under this Credit Policy. In the event of such failure to make timely payment, and in addition to any other remedies available to SPP, SPP may draw down the entire Irrevocable Letter of Credit and hold the proceeds in an unsegregated account as a Cash Deposit and apply such proceeds to amounts owed by the Credit Customer to SPP pursuant to the Agreements, with the balance, if any, held as Financial Security in the form of a Cash Deposit. The foregoing sentence notwithstanding, upon the Credit Customer's written notice of request, SPP will treat as a Cash Deposit the proceeds of a draw over and above amounts currently due and unpaid and transfer same to a segregated account in accordance with such treatment, provided that the Credit Customer has executed a Credit and Security Agreement.

7.1.4 Federal Power Marketing Agency Letter. A form of letter as described in this Section will be Financial Security for a Federal Power Marketing Agency as that type of entity is defined in Article Two of this Attachment H.

Credit Customers that are Federal Power Marketing Agencies may provide Financial Security in the form of a letter, executed by an officer of the Federal Power Marketing Agency, that: (1) attests that the Federal Power Marketing Agency is lawfully authorized to participate in Markets+ and that any debt the Federal Power Marketing Agency incurs due to its participation in Markets+ is a debt of the United States; (2) identifies the current year's appropriations for the Federal Power Marketing Agency from the United States Congress; and (3) verifies that the amount of the current year's appropriations for the Federal Power Marketing Agency from the United States Congress meets or exceeds the amount required to satisfy the credit requirements set forth in this Credit Policy.

Comment [GJ46]: Seems unnecessary to require this to happen in 3 Calendar Days. 45 days gives more than enough time to drawn on the outstanding amount of the L/C and the MP to find a suitable replacement issuer

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Comment [SK(L747]: BPA has a permanent and indefinite appropriation. It is self-funded. Unlike WAPA, it does not receive annual appropriations. If want to include BPA here, need to revise letter representations.

BPA has SEC reporting obligations due to its third-party, non-federal debt obligations (bonds issued by Energy Northwest and Port of Morrow primarily). BPA's debt is rated by the three major ratings agencies (S&P, Moody's, and Fitch). So perhaps such a letter is not required from BPA?

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Comment [KLD48]: Follow-up: only allowed for TCRs in the IM. Allowing for all in M+.

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7.1.5 **Surety Bond.** A Surety Bond will be Financial Security in accordance with this Section.

7.1.5.1 **Form, Requirements, and Related Agreement.** Appendix "F" of this Credit Policy is an acceptable form of a Surety Bond. ~~SPP may amend the form of Surety Bond from time to time, either for general applicability or on a case-by-case basis, and the Credit Customer will accept such amendment and, upon request, execute an amendatory document.~~ SPP may accept a Surety Bond, in its sole discretion, in revised form. Upon the Credit Customer's request, SPP shall provide a written explanation of why SPP did not accept that Credit Customer's proposed variation to the form of Surety Bond set forth in Appendix "F" of this Credit Policy. ~~The Credit Customer must execute the Credit and Security Agreement with respect to the Surety Bond.~~ Under the Credit and Security Agreement, the Credit Customer grants SPP a first priority security interest in and to any and all proceeds of any and all Surety Bond then existing or thereafter issued with SPP as beneficiary and the Credit Customer as principal under the Surety Bond, including, without limitation, the cash issued upon a draw thereon. This security interest secures the prompt payment when due of any and all obligations of the Credit Customer to SPP, provided that the grant of a security interest shall not diminish SPP's rights to apply draws on the Surety Bond to pay any and all amounts due. ~~SPP may amend the Credit and Security Agreement from time to time, either for general applicability or on an individual basis. The Credit Customer will accept such amendment and, upon request, execute an amendatory document.~~

7.1.5.2 **Ratings of Issuing Surety.** At the time of issuance and at all times the Surety Bond is outstanding, the issuer must be a U.S. Treasury-listed surety with a certificate of authority from the insurance commissioner in each state in which the issuer conducts surety business, with a minimum financial strength rating of an "A" by A.M. Best. If after the Surety Bond has been issued, the financial strength rating of the surety is less than "A" by A.M. Best, SPP may give the Credit Customer notice to submit substitute Financial Security no later than three (3) Business Days after the notice.

7.1.5.3 **Costs.** The applicable Credit Customer shall bear all costs of providing and maintaining the Surety Bond.

7.1.5.4 **Substitution of Surety Bond.** The Credit Customer may replace a Surety Bond with a substitute Surety Bond or other Financial Security in form and amount acceptable to SPP. SPP will return

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Comment [GJ49]: Same comment as above

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the initial Surety Bond upon receipt of an effective and acceptable substitute.

7.1.5.5 **Term and Renewal.** The surety may terminate the Surety Bond upon ninety (90) Calendar Days written notice to SPP; *provided, however,* that: (i) the surety's liability hereunder shall survive such termination and remain in full force and effect as to obligations incurred by Credit Customer during the term of the Surety Bond; and (ii) in the event that Credit Customer fails to provide an acceptable form of replacement Financial Security to SPP at least forty-fiveeighty-seven (8745) Calendar Days prior to the termination of the Surety Bond, the surety shall, upon demand, without any notice other than such demand, and without any further action by SPP deliver a Cash Deposit to SPP not later than the next Business Day in the amount of the full remaining value of the Surety Bond as Financial Security for Credit Customer's obligations to SPP.

7.1.5.6 **Limits on Use of Surety Bonds.**

a) To be eligible to provide Surety Bonds on behalf of a Credit Customer the applicable surety must have a Tangible Net Worth of $1 billion or greater.

b) In no case shall SPP accept Surety Bonds with an aggregate value greater than $10 million dollars ($10,000,000) issued by any individual surety on behalf of an individual Credit Customer.

c) SPP shall not accept surety bonds with an aggregate value greater than $50 million dollars ($50,000,000) issued by any individual surety.

7.1.5.7 **Use of Surety Bond.** In the event a Credit Customer fails to make any timely payment to SPP and such failure has not been cured within the applicable cure period, SPP may draw upon the Surety Bond as necessary to satisfy any and all amounts due from the Credit Customer pursuant to the Agreements. In such event, within three (3) Business Days, the Credit Customer must replenish the Surety Bond or provide SPP with other Financial Security in an amount equal to the draw or in such other amount as SPP may require under this Credit Policy, and failure to satisfy this requirement shall be a Default under this Credit Policy. In the event of such failure to make timely payment, and in addition to any other remedies available to SPP, SPP may draw down the entire Surety Bond and hold the proceeds in an unsegregated account as a Cash Deposit and apply such proceeds to amounts

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owed by the Credit Customer to SPP pursuant to the Agreements, with the balance, if any, held as Financial Security in the form of a Cash Deposit. ~~The foregoing sentence notwithstanding, upon the Credit Customer's written notice of request, SPP will treat as a Cash Deposit the proceeds of a draw over and above amounts currently due and unpaid and transfer same to a segregated account in accordance with such treatment, provided that the Credit Customer has executed a Credit and Security Agreement.~~

7.2 **Financial Security Defaults.** In addition to the breaches with respect to Financial Security identified in Section 7.1.2.3 (failure to replenish Cash Deposit), 7.1.3.6 (failure to replenish Irrevocable Letter of Credit), and 7.1.5.7 (failure to replenish a Surety Bond), any failure by an issuer of an Irrevocable Letter of Credit, or Surety Bond to honour a demand in accordance with the terms thereof, or any breach of a Credit and Security Agreement shall be a Default under this Credit Policy and a default under the Tariff. A Default under this Credit Policy and a default under the Tariff shall also occur if: (i) the Financial Security expires or terminates (other than in accordance with its terms or upon the written consent of SPP); (ii) the person issuing the Financial Security disaffirms, disclaims, repudiates or rejects or challenges the validity of all or any part of the Financial Security; or (iii) the Financial Security or any material provision of the Financial Security ceases to be in full force and effect (other than in accordance with its terms or upon the written consent of SPP).

Comment [GJ50]: Not sure if this is what was intended but hoping for clarification

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ARTICLE EIGHT

Default and Remedies

8.1 Default. Any of the following shall constitute an "Event of Default" under this Credit Policy by a Credit Customer:

8.1.1 Failure to post any required Financial Security ~~required~~ under this Credit Policy in the time period specified;

8.1.2 Failure to pay in full any amount payable under the Tariff, unless cured in accordance with Section 8.3 of this Credit Policy;

8.1.3 A Credit Customer's involvement in financial difficulties as evidenced by: (i) its commencement of a voluntary case under Title 11 of the United States Code as from time to time in effect, or by its authorizing, by appropriate proceedings of its board of directors, general partners or other governing body, the commencement of such a voluntary case; (ii) its filing an answer or other pleading admitting or failing to deny the material allegations of a petition filed against it commencing an involuntary case under said Title 11, or seeking, consenting to or acquiescing in the relief therein provided, or by its failing to controvert timely the material allegations of any such petition; (iii) the entry of an order for relief in any involuntary case commenced under said Title 11; (iv) its seeking relief as a debtor under any applicable law, other than said Title 11, of any jurisdiction relating to the liquidation or reorganization of debtors or to modification or alteration of the rights of creditors, or by its consenting to or acquiescing in such relief; (v) the entry of an order by a court of competent jurisdiction (a) finding it to be bankrupt or insolvent, (b) ordering or approving its liquidation, reorganization or any modification or alteration of the rights of its creditors, or (c) assuming custody of, or appointing a receiver or other custodian for all or a substantial part of its property, and such entry or order shall not be vacated or stayed within ninety (90) Calendar Days; (vi) the filing of a petition under Title 11 which shall not be vacated within ninety (90) Calendar Days; or (vii) its making an assignment for the benefit of, or entering into a composition with, its creditors, or appointing or consenting to the appointment of a receiver or other custodian for all or a substantial part of its property.

8.1.4 Commission of any other Default specified under this Credit Policy, including Defaults specified in Sections 3.2.2, 5.3.3, 6.3.4, 7.1.2.3., 7.1.3.6, 7.1.5.7, and 7.2.

8.1.5 Except with respect to an event described in Sections 8.1.1 through 8.1.4~~3~~, the failure to provide any of the Credit Information required under this Credit Policy in the time periods specified, and the failure to observe or perform any of the material terms or conditions or provisions set forth in this Agreement, and such failure is not cured within two (2) Business Days after notice thereof from SPP. If such failure is a failure to provide any of the Credit Information required under

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Comment [GJ51]: confirm

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this Credit Policy in the time periods specified, and the failure cannot reasonably be cured within such period, and if the Credit Customer has commenced and is diligently pursuing such cure and provides SPP with adequate assurance of due performance to protect SPP against loss arising from the failure to perform, the Credit Customer may request in writing stating the reasons for the delay and obtain an additional five (5) Business Days if the Credit Customer is a Large Company or a Small Company and ten (10) Business Days if the Credit Customer is a Not-For-Profit after the written notice of Default, as shall be necessary for the Credit Customer to cure the failure with all due diligence.

8.2 **Notice of Financial Difficulties**. Immediately upon the occurrence of an Event of Default as set forth in Section 8.1.4, the Credit Customer shall provide notice to SPP and a copy of any pleadings, orders, petitions, agreements or other document initiating or filed in connection with such Event of Default.

8.3 **Remedies for Default.** Upon the first occurrence of a customer default as described in Section 7.4 of the Tariff or an Event of Default (except as defined in Section 8.1.4 of this Credit Policy) within a twelve month period, SPP will take no action to suspend any Unsecured Credit Allowance as long as the default or Event of dDefault is remedied within the specified cure period. Should the first occurrence not be remedied within the specified cure period SPP will suspend any Unsecured Credit Allowance for ninety (90) Calendar Days. Upon the second customer default or Event of Default within a twelve (12) month period, SPP will suspend any Unsecured Credit Allowance for ninety (90) Calendar Days. The suspension will occur even if one or both occurrences were remedied within the specified cure period. SPP may, except to the extent such remedy is limited in this Credit Policy, exercise any rights or remedies it may have at law or in equity, including but not limited to bringing suit or otherwise initiating proceedings for monetary damages, injunctive relief, specific performance, and relief available under the Federal Power Act. If the Event of Default has not been cured by the Credit Customer within two (2) Business Days or as otherwise outlined under Section 8.1.6 after the Credit Customer's receipt of notice thereof, or, in the case of failure to pay in full amounts payable under Section 7 of the Tariff, within two (2) Business Days after the Credit Customer's receipt of notice thereof, except as may be precluded under applicable law, SPP may terminate all of the Credit Customer's rights under this Credit Policy. Such termination shall not affect any liability of the Credit Customer incurred before and existing as of such termination. In addition, and without prejudice to any other remedies, SPP reserves all rights to terminate service in accordance with the Tariff and applicable law.

Upon the first occurrence of an Event of Default as defined in Section 8.1.4 of this Credit Policy, SPP will immediately suspend the Credit Customer's Unsecured Credit Allowance and may, at SPP's sole discretion, terminate all of the Credit Customer's rights under this Credit Policy and/or terminate service in accordance with the Tariff and applicable law. Any such termination shall not affect any liability that the Credit Customer incurred prior to and as of such termination. Upon the first occurrence of an Event of Default as defined in Section 8.1.4 of this Credit Policy, SPP also may order the Credit Customer to post additional collateral, cease one or more market transactions, or

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Comment [GJ52]: Consider breaking this into 8.3.1 (first occurrence) and 8.3.2 (second occurrence)

Comment [SK(L753]: Consider allowing more than one Event of Default. For example, CAISO allows 4 and believe PJM and MISO permit more as well before suspension and imposition of collateral requirements.

Comment [GJ54]: Check reference and others to section 7 here – think this is the special provisions for MP tariff

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Comment [GJ55]: The suspension here seems contrary to the purpose of a cure period. If the idea is that SPP does not want participants persistently paying late/to cure, perhaps give more leeway than twice in a year to allow for inadvertent operational issues that are not a practice of failing to pay on time or automatic suspension only if the failure is without good cause or reason.

Comment [GJ56]: Is this only if there are two defaults? Maybe make this 8.3.3?

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take other measures to protect SPP and other Market Participants from the Credit Customer's Default to the extent legally permitted.

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ARTICLE NINE

Notice

9.1 Designation of Credit Contact. Each Credit Customer shall in writing designate a management level official as the person responsible for the Credit Customer's credit-related matters under this Credit Policy ("Credit Contact"), which designation may be changed from time to time in writing, together with contact information including fax, e-mail, and courier delivery address. SPP will seek to effect delivery of notices under the Credit Policy to the Credit Contact in the first instance; however, if delivery to the Credit Contact fails, then SPP may effect delivery to any officer, executive, or manager of the Credit Customer.

9.2 Notices to SPP. Any notice or request made by SPP shall be given in writing, by fax, email, hand delivery, reputable overnight courier, or first-class mail, to the Credit Customer's Credit Contact. Notice to SPP shall be addressed to:

Southwest Power Pool, Inc.
Credit and Risk Management Department
201 Worthen Drive
Little Rock, AR 72223-4936

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Appendix "A" Credit Application Form

Credit Customer Identification

1.1 Name of the Company as identified in its certificate of formation / incorporation

_____

1.2 Date of formation / incorporation of the Company

_____

1.3 Registration / file number with the applicable Secretary of State's Office

_____

1.4 Please indicate all unique Company identifiers.

Company Ticker Symbol	
Market Cap	
Federal Tax ID Number	
NERC Acronym	
SIC Code	
DUNS Number	

1.5 Address of the registered office of the Company

Country	
Address	
Post Code	
City	
Phone	
Website	

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1.6 Address of the trading office(s) of the Company

Country	
Address	
Post Code	
City	
Phone	
Website	

1.7 Please list any Affiliates, including subsidiary companies of which your Company owns greater than 10%, that participate in Markets+ or any Independent System Operator or Regional Transmission Operator (ISO/RTO) markets.

Affiliates	Markets+ / ISO / RTO

1.8 What is the main business of your Company (~~if~~as stated in the Company's certificate of incorporation, limited liability company agreement, partnership agreement or other applicable corporate governing documents)?

_____

1.9 Please include a copy of your Company's Articles of Incorporation, Notice of Articles, Articles of Organization or similar documents.

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Comment [GJ57]: Not sure about the US, but most Canadian companies do not specify or limit the business of the company in the articles.

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Board, Shareholder, and Management Information

2.1 Please list board members (if applicable).

Full Name	Business Mailing Address

2.2 Please list any legal representatives (executive officers such as CEO, CFO, CRO, etc.) authorized to sign an agreement with SPP on behalf of the Company.

Full name	Authorized to sign?	Business Mailing Address	Tenure with Company
	☐ alone ☐ jointly		
	☐ alone ☐ jointly		
	☐ alone ☐ jointly		

2.3 Please state your Company's shareholders/owners and indicate their respective share or ownership percentage (>10%).

Full name	Percentage	Business Mailing Address

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2.4 Please provide the following information for each individual, if any, who, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, owns 25% or more of the equity interests of the Company.

Full name	Business Mailing Address

2.5 Please list the persons responsible, respectively, for payment of invoices, compliance, credit, trading activity and questions about this form.

Full name	Business Mailing Address	Contact details (business e-mail address and business phone number)
Payments:		
Compliance:		
Credit:		
Trading:		
Questions about responses on this form:		

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SPP Market Participation

3.1 Please indicate which of SPP's products your Company transacts or intends to transact and include an estimate of the annual volumes by product (in MWh).

Real-Time Energy	
Day-Ahead Energy	
Virtual Energy	

3.2 Please list forms of credit your Company intends to utilize to support trading exposure.

Cash (See Section 7.1.2 and Appendix B)	
Irrevocable Letter of Credit (See Section 7.1.3 and Appendices B and C)	List Bank Counterparty
Corporate Guarantee (See Section 3.1.3, Article Six, and Appendix D)	List Potential Guarantor
Surety Bond (See Section 7.1.5 and Appendices B and F)	List Issuing Surety

3.3 List your Company's financial auditors and their addresses.

_____

3.4 Please provide audited financial statements for the Company for the last three years, including any current third-party credit ratings.

_____

Loss Contingencies and Judgments

4.1 Has your Company (or an Affiliate), in the last five years: a) consented to the appointment of, or was taken in possession by, a receiver, trustee, custodian or liquidator of a substantial part of its assets, b) filed a bankruptcy petition in any bankruptcy court proceeding, c) answered, consented, or sought relief under any bankruptcy or similar law or failed to obtain a dismissal of an involuntary petition, d) admitted in writing its inability to pay its debts when due, e) made a general assignment for the benefit of creditors, f) been the subject of an involuntary proceeding seeking to adjudicate the Company (or affiliate) bankrupt or insolvent, g) sought reorganization, arrangement, adjustment, or composition of it or its debt under any law relating to bankruptcy, insolvency, or reorganization or relief of debtors?

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4.2 If yes to any question in 4.1, please provide a description of proceedings including applicable docket or case numbers.

4.3 Has your Company (or, to the Company's knowledge, one or more of its affiliates), in the last five years, been found in violation of SEC, OCC, FERC, or CFTC requirements or any other federal or state regulation or law regarding energy commodities? Additionally, if not found in violation of such regulations and/or laws, has your Company (or, to the Company's knowledge, its affiliates) publicly settled allegations of violation with the applicable regulatory authority and/or paid fines related to activity in energy commodities?
If yes to any question in 4.3, please provide a description of proceedings including applicable docket or case numbers.

4.4 Has your Company ever failed to cure an unpaid invoice from any RTO/ISO in the last 5 years, or been found to be in default by an RTO/ISO, or been either suspended or expelled (i.e., had its participation revoked) from an ISO/RTO?
If yes to any question in 4.4, please provide an explanation of the situation, its outcome, and all other relevant factors associated with the event (including applicable docket or case numbers).

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Comment [GJ58]: Confidential settlements should not be required to be disclosed

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Signatures

The undersigned is duly authorized to declare and does hereby declare in good faith that all information, answers and documents provided with this Questionnaire are true, correct and authentic and that no relevant information is omitted.

Place	Date	Print Name: Title:
Signature		

Subscribed and sworn before me _____, a notary public of the State of _____, in and for the County of _____, this __ day of _____, 20_____.

_____

(Notary Public Signature)
My commission expires:__/__/____

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Comment [GJ59]: As noted earlier, typically in Canada this is a Commissioner for taking Affidavits.

Comment [KLD60]: Come back to

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Additional Not-For-Profit Questions
Additional sheets may be added to fully answer the following questions.

1. **Does your company have the ability to set its own rates? If yes, please attach any documentation that will show that ability.**

2. **What are the terms and expiration dates of your company's wholesale power contracts?**

3. **How many customers do you serve directly? When considering your five largest customers that you directly serve, what percentage of your load do they represent?**

4. **Please describe your power supply portfolio and how it is used to meet your load. What percent of your load is secured by asset ownership or purchase power contracts? Are these assets or contracts long-term in nature? What are the expiration dates of your contracts? What is the fuel mix of your power supply portfolio? Do you engage in risk management activities? If so, please provide a brief summary of such activities.**

5. **How long has the present management team been in place? Please discuss their experience with the present firm and any previous experience.**

6. **Discuss your ability to access lines of credit from financial institutions.**

7. **Please discuss any other factors you want to have considered by SPP when assessing creditworthiness. If there are items concerning your financials that need explanation, please provide the explanation here.** If your company receives capital

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credits, please provide the associated cash portion of such capital credits, as well as the information needed to compute such an amount from your most recent audited financials.

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Appendix "B" Credit and Security Agreement

This Credit and Security Agreement is effective as of the _____ day of _____, 20__, by and between _____ ("Company") and Southwest Power Pool, Inc. ("SPP").

Recitals

WHEREAS, SPP offers ~~certain services, including certain transmission services,~~ market services and other services as set out in the Markets+ Tariff of SPP, as may be amended and supplemented from time to time and together with all replacements and substitutes thereto (collectively, the "Tariff");

WHEREAS, SPP maintains a Credit Policy (which is Attachment ~~H~~HX~~H~~ to the Tariff, as the same may be amended from time to time) in order to determine, on a case by case basis, the level of unsecured credit available to each customer who takes services under the Tariff and the form and amount of financial assurance to be required by each customer, if any;

WHEREAS, in the event Company provides financial assurance to SPP in the form of Cash Deposit, an Irrevocable Letter of Credit, a Surety Bond, or, for a Credit Customer that is a Federal Power Marketing Agency, a letter as specified in Section 7.1.4 of Attachment XH~~H~~, SPP requires Company, in accordance with the terms of its Credit Policy as filed and accepted by FERC, to execute this Credit and Security Agreement in order to assure the strength of SPP's security interest in such Cash Deposit and the proceeds of any, Federal Power Marketing Agency Letter, Irrevocable Letter of Credit, or Surety Bond;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by each of the parties hereto, Company and SPP hereby agree as follows:

(1) The "Liabilities" as used in this Credit and Security Agreement means all of the financial obligations of the Company under the Tariff and/or any and all agreements entered into, under, pursuant to, or in connection with the Tariff (including, without limitation, the SPP Credit Policy) and any and all other agreements to which SPP and the Company are parties (collectively, the "Agreements").

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(2) As security for the payment and performance of the Liabilities, SPP shall have, and the Company hereby grants to SPP, a continuing security interest in the following collateral (as indicated below) (the "Collateral"): all of the Company's right, title, and interest in any and all cash, cash collateral, Cash Deposits and deposit accounts of the Company held or controlled by SPP, including accounts designated "for the benefit of" Company, that either (i) are or contain proceeds from any draw upon any Irrevocable Letter of Credit or Surety Bond naming SPP as beneficiary ~~to the extent that SPP determines in its sole discretion to treat such payments as cash collateral, and~~ without prejudice to SPP's right to use such proceeds to satisfy Liabilities ~~treat draws as payments to SPP of any and all amounts due to SPP from~~of the Company , or (ii) are or contain cash submitted by the Company as collateral or security, however created or evidenced, whether now existing or hereafter owned, acquired, created, used or arising, including all products and proceeds of the foregoing, any and all renewals, extensions, replacements, modifications, additions, and substitutions of the foregoing and all rights, remedies, claims and demands under or in connection with each of the foregoing.

(3) All Collateral held or controlled by SPP after the date of this Credit and Security Agreement shall be free of any lien, security interest or encumbrance, except for liens, security interests or encumbrances in favor of SPP, and the Company agrees not to grant any security interest or permit any lien or encumbrance to arise in any of the Collateral except for security interests, liens and encumbrances in favor of SPP without the prior written consent of SPP.

(4) The Company agrees to do such reasonable acts and things and deliver or cause to be delivered such other documents as SPP may reasonably deem necessary to establish and maintain a valid perfected security interest in the Collateral (free of all other liens and claims except those of SPP) to secure the payment and performance of the Liabilities and to defend title to the Collateral against any person claiming any interest therein adverse to SPP. The Company authorizes SPP to file a financing statement or statements on its behalf in those public offices deemed advisable or necessary by SPP to protect the security interest of the Company herein granted. provided such financing statement(s) accurately describe the nature of the security interest and the collateral herein. If permitted by law, the Company agrees that a carbon, photographic or other reproduction of this Credit and Security Agreement or of a financing statement may be filed as a financing statement.

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(5) Subject to the Tariff, upon the occurrence of any Default and at any time thereafter, SPP shall have all rights and remedies available at law or in equity including, without limitation, the rights and remedies of a secured party under the Arkansas Uniform Commercial Code, as in effect from time to time, including, without limitation, the right to retain and/or take possession of the Collateral. Upon SPPUpon the occurrence of any Default that is continuing, the Collateral or proceeds of any collection or realization of all or any part of the Collateral will be applied by ~~SPP~~ to satisfy the Liabilities, with the remaining proceeds, if any, returned to Company. If the Collateral or proceeds of the collection or realization of Collateral are insufficient to pay the Liabilities, Company remains liable to SPP for any deficiency, ~~may in its discretion transfer any property constituting Collateral into its own name or that of its nominee and receive the income thereon and hold the same as security for the Liabilities or apply it on amounts due on Liabilities~~.

(6) Until such time as SPP exercises its remedies upon a Default, all income, earnings and profits with respect to the Collateral shall be reported for state and federal income tax purposes as attributable to the Company and not SPP. Company hereby instructs SPP (and any other person authorized to report taxable income distributions) to issue, or cause to be issued, IRS Form 1099 (or Form 1042-S if a non-US person) indicating the Company as the recipient of such income, earnings and profits.

(7) Whenever possible each provision of this Credit and Security Agreement shall be interpreted in such a manner as to be effective and valid under applicable law, but if any provision of this Credit and Security Agreement shall be prohibited by or invalid under applicable law, such provision shall be ineffective only to the extent of such prohibition without invalidating the remainder of such provision or the remaining provisions of this Credit and Security Agreement. The Company recognizes that SPP has relied on this Credit and Security Agreement in extending credit to the Company and agrees that such reliance by SPP shall be sufficient consideration for this Credit and Security Agreement. Company may terminate this Credit and Security Agreement at any time if it is no longer a Market Participant and there are no outstanding Liabilities. Upon any such termination, SPP will promptly return to Company any Collateral then held by SPP and discharge any financing statements.

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(8) The Company maintains any and all rights under Section 206 of the Federal Power Act it may have with regard to this Credit and Security Agreement or its implementation.

This Credit and Security Agreement shall be construed and enforced in accordance with, and governed by, the laws of the State of Arkansas (without giving effect to the principles of conflicts of laws).

_____
Company Name

_____
Authorized Signature

_____
Print Name

_____
Title

SOUTHWEST POWER POOL, INC.
By:

_____
Authorized Signature

_____
Print Name

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Title

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Appendix "C" Form of Irrevocable Standby Letter of Credit

Irrevocable Standby Letter of Credit No. _____
Issued: [Date]
Expires at our counter (unless evergreen): [Date]

Ladies and Gentlemen:

We do hereby issue this Irrevocable Non-Transferable Standby Letter of Credit No. _____ by order of, for the account of and on behalf of _____ ("Account Party") and in favor of Southwest Power Pool, Inc. ("Beneficiary" or "SPP") ("Letter of Credit").

This Letter of Credit is irrevocable and is issued, presentable and payable and we agree ~~withguaranty to~~ the Beneficiary of this Letter of Credit that drafts drawn under and in compliance with the terms of this Letter of Credit will be honored on presentation and surrender of certain documents pursuant to the terms of this Letter of Credit.

This Letter of Credit is available in one or more drafts and may be drawn hereunder for the account of Account Party up to an aggregate amount not exceeding $ _____ .00 (United States Dollars _____ and 00/100).

This Letter of Credit is drawn against by presentation to us at our office located at the following address:

_____
_____

of a drawing certificate: (i) Signed by an officer or authorized agent of the Beneficiary; (ii) dated the date of presentation; and (iii) containing one (1) of the following statements:

1. "The undersigned hereby certifies to _____ ("Issuer"), with reference to its Irrevocable Non-Transferable Standby Letter of Credit No. _____, dated _____, issued on behalf of _____ ("Account Party") and in favor of Southwest Power Pool, Inc. ("Beneficiary") that said Account Party has failed to make a payment in accordance with the terms and provisions of one or more of the following, as applicable: SPP's Tariff, as may be amended and supplemented from time to time, together with all replacements and substitutes (the "Tariff"), any and all agreements

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entered into by Account Party under, pursuant to, or in connection with the Tariff and any and all agreements to which Account Party and SPP are parties, as such agreements may be amended and supplemented from time to time, whether now or hereafter executed, and any replacements or substitutions thereof, (collectively, the "Agreements").") and such failure has not been cured within the available cure period. The Beneficiary hereby draws upon the Letter of Credit in an amount equal to $ _____ (United States Dollars _____ and 00/100)"; or

2. "As2. "Issuer has notified Beneficiary that the Letter of Credit will not be extended and, Aas of the close of business on _____, 20__ (fill in date which is less than forty-fiveeighty-seven (8745) Calendar Days before the expiration date of the Letter of Credit), Account Party has failed to renew, replace or amend the Letter of Credit in a manner acceptable to Beneficiary." The Beneficiary hereby draws upon the Letter of Credit in an amount equal to $_____ (United States Dollars _____ and 00/100)"; or

3. "As3. "Issuer no longer meets the requirements under SPP's Tariff, as may be amended and supplemented from time to time, together with all replacements and substitutes, for an acceptable issuer of a Letter of Credit and, Aas of the close of business on _____, 20__ (fill in date which is more than three (3) Business Days after the Beneficiary has requested that Account Party replace the Letter of Credit because the Issuer's corporate debt is rated less than "A-" by S&P, "A3" by Moody's, "A-" by Duff & Phelps, or "A-" by Fitch), Account Party has failed to replace the Letter of Credit in a manner acceptable to Beneficiary." The Beneficiary hereby draws upon the Letter of Credit in an amount equal to $_____ (United States Dollars _____ and 00/100)".

Beneficiary shall have the right, in the event of a draw pursuant to subparagraph (2) or (3) of the immediately preceding paragraph, to draw down the entire face value of the Letter of Credit.

If presentation of any drawing certificate is made on a business day and such presentations made on or before 10:00 a.m._____ Time, ("Issuer") shall satisfy such drawing request on the same business day. If the drawing certificate is received after 10:00 a.m._____ Time, ("Issuer") will satisfy such drawing request on the next business day.

It is a condition of this Letter of Credit that it will be automatically extended without amendment for one year from the expiration date hereof, or any future expiration date, unless at least 90 Calendar Days prior to any expiration date we notify you by registered mail or overnight courier that we elect not to consider this Letter of Credit extended for any such period.

This Letter of Credit may be terminated upon Beneficiary's receipt of full payment from the Account Party and Issuer's receipt of a written release from the Beneficiary releasing the Issuer from its obligations under this Letter of Credit.

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Disbursements under the Letter of Credit shall be in accordance with the following terms and conditions:

1. The amount, which may be drawn by the Beneficiary under this Letter of Credit, shall be automatically reduced by the amount of any drawings hereunder.

2. All commissions and charges will be borne by the Account Party.

3. This Letter of Credit may not be transferred or assigned by the Issuer.

4. This Letter of Credit is irrevocable.

5. Except when the amount of this Letter of Credit is increased this Letter of Credit may not be amended, changed or modified without the express written consent of the Beneficiary and the Issuer. Such consent may be delivered by electronic means including electronic mail to - _____.

6. This Letter of Credit shall be governed by the International Standby Practices Publication No. 590 of the International Chamber of Commerce, including any amendments, modifications or revisions thereof (~~the~~ "ISP~~ISP~~98"), except to the extent that terms hereof are inconsistent with the provisions of the ISP, in which case the terms of the Letter of Credit shall govern. This Letter of Credit shall be governed by the internal laws of the state of Arkansas to the extent that the terms of the ISP are not applicable; provided that, in the event of any conflict between ~~the~~ ISP~~ISP~~98 and such Arkansas laws, ~~the~~ ISP~~ISP~~98 shall control.

Comment [GJ61]: Many issues have banks issue L/Cs governed by Arkansas law?

_____ _____
[Authorized Signature] [Date]

Name: _____

Title: _____

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Appendix "D" Guaranty Form

GUARANTY AGREEMENT

This Guaranty Agreement (the "Guaranty") is made by _____ ("Guarantor"), a _____ corporation, in favor of Southwest Power Pool, Inc. ("Creditor"), an Arkansas nonprofit corporation.

WHEREAS, [INSERT CREDIT CUSTOMER NAMES], each a ~~one or more~~ direct or indirect subsidiaries~~subsidiaryies~~ of the Guarantor (each referred to individually as "Debtor" and collectively as "Debtors") and the Creditor are parties to certain agreements pursuant to, or in connection with, the Creditor's ~~Open Access Transmission~~ Tariff, whether now existing or hereafter arising in accordance with their respective terms (each referred to individually as "Agreement" and collectively as "Agreements");

WHEREAS, Guarantor is the direct or indirect parent of the Debtor and, will ~~receive substantial and direct~~ indirectly benefits from the extensions of credit contemplated by the Agreements and has agreed to enter into this Guaranty to provide assurance for the performance of Debtor's obligations in connection with the Agreements and to induce the Creditor to enter into the Agreements; and

WHEREAS, the execution and delivery of this Guaranty is a condition to Creditor's further performance of its obligations under the terms of the Agreements;

NOW, THEREFORE, in consideration of the promises and other good and valuable consideration, the adequacy, receipt and sufficiency of which are hereby acknowledged, Guarantor hereby agrees as follows:

1. **Guaranty.** Guarantor hereby unconditionally and absolutely guarantees the punctual payment as and when due of Debtor's payment obligations in the same currency and manner provided for ~~arising~~ under any Agreement, as such Agreement may be amended or modified from time to time, together with any interest thereon to the extent provided in the Agreements (collectively, the "Guaranteed Obligations"). Guarantor's obligations and liability under this Guaranty shall be limited to payment obligations only expressly required to be made in accordance with any Agreement (even if such payments are deemed to be damages) and Guarantor shall have no obligation otherwise to perform under any Agreement, including, without limitation, to sell, deliver, purchase, receive, or transmit any electrical energy product or service. In no event will Guarantor be subject to consequential, exemplary, equitable, loss of profits, punitive, tort, or any other damages or costs.

Notwithstanding the foregoing or anything to the contrary in this Guaranty, the aggregate liability of the Guarantor under this Guaranty will not exceed [XXX] Million U.S. Dollars ($[XXX]US).

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2. **Guaranty Absolute.** The liability of Guarantor under this Guaranty shall be absolute and unconditional irrespective of:

(a) any lack of validity or enforceability of or defect or deficiency on the part of the Debtor in any Agreement or any other documents executed in connection with any Agreement;

(b) any modification, extension or waiver of any of the terms of any Agreement;

(c) any change in the time, manner, terms or place of payment of or in any other term of, all or any of the Guaranteed Obligations, or any other amendment or waiver of or any consent to departure from any Agreement or any other agreement or instrument executed in connection therewith;

(d) any sale, exchange, release or non-perfection of any property standing as security for the liabilities hereby guaranteed, or any liabilities incurred directly or indirectly hereunder ~~or any setoff against any of said liabilities~~, or any release or amendment or waiver of or consent to departure from this Guaranty or any other guaranty, for all or any of the Guaranteed Obligations;

(e) except as to applicable statutes of limitation, failure, omission, delay, waiver or refusal by Creditor to exercise, in whole or in part, any right or remedy held by Creditor with respect to any Agreement or any transaction under any Agreement;

(f) any change in the existence, structure or ownership of Guarantor or any Debtor, or any insolvency, bankruptcy, reorganization or other similar proceeding affecting any Debtor or its assets; or

(g) any other circumstance that might otherwise constitute a defense available to, or a discharge of, any Debtor or any other individual, partnership, joint venture, corporation, association, trust or other enterprise that is a party to any Agreement, or any other agreement or instrument (including any guarantor) in respect of the Guaranteed Obligations, other than payment in full of the Guaranteed Obligations.

The obligations of the Guarantor hereunder are several from any Debtor or any other person, and are primary obligations concerning which the Guarantor is the principal obligor. There are no conditions precedent to the enforcement of this Guaranty, except as expressly contained herein. It shall not be necessary for Creditor, in order to enforce payment by Guarantor under this Guaranty, to show any proof of any Debtor's default except as required by clause 8 of this Guaranty, to exhaust its remedies against any Debtor, any other guarantor, or any other person liable for the payment or performance of the Guaranteed Obligations. Creditor shall not be required to mitigate damages or take any other action to reduce, collect, or enforce the Guaranteed Obligations except as required by the Agreements.

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This Guaranty shall continue to be effective or be reinstated, as the case may be, if at any time any payment of any of the Guaranteed Obligations are annulled, set aside, invalidated, declared to be fraudulent or preferential, rescinded or must otherwise be returned, refunded or repaid by Creditor upon the insolvency, bankruptcy, dissolution, liquidation or reorganization of Debtor or any other guarantor, or upon or as a result of the appointment of a receiver, intervenor or conservator of, or trustee or similar officer for, Debtor or any other guarantor or any substantial part of its property or otherwise, all as though such payment or payments had not been made.

3. **Waiver.** This is a guaranty of payment and not of collection. Guarantor hereby waives:

(a) notice of acceptance of this Guaranty, of the creation or existence of any of the Guaranteed Obligations and of any action by Creditor in reliance hereon or in connection herewith;

(b) notice of the entry into any Agreement between any Debtor and the Creditor and of any amendments, supplements or modifications thereto; or any waiver of consent under any Agreement, including waivers of the payment and performance of the obligations thereunder;

(c) notice of any increase, reduction or rearrangement of any Debtor's obligations under any Agreement or any extension of time for the payment of any sums due and payable to the Creditor under any Agreement;

(d) except as expressly set forth herein, presentment, demand for payment, notice of dishonor or nonpayment, protest and notice of protest or any other notice of any other kind with respect to the Guaranteed Obligations; and

(e) any requirement that suit be brought against, or any other action by Creditor be taken against, or any notice of default or other notice be given to, or any demand be made on, Debtor or any other person, or that any other action be taken or not taken as a condition to Guarantor's liability for the Guaranteed Obligations under this Guaranty or as a condition to the enforcement of this Guaranty against Guarantor.

4. **Expenses.** Subject to~~Notwithstanding and in addition to~~ the limit on Guarantor's liability hereunder set forth in Section 1, Guarantor agrees to pay on demand any and all costs, including reasonable legal fees and expenses, and other expenses incurred by Creditor in enforcing Guarantor's payment obligations under this Guaranty; provided that the Guarantor shall not be liable for any expenses of Creditor if no payment under this Guaranty is due.

5. **Subrogation.** Guarantor shall be subrogated to all rights of Creditor against the Debtors in respect of any amounts paid by Guarantor pursuant to this Guaranty, provided that Guarantor waives any rights it may acquire by way of subrogation under this Guaranty,

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by any payment made hereunder or otherwise (including, without limitation, any statutory rights of subrogation under Section 509 of the Bankruptcy Code, 11 U.S.C. § 509, or otherwise), reimbursement, exoneration, contribution, indemnification, or any right to participate in any claim or remedy of the Creditor against any Debtor or any collateral which the Creditor now has or acquires, until all of the Guaranteed Obligations shall have been irrevocably paid to Creditor in full. If any amount shall be paid to the Guarantor on account of such subrogation rights at any time when all the Guaranteed Obligations shall not have been paid in full, such amount shall be held in trust for the benefit of Creditor and shall forthwith be paid to Creditor to be applied to the Guaranteed Obligations. If (a) the Guarantor shall perform and shall make payment to Creditor of all or any part of the Guaranteed Obligations and (b) all the Guaranteed Obligations shall have been paid in full, Creditor shall, at the Guarantor's request, execute and deliver to the Guarantor appropriate documents necessary to evidence the transfer by subrogation to the Guarantor of any interest in the Guaranteed Obligations resulting from such payment by Guarantor.

6. **Setoff.** The Creditor is hereby authorized at any time, to the fullest extent permitted by law, to set off and apply any deposits (general or special, time or demand, provisional or final) and other indebtedness owing by the Creditor to or for the account of Guarantor against any and all of the obligations of Guarantor under this Guaranty, irrespective of whether or not the Creditor shall have made any demand under this Guaranty or such Agreement and although such obligations may be contingent and unmatured. The Creditor agrees promptly to notify Guarantor after any such set-off and application made by the Creditor provided that the failure to give such notice shall not affect the validity of such set-off and application.

Comment [GJ62]: Typically like to see set off right as mutual

7. **Notices.** All demands, notices and other communications provided for hereunder shall, unless otherwise specifically provided herein, (a) be in writing addressed to the party receiving the notice at the address set forth below or at such other address as may be designated by written notice, from time to time, to the other party, and (b) be effective upon delivery, when mailed by U.S. mail, registered or certified, return receipt requested, postage prepaid, by express courier with traceable receipt, ~~by facsimile,~~ or personally delivered. Notices shall be sent to the following addresses:

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If to Creditor:

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Southwest Power Pool, Inc.
201 Worthen Drive
Little Rock, AR 72223-4936
Attention: Credit and Risk Management Department

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If to Guarantor:

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8. **Demand and Payment.** Any demand by Creditor for payment hereunder shall be in writing, signed by a duly authorized officer of Creditor and delivered to the Guarantor pursuant to Section 7 hereof, and shall (a) reference this Guaranty, (b) specifically identify the Debtor, provide brief details of the Guaranteed Obligations the Debtor has failed to pay and an explanation of why such payment is due ~~be paid~~ and the amount of such Guaranteed Obligations, and (c) set forth payment instructions. There are no other requirements of notice, presentment or demand. Guarantor shall pay, or cause to be paid, such Guaranteed Obligations within fifteen (15) ~~two (2)~~ business days of receipt of such demand.

9. **No Waiver; Remedies.** Except as to applicable statutes of limitation, no failure on the part of Creditor to exercise, and no delay in exercising, any right hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any right hereunder preclude any other or further exercise thereof or the exercise of any other right. The remedies herein provided are cumulative and not exclusive of any remedies provided by law.

10. **Term; Termination.** This Guaranty shall continue in full force and effect for the term of the Agreements. Notwithstanding the foregoing, this Guaranty may be terminated at any time by the Guarantor by providing at least sixty (60) Calendar Days' ~~C~~calendar ~~D~~days' prior written notice to Creditor; provided, however, upon termination hereof, Guarantor agrees that the obligations and liabilities hereunder shall continue in full force and effect with respect to any GuaranteedobligationsGuaranteed ~~o~~Obligations incurred prior to the termination date, and any fees and costs of enforcement in connection herewith.

11. **Assignment; Successors and Assigns.** Creditor may, upon notice to Guarantor, assign its rights hereunder without the consent of Guarantor, concurrently with an assignment of the Agreements to the same person or entity. Guarantor may assign its rights hereunder with the prior written consent of Creditor, which consent shall not be unreasonably withheld. Subject to the foregoing, this Guaranty shall be binding upon and inure to the benefit of the parties hereto and their respective successors, permitted assigns, and legal representatives.

12. **Amendments, Etc.** A written amendment executed by the Guarantor only may (a) increase the guaranty limit specified in Section 1 and/or (b) extend the termination date of this Guaranty. No other amendment of this Guaranty shall be effective unless in writing and signed by Guarantor and Creditor. No waiver of any provision of this Guaranty nor consent to any departure by Guarantor therefrom shall in any event be effective unless such waiver shall be in writing and signed by Creditor. Any such waiver shall be effective only in the specific instance and for the specific purpose for which it was given.

13. **Captions.** The captions in this Guaranty have been inserted for convenience only and shall be given no substantive meaning or significance whatsoever in construing the terms and provisions of this Guaranty.

14. **Representation and Warranties.**

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Comment [GJ63]: Is SPP firm on 60? More typically see 30.

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The Guarantor represents and warrants as follows:

(a) the Guarantor is duly organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation and has full corporate power to execute, deliver and perform this Guaranty. IfThisIf a resolution(s) of the board of directors or other governing body of the Guarantor is required to authorize this Guaranty, T~~this~~ representation is evidenced by a copy of the resolution(s) of the board of directors or other governing body of the Guarantor authorizing this Guaranty, which is attached to and made a part of this Guaranty;

(b) the execution, delivery and performance of this Guaranty have been and remain duly authorized by all necessary corporate action and do not contravene the Guarantor's constitutional documents or any contractual restriction binding on the Guarantor or its assets;

(c) this Guaranty is not in violation of other undertakings or requirements applicable to Guarantor, and is enforceable against the Guarantor in accordance with these terms;

(d) this Guaranty constitutes the legal, valid and binding obligation of the Guarantor enforceable against Guarantor in accordance with its terms, subject, as to enforcement, to bankruptcy, insolvency, reorganization and other laws of general applicability relating to or affecting Creditor'sC~~creditor's~~ rights and to general equity principles; and

(e) the audited financial statements of Guarantor for the most recent fiscal year and, if prepared by Guarantor, the unaudited financial statements of Guarantor for the most recent quarter (the "Financial Statements"), heretofore delivered to Creditor, ~~or~~ filed with the United States Securities Exchange Commission by Guarantor or otherwise or available on Guarantor's website present fairly the financial condition and results of operations of Guarantor and its consolidated subsidiaries as of the dates and for the period specified therein in conformity with either United States generally accepted accounting principles or IFRS, and, except as otherwise expressly stated therein, consistently applied. Except as expressly stated to Creditor in writing, there has been no Material Adverse ChangeV~~material Aadverse Cchange~~ in the financial condition of Guarantor and its consolidated subsidiaries since the dates of the Financial Statements.

15. **Limitation by Law.** All rights, remedies and powers provided in this Guaranty may be exercised only to the extent that the exercise thereof does not violate any applicable provision of law, and all the provisions of this Guaranty are intended to be subject to all applicable mandatory provisions of law that may be controlling and to be limited to the extent necessary so that they will not render this Guaranty invalid, unenforceable, in whole or in part, or not entitled to be recorded, registered or filed under the provisions of any applicable law.

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Comment [GJ64]: Not sure how many guarantors require resolutions for specific guarantees

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Comment [GJ65]: If defined term is required, please include directly in guaranty

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16. GOVERNING LAW; SUBMISSION TO NON-EXCLUSIVE JURISDICTION. THIS GUARANTY SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF ARKANSAS AND ANY APPLICABLE FEDERAL LAW. TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE PARTIES HERETO HEREBY SUBMIT TO THE NON-EXCLUSIVE JURISDICTION OF ~~ANY ARKANSAS STATE COURT SITTING IN PULASKI COUNTY, ARKANSAS, OR~~ THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF ARKANSAS, FOR THE PURPOSES OF ALL LEGAL PROCEEDINGS ARISING OUT OF OR RELATING TO THIS GUARANTY OR THE TRANSACTIONS CONTEMPLATED HEREBY. THE PARTIES HEREBY WAIVE ANY OBJECTION TO VENUE IN SUCH FORUM ~~PULASKI COUNTY, ARKANSAS,~~ AND ANY OBJECTION TO ANY ACTION OR PROCEEDING ON THE BASIS OF FORUM NON CONVENIENS.

IN WITNESS WHEREOF, Guarantor has caused this Guaranty to be duly executed and delivered by its duly authorized officer effective as of this ___ day of _____, _____ ("Effective Date").

[GUARANTOR]

By:_____
Name:_____
Title:_____

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Comment [GJ66]: Can SPP please identify acceptable jurisdictions other than Arkansas for guarantees. This may not be workable for some. New York perhaps as an alternative?

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Appendix "E" Annual Minimum Market Participation Criteria and Risk Management Certification Form

SPP ANNUAL MINIMUM MARKET PARTICIPATION CRITERIA – RISK MANAGEMENT CERTIFICATION FORM

I, _____, a duly authorized officer of _____ ("Market Participant"), understanding that Southwest Power Pool, Inc. ("SPP") is relying on this certification as evidence supporting SPP's determination that Market Participant meets the risk management and minimum market participation requirements as set forth in Attachment ~~H~~ I ~~H~~ to SPP's Markets+ Tariff ("Tariff"), hereby certify that I have full authority to certify and represent on behalf of Market Participant and further certify and represent as follows:

1. Training. Employees or agents transacting in markets or services provided pursuant to the Tariff on behalf of the Market Participant have received, or will receive, applicable training with regard to their participation under the Tariff as a condition of being authorized to transact on behalf of Market Participant. As used in this representation, training is deemed 'applicable' where it is commensurate and proportional in sophistication, scope and frequency to the volume of transactions and the nature and extent of the risk taken by the Market Participant.

2. Risk Management. Market Participant maintains current written risk management policies and procedures that address those risks that could materially affect Market Participant's ability to pay its SPP invoices when due, including, but not limited to, credit risks, liquidity risks and market risks.

3. Operational Capabilities. Market Participant has available appropriate personnel resources, operating procedures, and technical abilities to promptly and effectively respond to SPP communications and directions related to, but not limited to, settlements, billing, credit requirements and other financial matters.

4. Minimum Participation Criteria. Market Participant meets or exceeds the minimum market participation criteria, including capitalization requirements, as specified in Section 3.1.1.8 of Attachment H of the Tariff. The Market Participant shall submit audited financial statements for the most recent fiscal year to demonstrate minimum Tangible Net Worth or minimum total assets, or provide a report produced by a Rating Agency to establish its Credit Rating as specified in Section 3.1.1.8.2. In the event the Market Participant is unable to meet at least one of these minimum financial requirements, the Market Participant shall maintain with SPP the amount of Financial Security required by Section 3.1.1.8.2(e) of Attachment H to the Tariff.

Date: _____

_____
(Signature)

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Print Name: _____

Title: _____

Subscribed and sworn before me _____, a notary public of the State of _____, in and for the County of _____, this __ day of _____, 20___.

_____

(Notary Public Signature)
My commission expires: ____/____/____

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Appendix "F" FORM OF SURETY BOND

Surety Bond No._____

THIS SURETY BOND is issued on **[date]** by **[full legal name of surety]** ("Surety") on behalf of **[full legal name of SPP customer]** ("Principal"), and in favor of Southwest Power Pool, Inc. ("SPP"). Capitalized terms used and not otherwise defined herein shall have the meaning ascribed to those terms in SPP's Markets+ Tariff ("Tariff").

WHEREAS, Principal seeks to satisfy credit or security requirements established in the ~~Markets+~~ Tariff; and

WHEREAS, Surety is U.S. Treasury-listed with a minimum "A" rating from A.M. Best and has agreed, in exchange for compensation provided by Principal, to provide this Surety Bond on behalf of Principal in accordance with SPP's credit requirements;

NOW, THEREFORE, in consideration of the mutual promises and covenants herein contained, Surety hereby agrees and covenants as follows:

1. Amount of Bond. Surety unconditionally and irrevocably agrees to pay SPP amounts not to exceed an aggregate of **[amount]**, in accordance with the terms of this Surety Bond.
2. Payment Upon Demand. Surety shall pay such amount as specified by SPP upon receipt of a demand for payment notice ("Demand for Payment Notice"). Such Demand for Payment Notice shall be: (i) signed by an officer or authorized agent of SPP, (ii) dated the date of presentation, and (iii) be in the form as set forth in Exhibit A, Exhibit B, or Exhibit C, as applicable.
3. Validation. SPP may demand payment pursuant to this Surety Bond without prior demonstration of the validity of the demand.
4. Multiple Draws. SPP may demand multiple payments pursuant to this Surety Bond; *provided, however*, that the total amount of Surety's obligation hereunder shall not exceed an aggregate of **[amount]**.
5. Time and Form of Payment. Surety shall pay amounts owed pursuant to this Surety Bond in full not later than the first business day following receipt of SPP's written demand for payment to the account designated therein.
6. Obligations Unconditional. This Surety Bond is not conditioned upon SPP first attempting to collect payment, resorting to any other means of security or collateral, or pursuing any other remedies it may have. The obligations of Surety hereunder are independent of the obligations of Principal, and SPP may bring an action against Surety without bringing an action against Principal. SPP may from time to time, without notice or demand, and without affecting Surety's liability hereunder, take and hold other security for Principal's obligations to SPP and exchange, waive, release, or apply such security as SPP deems appropriate in its sole discretion. Surety's liability under this Surety Bond is not conditioned upon the validity or enforceability of Principal's obligations to SPP.
7. Term of Surety Bond. The term of this Surety Bond shall begin on the date of its issuance, as set forth above, and shall continue in full force and effect until all amounts owed by

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Principal pursuant to the Agreements, as that term is defined in the ~~Markets+~~ Tariff, are paid in full, including any amounts owed as a result of true-ups or other corrections to previous settlements; *provided, however,* that Surety may terminate this Surety Bond as provided in Paragraph 8, below.

8. Termination. Surety may terminate this Surety Bond upon ninety (90) Calendar ~~d~~Days~~Days~~ written notice to SPP; *provided, however,* that: (i) Surety's liability hereunder shall survive such termination and remain in full force and effect as to obligations incurred by Principal during the term of this Surety Bond; and (ii) in the event that Principal fails to provide an acceptable form of replacement Financial Security to SPP at least eighty seven (87) Calendar ~~d~~Days~~Days~~ prior to the termination of this Surety Bond, Surety shall, upon demand, without any notice other than such demand, and without any further action by SPP deliver Cash Deposit to SPP not later than the next Business Day in the amount of the full remaining value of this Surety Bond as security for Principal's obligations to SPP. A Cash Deposit provided to SPP by Surety and not applied by SPP to satisfy unpaid obligations of Principal shall be returned to Surety at such time as: (i) Principal provides adequate replacement Financial Security to SPP or (ii) all amounts owed by Principal to SPP are paid in full, including amounts owed as a result of true-ups or other corrections to previous settlements.

9. Principal Pays Bond Costs. Principal shall pay all commissions and charges for this Surety Bond. Principal's failure to pay any such charges shall not be grounds for termination of this Surety Bond, except as provided in Paragraph 8, above.

10. Expenses. Surety shall pay all reasonable costs incurred by SPP in the enforcement of this Surety Bond, including attorney fees and expenses. Surety's obligation to pay such costs shall be in addition to other amounts owed pursuant to this Surety Bond and shall not be limited by the maximum stated amount of this Surety Bond.

11. Communications. Demands, notices, and other communications shall be deemed effective when received, shall be in writing, and shall be delivered by courier with receipt of delivery or by registered mail, or certified mail ~~, or facsimile~~ to the following addresses:

a. If to Surety:

[Surety notice address]

b. If to SPP:

Attn: Credit and Risk Management Department
Southwest Power Pool, Inc.
201 Worthen Drive
Little Rock, AR 72223-4936

c. If to Principal:

[Principal notice address]

Surety, SPP, or Principal may change the address provided for receipt of communications pursuant to this Surety Bond by providing written notice to the other parties.

12. Representations and Warranties. Surety represents and warrants to SPP that:

a. Surety has the legal power to execute and deliver this Surety Bond and to perform in accordance with its terms. All necessary actions have been taken to authorize

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the execution and delivery of this Surety Bond and performance in accordance with its terms. This Surety Bond is a legal, valid, and binding obligation of Surety.

b. There is no action or proceeding pending or, to Surety's knowledge, threatened before any court, arbitrator, or governmental agency that may materially adversely affect Surety's ability to perform its obligations under this Surety Bond.

c. There is no fact that Surety has not disclosed in writing to SPP of which Surety is aware or which Surety can reasonably foresee that would materially adversely affect Surety or the ability of Surety to perform its obligations hereunder.

13. Assignment. SPP may assign its rights under this Surety Bond without in any way diminishing Surety's obligations hereunder. Surety shall not be permitted to assign or transfer its rights under this Surety Bond without prior written consent of SPP.

14. Amendment and Waiver. The terms and provisions of this Surety Bond may not be amended or waived except in a writing signed by SPP and Surety. Election not to exercise, failure to exercise, or delay in exercising any rights under this Surety Bond shall in no way operate as a waiver of any rights of SPP under this Surety Bond.

15. Entire Agreement. This Surety Bond embodies the entire agreement between Surety and SPP with respect to the matters set forth herein and supersedes all prior such agreements.

16. Severability. Should any provision of this Surety Bond be determined by a court of competent jurisdiction to be unenforceable, all of the other provisions shall remain effective.

17. Choice of Law; Jurisdiction; Venue; and Service of Process. This Surety Bond shall be governed by the laws of the State of Arkansas without regard to conflict of laws principles. Surety irrevocably submits to the jurisdiction of any Arkansas court or any United States court sitting in Arkansas over any action or proceeding arising out of or relating to this Surety Bond and irrevocably agrees that all claims in such action or proceeding may be heard and determined by such court. Surety agrees that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law. Surety waives any objection to venue on the basis of forum non conveniens. Surety irrevocably consents to the service of process in any action or proceeding by the mailing of copies of such process to Surety at its address set forth herein. Nothing herein shall affect the right of SPP to bring any action or proceeding against Surety or its property in the courts of any other jurisdictions.

18. Waiver of Jury Trial. SURETY IRREVOCABLY, VOLUNTARILY, AND WITH ADVICE OF COUNSEL WAIVES ANY RIGHTS IT MAY HAVE TO A TRIAL BY JURY IN ANY ACTION ARISING IN CONNECTION WITH THIS SURETY BOND.

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IN WITNESS WHEREOF, Surety has executed and delivered this Surety Bond this **[date]**.

[Full Legal Name of Surety]

By: _____

Name:
Title:

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EXHIBIT A

(Form of Demand for Payment Notice – Principal Failure to Make Payment)

[Date][1]

[Name and Address of Surety][2]

Re: Surety Bond No. _____
Demand for Payment

To the above named Surety:

The undersigned hereby certifies to **[full legal name of surety]** ("Surety"), with reference to its Surety Bond No. **[bond number]**, dated **[execution date of Surety Bond]**, issued on behalf of **[full legal name of SPP customer]** ("Principal") and in favor of Southwest Power Pool, Inc. ("SPP") that Principal has failed to make payment in accordance with the terms of the Agreements as defined in SPP's ~~OATT~~Markets~~Markets~~+ Tariff. SPP hereby demands payment in the amount of $ **[amount]** in accordance with the following instructions.

[Wiring Instructions]

Southwest Power Pool, Inc.

By: _____[3]

Name: _____

Title: _____

[1] The date of the Demand for Payment Notice must be the date for which presentation of the Notice is made.
[2] This will be the address of the Surety as set forth in the Surety Bond.
[3] The undersigned must be an officer or authorized agent of SPP.

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EXHIBIT B

(Form of Demand for Payment Notice – Principal Failure to Provide Acceptable Security)

[Date][4]

[Name and Address of Surety][5]

Re: Surety Bond No. _____
Demand for Payment

To the above named Surety:

The undersigned hereby certifies to **[full legal name of surety]** ("Surety"),with reference to its Surety Bond No. **[bond number]**, dated **[execution date of Surety Bond]**, issued on behalf of **[full legal name of SPP customer]** ("Principal") and in favor of Southwest Power Pool, Inc. ("SPP") that as of the close of business on **[date] [date less than eighty-seven (87) Calendar dDaysDays before the expiration of the Surety Bond]**,[6] Principal has failed to renew, replace, or amend this Surety Bond in satisfaction of the credit requirements established pursuant to SPP's Markets+ Tariff. SPP hereby demands payment in the amount of $ **[amount]** in accordance with the following instructions.

[Wiring Instructions]

Southwest Power Pool, Inc.

By: _____[7]

Name: _____

Title: _____

[4] The date of the Demand for Payment Notice must be the date for which presentation of the Notice is made.
[5] This will be the address of the Surety as set forth in the Surety Bond.
[6] Insert date less than eighty-seven (87) Calendar Days prior to expiration of the Surety Bond.
[7] The undersigned must be an officer or authorized agent of SPP.

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EXHIBIT C

(Form of Demand for Payment Notice – Surety Rating Downgrade)

[Date][8]

[Name and Address of Surety][9]

Re: Surety Bond No. _____
Demand for Payment

To the above named Surety:

The undersigned hereby certifies to **[full legal name of surety]** ("Surety"),with reference to its Surety Bond No. **[bond number]**, dated **[execution date of Surety Bond]**, issued on behalf of **[full legal name of SPP customer]** ("Principal") and in favor of Southwest Power Pool, Inc. ("SPP") that as of the close of business on **[date]** **[date more than three (3) Business Days after SPP has requested that Principal replace the Surety Bond because the Surety's rating by A.M. Best is less than "A"]**, Principal has failed to replace this Surety Bond in a manner acceptable to SPP. SPP hereby demands payment in the amount of $ **[amount]** in accordance with the following instructions.

[Wiring Instructions]

Southwest Power Pool, Inc.

By: _____[10]

Name: _____

Title: _____

[8] The date of the Demand for Payment Notice must be the date for which presentation of the Notice is made.
[9] This will be the address of the Surety as set forth in the Surety Bond.
[10] The undersigned must be an officer or authorized agent of SPP.

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ATTACHMENT I
Distribution of Other Revenues

I. Adjustments To Revenue Allocations in the Event of Market Participant Non-Payments

If the amounts collected by SPP for Market Services are insufficient to fully pay the providers of Market Services, then the following procedures apply:

A. Definitions

The following definitions apply in this Section I of Attachment I. Capitalized terms used in this Attachment I and not defined herein shall be given the meaning assigned to them under the Tariff.

1. Credit Support Documents: Any agreement or instrument in any way guaranteeing or securing any or all of a Market Participant's obligations under the Tariff (including, without limitation, the Credit Policy in Attachment H to this Tariff), any agreement entered into under, pursuant to, or in connection with the Tariff or any agreement entered into under, pursuant to, or in connection with the Tariff or the Credit Policy, and/or any other agreement to which SPP and Market Participant are parties, including, without limitation, any Guaranty, Letter of Credit, Credit and Security Agreement (Attachment B to the Credit Policy in Attachment H to this Tariff) or agreement granting a security interest.

2. Default: Any default under Article 8 or otherwise under the Credit Policy.

3. Defaulting Market Participant: A Market Participant that defaults under Section 8 of the Credit Policy.

4. FERC: The Federal Energy Regulatory Commission.

5. Market Services: Services taken and/or provided pursuant to the Tariff.

6. Non-Defaulting Market Participants: Market Participants, other than the Defaulting Market Participant, who conducted business in the market during the time covered by the invoice(s) containing the Unpaid Obligation.

7. Unpaid Obligation: An unpaid past due amount of an invoice for Market Services for which SPP does not reasonably expect payment in full and which SPP has declared to be an Unpaid Obligation.

8. Uncollectible Obligation: An Unpaid Obligation that has not been paid within ninety (90) days after SPP declared an invoice an Unpaid Obligation, or sooner, should by any means the Market Participant's Service Agreement be terminated.

B. General

SPP shall only be required to remit to providers of Market Services the revenues that it has collected, without dispute, under the Tariff for Market Services, as applicable.

C. Procedures for Non-Payment of Amounts Invoiced for Market Services

1. The following procedures apply to defaults in payment of amounts invoiced for Market Services. At such time as SPP concludes that SPP does not reasonably expect payment in full of an unpaid past due amount, which SPP may conclude as early as within 1 day after the due date, then SPP shall declare such unpaid past due amount to be an Unpaid Obligation. SPP will notify Market Participants of the declaration of an Unpaid Obligation by posting a notice to the OASIS. Such notification will identify the Defaulting Market Participant, the amount of the Unpaid Obligation, the applicable week(s) of service for which the Defaulting Market Participant was initially invoiced the Unpaid Obligation, and the future billing week(s) in which SPP will, because of the Unpaid Obligation, reduce the revenues to be paid to all Non-Defaulting Market

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Comment [GJ67]: Section or Article? See above

Comment [GJ68]: Will Markets Plus have an OASIS?

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Participants who conducted business in the market during the time covered by the invoice applicable to the Unpaid Obligation.

SPP will then make reduced payments on the corresponding payout date to the Non-Defaulting Market Participants receiving revenues for Market Services associated with the Unpaid Obligation. A payment to a Non-Defaulting Market Participant will be reduced in amount equal to such Non-Defaulting Market Participant's pro rata share of the Unpaid Obligation.

Upon the earliest feasible date after declaring an Unpaid Obligation, SPP will take the following additional steps: (i) identify and segregate all funds held by SPP with respect to the Defaulting Market Participant; (ii) recover the Unpaid Obligation by drawing upon the entire amount of collateral provided by the Defaulting Market Participant, provided that any amount of the Unpaid Obligation not paid by such draw shall continue to be an Unpaid Obligation; (iii) seek to recover the Unpaid Obligation from any guarantor of the Defaulting Market Participant's obligations; (iv) seek to exercise other remedies under the Credit Support Documents provided by the Defaulting Market Participant; and (v) pursue other available remedies for Defaults, including, without limitation, initiating a filing with FERC to terminate the Service Agreement of the Defaulting Market Participant. SPP may deviate from steps (i) through (v), including omission of steps and use of other measures as SPP may determine, in its discretion, are appropriate to maximize collection, minimize collection costs, and produce cost effective collection efforts relative to, for example, the likelihood of collection of the Unpaid Obligation.

Any amounts received by SPP pursuant to this Section I.C.1. of this Attachment I shall be applied to reduce the amount of the Unpaid Obligation if those amounts are received prior to the issuance of a notice to cure the Default. After the notice to cure is issued, Section I.C.2. of this Attachment I will apply.

2. Payments by Defaulting Market Participants of Unpaid Obligations. This Section I.C.2 applies to amounts invoiced to Market Participants for Market Services only.

After SPP has declared an Unpaid Obligation, SPP will send the Defaulting Market Participant a notice to cure the Default as specified in Section 8 of the SPP Credit Policy. The Defaulting Market Participant must take the following steps to cure its Default: (i) pay all unpaid obligations to SPP, including, without limitation, the amount of the Unpaid Obligation, interest, and enforcement and collection costs; and (ii) meet the creditworthiness requirements of SPP, including, without limitation, any additional financial assurances that may be required by SPP given the Defaulting Market Participant's prior Default.

In the event the Defaulting Market Participant attempts to cure its Default by making partial payment of the Unpaid Obligation, the partial payment shall not be applied to reduce the Unpaid Obligation but shall instead be segregated from other SPP funds. Such segregated partial payments shall accumulate until the full amount of the Unpaid Obligation is cured by a series of two or more partial payments. In the event SPP determines that the Unpaid Obligation is uncollectible pursuant to Section I.C.2. of this Attachment I and is an Uncollectible Obligation, the segregated partial payments along with any interest shall be applied using the formula set forth in Section I.C.3.b. of this Attachment I, and the funds will be distributed as described in Section I.C.3.e. of this Attachment I.

In the event the full amount of the Unpaid Obligation is paid by the Defaulting Market Participant prior to SPP declaring the Uncollectible Obligation, those revenues will be distributed to Market Participants in the same percentages as the previous reduction of revenues associated with the Unpaid Obligation.

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Comment [GJ69]: Pro rata based on what measure?

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FERC GENERATED

3. Uplift. This Section I.C.3 of this Attachment I applies to amounts invoiced to Market Participants for Market Services only. Ninety (90) days after declaring an invoice an Unpaid Obligation or sooner, should by any means the Market Participant's Service Agreement be terminated, SPP will declare that Unpaid Obligation an Uncollectible Obligation. SPP shall proceed to recover the Uncollectible Obligation from all Market Participants who conducted business in the market during the period covered by the invoice(s) associated with the Uncollectible Obligation(s) on a pro rata basis, with the amount of the Uncollectible Obligation adjusted by the amount of the Unpaid Obligation recovered pursuant to Section I.C.1. of this Attachment I and partial payments pursuant to Sections I.C.2. of this Attachment I.

a. Eligibility for Share of Uncollectible Obligation.

The Uncollectible Obligation shall be allocated by SPP to all Non-Defaulting Market Participants that had been invoiced by SPP during the same period of time as the unpaid invoice(s) of the Market Participant whose Unpaid Obligation has been declared an Uncollectible Obligation.

b. Uncollectible Obligation Allocation Methodology.

The formula below is the basis for allocating the Uncollectible Obligation to all Non-Defaulting Market Participants who conducted business in the market during the time covered by the invoice(s) containing the Uncollectible Obligation(s).

% Loss for MPA =

MPA Market Charges +
Market Credits in weekly invoicing cycle/
MPALL (Market Charges + Market Credits) in weekly invoicing cycle.

Loss Obligation of MPA = ((% Loss for MPA) x $ Amt of Uncollectible Obligation) minus (-) (Reduction of Payments + Pro rata share of partial payment(s))

Where:

MP = Market Participant

Market Charges = The absolute value of all charge amounts associated with invoices for Market Services.

Market Credits = The absolute value of all credit amounts associated with invoices for Market Services.

MPALL = All Market Participants other than Market Participants with Uncollectible Obligations.

Reduction of Payment = The amount of the Unpaid Obligation originally assessed to Market Participant as described in Section I.C.1. above.

Pro rata share of partial payment(s) = Any partial payments received during cure period as described in Section I.C.2.

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Comment [GJ70]: In C.1, payments to Non-Defaulting Party are reduced by the unpaid amount, so isn't this already recovered via C.1?

Comment [GJ71]: Can this be re-formatted and better explained? Not clear what the acronyms are representing and hard to follow.

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All individual charge amounts and all individual credit amounts invoiced for Market Services shall be included in the calculation of Market Charges and Market Credits. The Market Charges and Market Credits of Market Participants with Uncollectible Obligations will not be included in the calculation of the percentage of the loss to be allocated to all Non-Defaulting Market Participants that had been invoiced by SPP during the same period of time as the unpaid invoice(s) of the Defaulting Market Participant whose Unpaid Obligation has been declared an Uncollectible Obligation.

c. Application of Recovered Uncollectible Obligation.

Any funds that are attributable to an Uncollectible Obligation that are recovered by SPP (other than amounts recovered by the uplift of the Uncollectible Obligations) after the Uncollectible Obligation has been uplifted pursuant to Section I.C.3.b. of this Attachment I, shall first be applied to satisfy outstanding costs of enforcement and collection of the Unpaid Obligation or Uncollectible Obligation, and any other amount due to SPP under the Tariff or any other agreements. Any remaining funds attributable to an uplifted Uncollectible Obligation, together with any remaining interest and late charges collected with respect to the uplifted Uncollectible Obligation, shall be distributed pro rata to the Non-Defaulting Market Participants, using the same formula specified under Section I.C.3.b. of this Attachment I to whom the Uncollectible Obligation was uplifted and who satisfied their obligation to pay the uplifted Uncollectible Obligation.

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From: Christine Dillard <cdillard@spp.org>
Sent: Tuesday, January 16, 2024 6:55 AM
To: Fina, Giuseppe (Joe); Chris Nolen; 'Pettit, David E'; 'Gorlin@WAPA.GOV'; 'Alaine Ginocchio'; 'Jason.Kuzma@pse.com'; Engelby, Ben; 'Charles.VonReis@chelanpud.org'; Miller,Todd E (BPA) - LP-7; 'Karilee S Ramaley'; 'Irene Scruggs'; 'Gilhen, Jonathan'; Sabers, Cathy; 'Jennifer.Spina@pinnaclewest.com'; Doot,Erika A (BPA) - LP-7; 'Lee Engel'; Davis,Thomas E (BPA) - LT-7; 'Kallstrom, Jeffrey'; Starnes, Heather; 'Timothy T. Mastrogiacomo (Tim.T.Mastrogiacomo@xcelenergy.com)'; Hickey, Lisa; 'matt@healylawoffices.com'; 'edward.garvey@aeslconsulting.com'; 'ganguiano@westernenergyboard.org'; Binette, Matthew; Tabak, Gabe; Rubin, David; 'mmorais@nationalgridrenewables.com'; Gray, Spencer
Cc: Emon Mahony; Rachel Kane; Joseph Ghormley; Kristen Darden; Carrie Simpson; Mantifel,Russell (BPA) - MTM-3; Michael Riley
Subject: [EXTERNAL] RE: Markets+ Legal Group Meeting
Attachments: 04ab1-MarketsPlus_Attachment B_C_SPP_Tariff Review_011224.docx

Hi all,
As requested by the group during the January 12th meeting, I am sending along Attachments B&C as approved by MDWG on January 11th, also in sharepoint. Please note that this section is also in review for proofing and syncing with the rest of the Tariff, so you will notice some redlines have been made since the MDWG meeting for that purpose (i.e., capitalizing Calendar Days).

Thanks,

Christine Dillard | Attorney, Markets & Regulatory Policy
cdillard@spp.org (b)(6) (c)

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Working together to responsibly and economically keep the lights on today and in the future.

From: Christine Dillard
Sent: Thursday, January 11, 2024 6:26 PM
To: Fina, Giuseppe (Joe) <gfina@snopud.com>; Chris Nolen <cnolen@spp.org>; 'Pettit, David E' <David.E.Pettit@xcelenergy.com>; 'Gorlin@WAPA.GOV' <Gorlin@WAPA.GOV>; 'Alaine Ginocchio' <agpolsol@outlook.com>; 'Jason.Kuzma@pse.com' <Jason.Kuzma@pse.com>; Engelby, Ben <bengelby@azgt.coop>; 'Charles.VonReis@chelanpud.org' <Charles.VonReis@chelanpud.org>; 'Todd Miller' <temiller@bpa.gov>; 'Karilee S Ramaley' <Karilee.Ramaley@srpnet.com>; 'Irene Scruggs' <iscruggs@ppcpdx.org>; 'Gilhen, Jonathan' <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; 'Jennifer.Spina@pinnaclewest.com' <Jennifer.Spina@pinnaclewest.com>; 'eadoot@bpa.gov' <eadoot@bpa.gov>; 'Lee Engel' <elee@cityoftacoma.org>; 'Davis,Thomas E (BPA) - LT-7' <tedavis@bpa.gov>; 'Kallstrom, Jeffrey' <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; 'Timothy T. Mastrogiacomo (Tim.T.Mastrogiacomo@xcelenergy.com)' <Tim.T.Mastrogiacomo@xcelenergy.com>; Hickey, Lisa <lisa@interwest.org>; 'matt@healylawoffices.com' <matt@healylawoffices.com>; 'edward.garvey@aeslconsulting.com' <edward.garvey@aeslconsulting.com>; 'ganguiano@westernenergyboard.org' <ganguiano@westernenergyboard.org>; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; 'mmorais@nationalgridrenewables.com' <mmorais@nationalgridrenewables.com>; Gray, Spencer <sgray@nippc.org>
Cc: Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>;

29330320

Michael Riley <michael.b.riley@spp.org>
Subject: RE: Markets+ Legal Group Meeting

Hi all,
Stakeholder agreement is available here.
Thanks,

Christine Dillard | Attorney, Markets & Regulatory Policy
cdillard@spp.org (b)(6) (c)

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From: Christine Dillard
Sent: Wednesday, January 10, 2024 3:36 PM
To: Fina, Giuseppe (Joe) <gfina@snopud.com>; Chris Nolen <cnolen@spp.org>; Pettit, David E <David.E.Pettit@xcelenergy.com>; Gorlin@WAPA.GOV; Alaine Ginocchio <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; Todd Miller <temiller@bpa.gov>; 'Karilee S Ramaley' <Karilee.Ramaley@srpnet.com>; Irene Scruggs <iscruggs@ppcpdx.org>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; Lee Engel <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; Timothy T. Mastrogiacomo (Tim.T.Mastrogiacomo@xcelenergy.com) <Tim.T.Mastrogiacomo@xcelenergy.com>; Hickey, Lisa <lisa@interwest.org>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>
Cc: Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Michael Riley <michael.b.riley@spp.org>
Subject: RE: Markets+ Legal Group Meeting

Hi all,
The current version of the Special Rules is attached and has been posted to the M+ Legal Group drive. I expect to post the Stakeholder Agreement by end of day tomorrow.

Thank you,

Christine Dillard | Attorney, Markets & Regulatory Policy
cdillard@spp.org | (b)(6) (c)

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-----Original Appointment-----
From: Fina, Joe <GFina@SNOPUD.com>
Sent: Wednesday, January 10, 2024 3:22 PM
To: Fina, Joe; Chris Nolen; Pettit, David E; Gorlin@WAPA.GOV; Alaine Ginocchio; Jason.Kuzma@pse.com; Engelby, Ben; Charles.VonReis@chelanpud.org; Todd Miller; 'Karilee S Ramaley'; Irene Scruggs; Gilhen, Jonathan; Sabers, Cathy; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; Lee Engel; Davis,Thomas E (BPA) - LT-7; Kallstrom, Jeffrey; Starnes, Heather; Christine Dillard; Timothy T. Mastrogiacomo (Tim.T.Mastrogiacomo@xcelenergy.com); Hickey, Lisa; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew; Tabak, Gabe; Rubin, David; mmorais@nationalgridrenewables.com; Gray, Spencer
Cc: Emon Mahony; Rachel Kane; Joseph Ghormley; Kristen Darden; Carrie Simpson; Mantifel, Russ; Michael Riley

Subject: **External Email** Markets+ Legal Group Meeting
When: Friday, January 12, 2024 11:00 AM-12:30 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - GFina@SNOPUD.com and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

This meeting is intended to review the remaining Special Rules for BPA and WAPA, and to review the new Stakeholder Agreement. A follow-up email will be sent when those documents are available on the SharePoint site.

Thanks for your patience as we get these last items taken care of.

Microsoft Teams meeting

Join on your computer, mobile app or room device
Click here to join the meeting

Meeting ID: (b)(6)
Passcode: (b)(6)
Download Teams | Join on the web

Or call in (audio only)
+1 206-397-0076, (b)(6) # United States, Seattle
Phone Conference ID: (b)(6) #
Find a local number | Reset PIN

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ATTACHMENT B
Market Power Mitigation Plan

TABLE OF CONTENTS

1. Purpose and Objective
2. Definitions
   - 2.1 Measures
   - 2.2 Performance Factor
   - 2.3 Resource-to-Load Distribution Factor (RLDF)
3. Mitigation Measures for Economic Withholding – Market Power in Energy and Flexibility Reserve Products
   - 3.2 Market Power Test
   - 3.3 Mitigated Offer Calculation Methodology
   - 3.4 Mitigation Measures for Energy Offer Curves
   - 3.5 Mitigation Measures for Start-Up Offers and No-Load Offers
     - 3.5.1 Mitigation Measures for Transition State Offers
   - 3.6 Mitigation Measures for Flexibility Reserve Product Offers
   - 3.7 Validation of Mitigated Resource Offers
   - 3.8 Additional Mitigation Measures for Resource Offer Parameters
   - 3.9 Market Impact Test
4. Miscellaneous Provisions
   - 4.1 Rights and Remedies

1. Purpose and Objective

The Market Mitigation Measures ~~(the "Measures")~~ contained within this Market Power Mitigation Plan provide for mitigation of the exercise of horizontal and vertical market power by Market Participants in certain specified circumstances. The Market Operator will implement the Market Power Mitigation Plan as defined.

2. Definitions

For purposes of this Market Power Mitigation Plan, capitalized terms have the meanings specified below:

~~**2.1 Measures**~~

~~SPP's Market Mitigation Measures set forth in this document.~~

2.21 Performance Factor

The calculated ratio of actual fuel burn to either theoretical fuel use (design heat input) or the most recent heat rate performance test, consistent with the Markets+ Protocols.

2.32 Resource-to-Load Distribution Factor (RLDF)

The simulated impact of incremental power output from a specific Resource ("source") on the loading of a specific flowgate based on delivery to a representation of the locational weighting of all loads within all Settlement Locations ("sink").

3. Mitigation Measures for Economic Withholding – Market Power in Energy and Flexibility Reserve Products

This section sets forth the market power mitigation measures that are applied in the Day-Ahead Market, Reliability Unit Commitment processes, and the Real-Time Balancing Energy Markets, collectively referred to as Markets+.

3.~~2~~1 Market Power Test

A Resource satisfying at least one of the following conditions is determined to have market power:

(1) The Resource has a Resource-to-Load-Distribution factor less than or equal to negative five percent (-5%) relative to a binding transmission constraint; ~~or~~

(2) The Resource is committed, or the Multi-Configuration Resource ("MCR") is transitioned, as a Reliability Must Run; or

(3) Within a Reserve Zone, the total Supplier Capacity plus unused deliverable import capacity- is not sufficient to meet the Market Adjusted Obligation without a Market Participant's Supplier Capacity in a Dispatch Interval.

(a) Supplier Capacity is the sum of Maximum Output Limits of each Supplying Resource.

(i) The Maximum Output Limit is defined by Resource type:

(1) For a forecasted ~~VER~~Variable Energy Resource, the Maximum Output Limit is the lesser of its (i) output forecast or (ii) its Maximum Economic Capacity Operating Limit.

(2) For an MSR with a commitment that allows it to be dispatched above zero (0) megawatts, the Maximum Output Limit is its Maximum Discharge Limit. For an MSR with a commitment that allows it to charge only, the Maximum Output Limit is zero (0) megawatts.

(3) For a Resource type that is not specified above, the Maximum Output Limit is the Resource's Maximum Economic Capacity Operating Limit for that interval;

(ii) A Supplying Resource is a Resource that is both:

(1) Registered under that Market Participant or its Affiliate(s), where "Affiliate" is defined in 18 CFR § 35.36(a)(9)~~.~~;; and

(2) Available to the market:

(a) For a dispatch process, a Resource is available when it:

(i) Has a Commitment; ~~or~~

(ii) Is an off-line F~~f~~ast-~~s~~Start R~~r~~esource that is eligible to be dispatched above zero (0) megawatts; or

(iii) Is a Variable Energy Resource that has a Commitment Status other than 'Outage' or 'Not Available'.

(b) For a commitment process, a Resource is available when it has a commitment status other than 'Outage' or 'Not Available'.

(b) The Market Adjusted Obligation is equal to (i) the forecasted obligation adjusted by (ii) the Net Scheduled Interchange plus (iii) the sum of Maximum Charge Limits of available MSRs.

3.~~3~~2 Mitigated Offer Calculation Methodology

Market Participants must submit a mitigated offer calculation methodology, including accurate cost data and/or verifiable supporting documentation, as applicable, sufficient to replicate the mitigated energy offer curve to the Market Monitor for approval for each Resource. Market Participants must keep the methodology up to date. Mitigated offers must be calculated according to the approved methodology.

For a new Market Participant registering a new Resource in the market, the Market Participant must submit the methodology no less than 120 Calendar ~~d~~Days before its first offer. For an existing Market Participant registering a new Resource, the Market Participant must submit the methodology no less than thirty (30) Cealendar Ddays before its first offer.

If the Market Monitor communicates to a Market Participant that a methodology is not approved, the Market Monitor will identify the reasons, and the Market Participant must re-submit as soon as practicable. The methodology is effective beginning on the Operating Day following Market Monitor approval. If the Market Monitor does not respond to a submitted methodology in fifteen (15) Cealendar Ddays, then the submitted methodology is allowed until the Market Monitor communicates otherwise.

3.~~4~~3 Mitigation Measures for Energy Offer Curves

A. A Market Participant must submit Mitigated Energy Offer Curves daily in accordance with the mitigated offer development guidelines in the Markets+ Protocols.

1) For MCRs, for which a single configuration allows physical units to be swapped (e.g., Combustion Turbine 2 for Combustion Turbine 1), the costs used in the

mitigated offer development for that configuration must be those of the least cost physical unit that is available and can be swapped in such configuration.

2) The mitigated Energy Offer Curve may be updated up to the close of the Day-Ahead Market for use in the Day-Ahead Market.

i. For ~~any period a~~ Resource~~s is not~~ committed by the Day-Ahead Market, the mitigated Energy Offer Curve submitted as of the close of the Day-Ahead Market will apply to the Day-Ahead Market on the day before the Operating Day and the RTBM on the Operating Day unless an exception is allowed in Attachment B, Section 3.4(J)~~for that period may be updated until the RUC begins.~~;

~~ii. For Resources committed by the Day-Ahead Market, the mitigated Energy Offer Curve submitted as of the close of the Day-Ahead Market will apply to the Day-Ahead Market on the day before the Operating Day and the RTBM on the Operating Day unless an exception is allowed in Section 3.4 (J) of this Attachment B;~~

~~iii. For all other Resources, the mitigated Energy Offer Curve submitted at the time the RUC begins will apply to the RUC on the day before the Operating Day, and the RUC processes and the RTBM on the Operating Day.~~

~~iv.~~ii. For any period a Resource is not committed by the Day-Ahead Market or the RUC, the mitigated ~~pricing Simultaneous Co-optimization Methodology, the composite~~ Energy Offer Curve ~~and mitigated composite Energy Offer Curve will be calculated~~for that period may be updated for use in the RUC and RTBM ~~and used by the Market Operator for FSRs in the Day-Ahead Market and RTBM~~.

B. The conduct threshold is a 10% increase above the mitigated Energy Offer Curve. The Market Operator applies mitigation measures by placing a cap on the Energy Offer Curve of 10% above the mitigated Energy Offer Curve if:

(1) The Resource's Energy Offer Curve exceeds the mitigated Energy Offer Curve by the conduct threshold; and

(2) The Resource has market power as determined in Sections 3.~~2~~1(1) or 3.~~2~~1(3); and

(3) The Resource fails the Market Impact Test as described in Section 3.~~7~~8.

C. For a Resource that has market power as determined in Section 3.~~2~~1(2), the Market Operator applies mitigation measures by placing a cap on the Energy Offer Curve of 10% above the mitigated Energy Offer Curve.

D. Except for Resources following the Seasonal Hydroelectric Offer Curve methodology outlined in Section 3.4(M), the mitigated Energy Offer Curve must be the Resource's short-run marginal cost of producing energy as determined by the unit's heat rate or similar production efficiency ratio; fuel costs and the costs related to fuel usage, such as transportation and emissions costs ("total fuel related costs"); and Energy Offer Curve ~~("EOC")~~ variable operations and maintenance costs (~~"~~VOM~~"~~).

E. For Resources that are not ESRs that are not eligible or do not elect the Seasonal Hydroelectric Offer Curve methodology outlined in this Section 3.~~4~~3(M), opportunity cost must be an estimate of Markets+ revenues net of short run marginal costs for the marginal forgone run time during the timeframe when the Resource experiences the run-time restrictions.

The forecasted Locational Marginal Prices are based on (i) the relationship between (a) the monthly average on-peak and off-peak system LMP and (b) the expected price of natural gas and (ii) hourly deviations between (a) the LMP at the Resource Settlement Location and (b) the system LMP, as determined by the Market Monitor. The formulas and instructions in the price forecast model are determined by the Market Monitor and published in the Markets+ Protocols as part of the Mitigated Offer Development Guidelines, updated, as needed, by the Market Monitor. Historic LMPs are considered for the three-year period immediately preceding the period of time in which the Resource is bound by the referenced restrictions. The forecasted costs to generate E~~e~~nergy at the Resource's Settlement Location are subtracted from the forecasted Locational Marginal Prices, as specified in more detail in ~~Appendix G of~~ the Markets+ Protocols. If the difference between the forecasted ~~Locational Marginal Prices~~LMPs and forecasted costs to generate E~~e~~nergy is negative, the resulting opportunity cost is zero (0). The Market Monitor will verify all Market Participants' opportunity cost calculations for consistency and accuracy. When the Market Monitor determines that the market price for any period was not competitive, it will adjust the LMP forecasting process used in the opportunity

cost calculations to ensure that forecasted LMPs do not reflect non-competitive market conditions.

Except for Resources that elect the Seasonal Hydroelectric Offer Curve methodology, the following formula applies to all mitigated Energy Offer Curves unless specified otherwise in ~~this~~Attachment B, Section 3.2(E) ~~of this Attachment B~~:

Mitigated Energy Offer ($/MWh) = HeatRate (mmBtu/MWh) *
Performance Factor * Total Fuel Related Costs ($/mmBtu) + ~~EOC~~ Energy Offer Curve VOM ($/MWh) + Opportunity Costs ($/MWh) +

The run-time restrictions must be updated more frequently as fewer hours remain available. The Market Participant may include in the calculation of its mitigated Energy Offer Curve an amount reflecting the resource-specific opportunity costs expected to be incurred under the following circumstances:

(1) Externally imposed environmental run-hour restrictions as verified by the Market Monitor; ~~or~~

(2) Physical equipment limitations on the number of starts or run-hours, as verified by the Market Monitor and determined by reference to the manufacturer's recommendation or bulletin, or a documented restriction imposed by the applicable insurance carrier: or

(3) Fuel supply or transportation limitations, for up to one (1) year, resulting from an event of force majeure or other circumstances as verified by the Market Monitor.

F. For Resources that are not eligible or do not elect the Seasonal Hydroelectric Offer Curve Methodology outlined in Section 3.~~4~~ 3(M), the Market Participant must submit if applicable, heat rate curves, descriptions of how spot fuel prices and/or contract prices are used to calculate fuel costs, variable fuel transportation and handling costs, emissions costs, and VOM to the Market Monitor. All cost data and cost calculation descriptions are subject to the review and approval of the Market Monitor to ensure reasonableness and consistency across Market Participants. The submitted information must be sufficient for replication of the mitigated Energy Offer Curve and must include, among other data, the following information:

(1) For fuel costs, Market Participants must provide the Market Monitor with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants must submit VOM costs, calculated in adherence with the ~~Appendix G of the~~ Markets+ Protocols, reflecting short-run marginal costs, exclusive of fixed costs.

Further details associated with the development, validation, and updating of these costs are included in ~~Appendix G of~~ the Markets+ Protocols.

G. For Demand Response Resources utilizing Behind-The-Meter Generation, the mitigated Energy Offer Curve methodology must be developed in the same manner as a generating Resource as described above. For load reduction Demand Response Resources, the mitigated Energy Offer Curve methodology must include the quantifiable opportunity costs associated with the reduction, net of related offsetting increases in usage.

H. For ~~Dispatchable Variable Energy Resources~~DVERs, the mitigated Energy Offer Curve methodology may include, but must not exceed, any calculation of quantifiable costs that vary by MWh output, including short-run incremental VOM. Mitigation does not apply to Non-Dispatchable Variable Energy Resources in the Real-Time Balancing Market.

I. For an ESR, the mitigated Energy Offer Curve methodology may include, but must not exceed, (i) charging cost and (ii) opportunity cost, both adjusted for round-trip efficiency. Charging cost is the cost at which the ESR charged, and opportunity cost is the average profit in the next hour forgone by charging or discharging in the current hour. The sum of the charging cost and opportunity cost is the average LMP that is expected for the next Operating Hour. This expected average LMP for the next Operating Hour is the unweighted average of the LMPs for the most recent forty-five (45) days comparing like Operating Hours. The mitigated Energy Offer Curve for MSRs must have at least two (2) breakpoints:- one for charging and another for discharging. More breakpoints may be

added to the extent that other costs vary. A Market Participant may submit for approval by the Market Monitor a modified mitigation methodology for an ESR that takes into account the ESRs' storage horizon and any cycling limitations.

The following formula applies to mitigated Energy Offer Curves for ESRs:

Charging Mitigated Energy Offer ($/MWh) =

Performance Factor * Average LMP Expected for the Next Hour ($/mmBtu) * Round-Trip Efficiency - ~~EOC~~ Energy Offer Curve VOM ($/MWh)

Discharging Mitigated Energy Offer ($/MWh) =

Performance Factor * Average LMP Expected for the Next Hour ($/mmBtu) / Round-Trip Efficiency + ~~EOC~~ Energy Offer Curve VOM ($/MWh)

J. Intra-day changes to the mitigated Energy Offer Curve are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past their initial commitment period by the Day-Ahead Market or a RUC process, the Market Participant may submit an updated mitigated Energy Offer Curve that reflects the procurement of higher cost fuel; or

(2) A Resource must switch fuels due to unforeseen operating conditions; or

(3) The Resource is an ESR; or

(4) As approved by the Market Monitor during periods of high intraday fuel price volatility.

Intra-day changes to the mitigated Energy Offer Curve must follow the mitigated offer development guidelines in ~~Appendix G of~~ the Markets+ Protocols and will be validated by the Market Monitor.

K. A Market Participant that has a Resource with short-run marginal costs greater than the ~~Safety net~~ Energy Offer Soft Cap may submit an Energy Offer Curve using the same guidelines for development of the Resource's ~~Mitigated~~ mitigated Energy Offer Curve established in ~~Appendix G of~~ the Markets+ Protocols. The Energy Offer Curve above $1,000/MWh must be equal to the ~~Mitigated~~ mitigated Energy Offer Curve and may include an adder with a maximum of $100/MWh due to the uncertainty of expected costs. For purposes of LMP calculation, the Energy Offer Curve will be limited to a maximum

of $2,000/MWh and must be verified by the Market Monitor prior to the start of the applicable market clearing process. If the Energy Offer Curve cannot be verified prior to the start of the applicable market clearing process, then the Resource may be eligible to receive make_-whole payments for its actual costs after verification by the Market Monitor. The default value is $1,000/MWh for any offer above $1,000/MWh until the offer can be verified. If the verified Energy Offer Curve is greater than $2,000/MWh, the Energy Offer Curve will be capped at $2,000/MWh in the applicable market clearing process, and the Resource may be eligible for make_-whole payments for actual costs exceeding $2,000/MWh. Market Participants must submit evidence of actual costs to the Market Monitor. The Market Monitor must verify the actual costs for use in make_-whole payments._ In order to include the costs in the make_-whole payments of the S120 Settlement Statement, the submission must occur within seventy-five (75) Cealendar Ddays after the Operating Day and the verification must be complete no later than noon on the business day prior to 105 Cealendar Ddays after the Operating Day.

L. Cost data submitted for the development of mitigated offers, including opportunity cost data, are subject to the confidentiality provisions set forth in Attachment A, Section 101 ~~of Attachment A of this Tariff~~.

M. Market Participants may elect to use the Seasonal Hydroelectric Offer Curve (SHOC) calculation ~~(SHOC)~~ for hydroelectric Resources with storage capability, including a~~Aggregate~~ Resource aggregations, as defined in this Section 3.43.

(1) Market Participants electing the SHOC will calculate that curve in the following manner for all hours of every Operating day, except as provided in Section 3.~~4M~~3M(~~11~~10)._ For each Operating Day, the Market Participant will calculate the Seasonal Hydroelectric Offer Curve as the maximum of the (a) gas floor, (b) short-term component, and (c) long-term/geographic component, which are all calculated as specified below.

(~~3~~2) The Market Participant will calculate the gas floor as the most recent average heat rate for a typical natural gas turbine generator, as defined in the Markets+ Protocols, multiplied by the natural gas price for the fuel region applicable to the location of the hydroelectric resource, multiplied by 1.1.

(43) The Market Participant will calculate the short-term component as 1.4 multiplied by the maximum of:

(a) the most recent day-ahead peak price at the applicable electric pricing hub;

(b) the on-peak balance of the month futures price for the current month at the applicable electric pricing hub; and

(c) the on-peak monthly index futures price at the applicable electric pricing hub for one (1) month after the current month.

(54) The Market Participant will calculate the long-term/geographic component calculated based on multiple electric pricing hubs in addition to the default electric pricing hub consistent with Attachment B, Section 3.43 ~~of this Attachment B~~. The Market Participant will calculate the long-term/geographic component as 1.1 multiplied by the maximum of:

(a) the most recent day-ahead on-peak price at the applicable electric pricing hub(s);

(b) the on-peak balance of the month futures prices for the current month at the applicable electric pricing hub(s); and

(c) the on-peak monthly index futures price at the applicable electric pricing hub(s) for all future months up to the maximum storage horizon after the current month.

(65) As part of its request for a Seasonal Hydroelectric Offer Curve, the Market Participant must submit to the Market Monitor:

(a) For each month and for each electric pricing hub requested that is not the default electric pricing hub, the Market Participant must (1) demonstrate that it holds firm transmission rights to enable delivery from the hydroelectric resource's default market region to the requested electric pricing hub or to a delivery point that is similarly priced location; or (2) provide documentation that supports a historical practice of acquiring monthly firm transmission rights to the requested electric pricing hub(s) or similarly priced location. Market Participants may demonstrate transmission rights to multiple locations and, based on the Market Monitor's evaluation of such information, the Market Participant may

include multiple electric pricing hubs, in addition to the default electric pricing hubs, in the long-term/geographic component of the SHOC for the affected resources. The Market Participant will attest through its submission that it reasonably expects it will be able to use the demonstrated transmission rights to deliver incremental sales from the hydroelectric resource because the rights are not fully committed and that there is an actual opportunity to use these rights. If the Market Participant includes multiple electric pricing hubs in the long-term/geographic component, the SHOC calculation will use the maximum of the electric price indices published for each electric pricing hub as determined for each Operating Day. On Operating Days for which there are no relevant published electric price indices at an electric pricing hub, the Market Participant will use the most recently published index for the applicable electric pricing hub.

(b) For Resources that the Market Participant demonstrates a quantity of firm transmission rights to a requested electric pricing hub or similarly priced location that is less than the hydro Resource's capacity, the Market Participant will include the requested electric pricing hub up to the quantity of demonstrated transmission rights, and apply a proportional weighting of the Resource's transmission rights to calculate a weighted average of those bilateral electric pricing hub prices when calculating the value of the long-term/geographic component of the SHOC.

(c) In the absence of Market Monitor approved supporting transmission rights information when calculating the long-term/geographic component of the SHOC, the Market Participant will revert to the default bilateral 1 electric hub price specified in Section 3.4M(8).

(d) If during the term of the annual period the Market Participant no longer has the firm annual transmission rights previously demonstrated, or can no longer continue a historical practice of acquiring monthly firm transmission rights, the Market Participant must inform the Market

Monitor within five (5) Business Days of no longer holding such firm transmission rights.

(e) The Market Monitor may audit the Market Participant and request additional information in support of the Market Participant's assertions.

f) If the Market Monitor determines the Market Participant has submitted substantively inaccurate information, the Market Monitor will take actions to require the Market Participant to change which electric pricing hub it uses in the SHOC calculation.

(~~7~~6) The maximum hydroelectric Resource storage horizon submitted by the Market Participant must:

(a) Reflect the typical storage duration of a hydroelectric Resource's reservoir, defined as the length of time between which the reservoir cycles from a maximum elevation to a new maximum elevation during a hydro cycle. The Market Participant will compute the reservoir's cycling time based on multiple years of reservoir elevation data. For purposes of calculating the maximum storage horizon for a hydroelectric Resource (including an ~~Aggregate~~ Resource aggregation) with multiple reservoirs, the Market Participant will use data from the reservoir with the longest storage duration.

(b) Be supported by (1) a written attestation by a representative who has the authority to bind the Market Participant stating that the value used by the Market Participant as the maximum storage horizon is consistent with the requirements specified in this Section 3.4 or (2) corroborating information submitted to the Market Monitor, which may include several years of historic reservoir levels for the specific hydroelectric Resource and regulatory filings related to the operations of the hydroelectric Resource.

(~~8~~7) The default electric pricing hub will be as specified in the Markets+ Protocols, which will also include a process for modifying or adding electric pricing hubs to the list of default electric pricing hubs.

(~~9~~8) Run-of-river hydroelectric Resources are defined as those resources with 1 hour of storage or less. Run-of-river hydroelectric Resources will use the greater of (a)

the most recent day-ahead peak price at the applicable electric pricing hub, and (b) $0/MWh, as their mitigated offer curve for all hours of the year.

(~~10~~9) Hydroelectric Resources with a maximum hydroelectric Resource storage horizon of 30 days or less shall not include the price for the first month after the current month in the calculation of the SHOC until such hydroelectric Resource's maximum storage horizon extends into such month, as measured from the Operating Day.

(~~11~~10) Notwithstanding the maximum hydroelectric Resource storage horizon, any hydroelectric Resource for which the hydro operator reasonably expects no usable storage within the Operating Day, then its Hydroelectric Offer Curve shall be the greater of (a) the most recent day-ahead peak price at the applicable electric pricing hub, and (b) $0/MWh. For purposes of this section, no usable storage will be defined as conditions under which generating less than the maximum output at all available units for all intervals of the Operating Day would not conserve additional water in any of the reservoirs of the hydroelectric Resource for use in a future period.

3.~~5~~4 Mitigation Measures for Start-Up Offers and No-Load Offers

A Market Participant must submit a mitigated Start-Up Offer and a mitigated No-Load Offer for each resource in accordance with the mitigated offer development guidelines in the Markets+ Protocols. The mitigated Start-Up and No-Load Offers may be updated up to the close of the Day-Ahead Market for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead Market, the Start-Up and No-Load Offers may be updated until the RUC begins. The mitigated Start-Up and No-Load Offers submitted at the time the RUC begins will apply to the RUC on the day before the Operating Day unless an exception is allowed in Section 3.3(G) of this Attachment B.

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A. The Start-Up and No-Load Offer conduct threshold is a 25% increase above the mitigated Start-Up or mitigated No-Load Offer, as applicable.

B. The Market Operator applies mitigation measures by placing a cap on the Start-Up or No-Load Offer of 25% above the applicable mitigated Start-Up or No-Load Offer if:

(1) The Resource's Start-Up or No-Load Offer exceeds the mitigated Start-Up or mitigated No-Load Offer, as applicable, by the applicable conduct threshold; and

(2) The Resource has market power as determined in Sections 3.~~2~~1(1) or 3.~~2~~1(3); and

(3) The Resource fails the Market Impact Test as described in Section 3.7(b)

C. For a Resource that has market power as determined in Section 3.~~1~~2(2), the Market Operator applies mitigation measures by placing a cap on the Start-Up Offer or No-Load Offer of 10% above the mitigated Start-Up Offer or No-Load Offer, as applicable.

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D. The mitigated Start-Up Offer must represent the cost per start as determined from start fuel usage and the costs related to that fuel usage, Performance Factor, cost of electricity for station use to start ("Station Service"), start-up VOM cost, start major maintenance cost, and start additional labor costs, if required above normal station staffing levels. Further guidelines for the mitigated Start-Up Offer are documented in ~~Appendix G of~~ the Markets+ Protocols.

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The mitigated Start-Up Offer for Demand Response resources must be:

1) For load that is shut down or curtailed, the cost to shut down or curtail the load for a given period, which varies with the number of deployments rather than the amount of response, and
2) For load that is not shut down or curtailed, the start cost of Behind-The-Meter Generation utilizing the mitigated Start-Up Offer calculation applicable to other generation Resources as defined above.

The mitigated Start-Up Offer for Variable Energy Resources must be zero.

E. The mitigated No-Load Offer must be the hourly fixed cost, represented in $/hr, required to operate the Resource at zero electricity output to the grid. The mitigated No-Load Offer can be calculated using either (1) the no-load fuel approach that includes no-load fuel (mmBtu/hour), Performance Factor, no-load VOM cost ($/mmBtu), total fuel related cost ($/mmBtu), and no-load major

maintenance cost ($/hr); or (2) calculated using the no-load cost approach that includes heat input at Minimum Economic Capacity Operating Limit (mmBtu), Performance Factor, total fuel related cost ($/mmBtu), no-load VOM cost ($/mmBtu), incremental cost up to Minimum Economic Capacity Operating Limit ($/MWh), Minimum Economic Capacity Operating Limit (MW), and no-load major maintenance cost ($/hr). Further guidelines for the mitigated No-Load Offer are documented in ~~Appendix G of~~ the Markets+ Protocols.

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The mitigated No-Load Offer for Demand Response Resources utilizing Behind-The-Meter Generation must adhere to the same definition above as a generating Resource. For Demand Response Resources utilizing load reduction, the mitigated No-Load Offer must not exceed the quantifiable ongoing hourly costs associated with load reduction.

The mitigated No-Load Offer for Variable Energy Resources shall be zero.

F. The Market Participant must submit all inputs used in calculating mitigated Start-Up and mitigated No-Load Offers to permit the Market Monitor to verify submitted offers. Required information includes: heat rate curves, descriptions of how spot fuel prices and/or contract prices are used to calculate fuel costs, variable fuel transportation and handling costs, emissions costs, and VOM cost. All cost data and cost calculation descriptions are subject to the review and approval of the Market Monitor to ensure reasonableness and consistency across Market Participants. Information to be provided by the Market Participant must include the following:

(1) For fuel costs, Market Participants must provide the Market Monitor with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants must submit VOM costs reflecting short-run marginal costs, exclusive of fixed costs.

(4) For start and no-load major maintenance cost, Market Participants may include these costs as a component of the mitigated Start-Up Offer and the mitigated No-Load Offer. Such cost must be based solely on resource-specific information derived from actual variable maintenance costs, when available, or estimated variable maintenance costs. The maintenance period for start major Maintenance cost must be tied to the number of starts, and the maintenance period for no-load major maintenance cost must be tied to the number of Resource run hours.

Further details associated with the development, validation and updating of these costs are included in ~~Appendix G of~~ the Markets+ Protocols.

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G. Intra-day changes to the mitigated Start-Up and mitigated No-Load Offers are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past their commitment period, the Market Participant may submit updated mitigated Start-Up and mitigated No-Load Offers that reflect the procurement of higher cost fuel; or

(2) A Resource must switch fuels due to unforeseen operating conditions; or

(3) The Resource is an ESR.

Intra-day changes to the mitigated Start-Up and mitigated No-Load offers must follow the mitigated offer development guidelines ~~Appendix G of~~ in the Markets+ Protocols and will be validated by the Market Monitor.

H. In all cases under this Section 3.~~4~~3, cost data submitted for the development of mitigated offers, including opportunity cost data, is subject to the confidentiality provisions set forth in Attachment A, Section 1~~10 of Attachment A of this Tariff~~.

3.~~5~~4.1 Mitigation Measures for Transition State Offers

The mitigation measures in this section apply only to MCRs. A mitigated Transition State Offer must be submitted daily by the Market Participant in accordance with the mitigated offer development guidelines specified in the Markets+ Protocols for each

potential transition state changes. The mitigated Transition State offer may be updated up to the close of the Day-Ahead Market before the Operating Day as defined in Attachment B, Section 3.4 ~~of Attachment B of this Tariff~~ for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead Market, the mitigated Transition State Offer may be updated until the Day-Ahead RUC process begins. The mitigated Transition State Offer submitted at the time the Day-Ahead RUC process begins will apply to the Day-Ahead RUC process on the day before the Operating Day and Intra-Day RUC processes on the Operating Day.

A. The Transition State Offer conduct threshold is a 10% increase above the mitigated Transition State Offer.

B. The Market Operator applies mitigation measures by placing a cap on the Transition State Offer of 10% above the mitigated Transition State Offer if:

   (1) The Resource's Transition State Offer exceeds the mitigated Transition State Offer by the applicable conduct threshold; and

   (2) The Resource has market power as determined in Sections 3.1~~2~~(1) or 3.1~~2~~(3); and

   (3) The Resource fails the Market Impact Test as described in Section 3.7(b).

C. For an MCR that has market power as determined in Section 3.2(3), the Market Operator applies mitigation measures by placing a cap on the Transition State Offer of 10% above the mitigated Transition State Offer.

D. The mitigated Transition State Offer for an MCR must represent the costs of moving from the current configuration to another configuration as determined from the fuel costs incurred during the transition, the costs related to that fuel usage, Performance Factor, and additional maintenance and labor costs incurred during the transition, including transition VOM cost and transition major maintenance cost. Further guidelines for the mitigated Transition State Offer are documented in ~~Appendix G of~~ the Markets+ Protocols.

   The Market Participant must submit documentation of the method and any cost data for calculating the mitigated Transition State Offer that is necessary to allow the Market Monitor to validate submitted offers. Further details associated with the development of these costs are included in the Markets+ Protocols.

E. Intra-day changes to the mitigated Transition State Offers are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past their commitment period, the Market Participant may submit an updated mitigated Transition State Offer that reflects the procurement of higher cost fuel; or

(2) A Resource must switch fuels due to unforeseen operating conditions.

Intra-day changes to the mitigated Transition State Offers must follow the mitigated offer development guidelines in ~~Appendix G of~~ the Markets+ Protocols and will be validated by the Market Monitor.

F. In all cases under this Section 3.~~5~~4.1, cost data submitted for the development of mitigated offers, including opportunity cost data, is subject to the confidentiality provisions set forth in Attachment A, Section 1~~10 of Attachment A of the Tariff~~.

3.~~6~~5 Mitigation Measures for Flexibility Reserve Product Offers

For each Flexibility Reserve Product offered, a mitigated offer must be submitted by the Market Participant in accordance with the mitigated offer development guidelines in the Markets+ Protocols. For MCRs for which a single configuration allows physical units to be swapped (e.g., Combustion Turbine 2 for Combustion Turbine 1), the costs used in the mitigated offer development for that configuration must be those of the least cost physical unit that is available and can be swapped in such configuration. The mitigated Flexibility Reserve Product Offers may be updated up to the close of the Day-Ahead Market for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead Market, the mitigated Flexibility Reserve Product Offers may be updated until the Day-Ahead RUC begins. For Resources committed by the Day-Ahead Market, the mitigated Flexibility Reserve Product Offers submitted as of the close of the Day-Ahead Market will apply to the Day-Ahead Market on the day before the Operating Day and the RTBM on the Operating Day unless an exception is allowed in Attachment B, Section 3.4(G) ~~of this Attachment B~~; for all other Resources, the mitigated Flexibility Reserve Product Offers submitted at the time the Day-Ahead RUC begins will apply to the RTBM on the Operating Day.

For each Flexibility Reserve Product offered, the conduct threshold is a 10% increase above the mitigated offer for the applicable Flexibility Reserve Product Offer.

A. The Market Operator applies mitigation measures by placing a cap on the Flexibility Reserve Product Offer of 10% above the applicable mitigated Flexibility Reserve Product Offer if:

(1) The Resource's Flexibility Reserve Product Offer exceeds the applicable mitigated offer by the conduct threshold; and

(2) The Resource has market power as determined in Sections 3.~~2~~1(1) or 3.1(3); and

(3) The Resource fails the Market Impact Test as described in Section 3.~~8~~7(b) is manually committed by the Markets+ Transmission Service Provider, Balancing Authority, or Reliability Coordinator.

B For a Resource that has market power as determined in Section 3.~~2~~1(2), the Market Operator applies mitigation measures by placing a cap on the Flexibility Reserve Product Offer of 10% above the applicable mitigated Flexibility Reserve Product Offer.

C. Intra-day changes to the mitigated Flexibility Reserve Product Offers are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource that is supplying Flexibility Reserve Products remain online past their commitment period by the Day-Ahead Market or a RUC process, the Market Participant may submit an updated mitigated Flexibility Reserve Product Offer that reflects the procurement of higher cost fuel;

(2) A Resource must switch fuels due to unforeseen operating conditions; or

(3) Intra-day changes to the mitigated Offers are allowed after the RUC clears on the day before the Operating Day under the following condition:

a. The Resource incurs the uncompensated cost in Attachment B, Section 3.24(E)(3) ~~of this Attachment B~~, for which the mitigated offer calculation is described in ~~Appendix G of~~ the Markets+ Protocols.

Intra-day changes to the mitigated Flexibility Reserve Product Offer must follow the mitigated offer development guidelines in ~~Appendix G and Section 8.2.2 of~~ the Markets+ Protocols and will be validated by the Market Monitor.

D. The Market Participant may include in the calculation of its mitigated Flexibility Reserve Product Offer an amount reflecting the Resource-specific opportunity costs if the Market Participant is able to demonstrate to the satisfaction of the

Market Monitor that such costs are legitimate and verifiable and not otherwise included in market outcomes. To the extent such costs include run-time restrictions, such run-time restrictions must be updated as specified in the Markets+ Protocols, with more frequent updating to occur the fewer hours that remain available, consistent with the Markets+ Protocols. The formulas and instructions in the price forecast model for any such opportunity costs are determined by the Market Monitor and published in the Markets+ Protocols as part of the Mitigated Offer Development Guidelines, updated, as needed, by the Market Monitor. Opportunity costs for mitigated Flexibility Reserve Product Offers must not include Energy and Flexibility Reserve Product Markets revenues associated with forgone Energy or other types of Flexibility Reserve Product production to the extent that such costs are included in market outcomes.

E. All cost data and cost calculation descriptions are subject to the review and approval of the Market Monitor to ensure reasonableness and consistency across Market Participants. The information must be sufficient for replication of the mitigated Flexibility Reserve Product Offers and must include, among other data, the following information:

(1) For fuel costs, Market Participants must provide the Market Monitor with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants must submit VOM costs, calculated in adherence with the ~~Appendix G of the~~ Markets+ Protocols, reflecting short-run marginal costs, exclusive of fixed costs.

F. In all cases under this Section 3.54, cost data submitted for the development of mitigated offers, including opportunity cost data, is be subject to the

confidentiality provisions set forth in Attachment A, Section 110 ~~of Attachment A of this Tariff~~.

3.~~7~~6 Validation of Mitigated Resource Offers

If the Market Monitor determines that the Market Participant has incorrectly applied the formulas and definitions in Attachment B, Sections 3.24A to 3.24L, 3.5, 3.5.1, and 3.6 of this ~~Attachment B~~ and in the Markets+ Protocols or determines that a mitigated offer deviates from the approved mitigated offer methodology, or is otherwise unacceptable~~.~~, the Market Participant must submit the mitigated offer calculated by the Market Monitor going forward. The Market Monitor calculated mitigated offer must continue to be submitted until any dispute is resolved. The procedures for submitting and processing disputes related to mitigated offers are specified in the Markets+ Protocols. The Market Operator remedies mitigated offer disputes resolved in favor of the Market Participant by providing make whole payments, as necessary, to the Market Participant whose mitigated offer was improperly determined by the Market Monitor.

Each Market Participant is obligated to provide to the Market Monitor any cost data necessary to allow the Market Monitor to validate its mitigated Resource Offer.

The Market Monitor will keep such data confidential, and all cost data submitted under this Section 3.5, including any opportunity cost data, are subject to the confidentiality provisions set forth in Attachment A, Section 101 ~~of Attachment A of this Tariff~~. The Market Monitor maintains the mechanism and procedures to allow Market Participants to submit such cost data on the Market Operator's website.

3.7 Additional Mitigation Measures for Resource Offer Parameters

The mitigation measures in this section apply to all Resource Offer parameters expressed in non-currency-based units and apply only in the presence of market power. A reference level for each applicable Resource Offer parameter that reflects the physical capability of the Resource is determined prior to the start of Markets+ by one or both of the following methods: (i) consultation between the Market Participant and the Market Monitor; and/or (ii) based on averages of Resource Offer parameters from similar Resources. This methodology for setting reference levels for Offer parameters applies to all Resources at the start of Markets+ and to all Resources that register subsequent to the start of Markets+. The Market Operator's output

forecast for a wind and solar-powered Variable Energy Resource is used as the reference maximum output limit for the wind and solar-powered Variable Energy Resource.

The following thresholds are used by the Market Monitor to identify Resource Offers that may warrant mitigation and are determined with respect to the corresponding reference level:

1. Time-based Resource Offer parameters: An increase of three (3) hours, or an increase of six (6) hours in total for multiple time-based Resource Offer parameters.
2. Resource Offer parameters expressed in units other than time or dollars: One hundred percent (100%) increase for Resource Offer parameters that are minimum values, or a fifty percent (50%) decrease for Resource Offer parameters that are maximum values.
3. Minimum Economic Capacity Operating Limit, Minimum Discharge Limit, or Maximum Charge Limit, as applicable, threshold for Resources committed to address a Local Reliability Issue: twenty-five percent (25%) increase.
4. Maximum Charge Limit, as applicable, threshold for Resources committed to address a Local Reliability Issue: twenty-five percent (25%) decrease.

In the case that a Resource Offer fails the thresholds described above, the Market Monitor will determine the impact on prices or make whole payments. If an impact exceeds the LMP, MCP or make whole payment thresholds in Section 3.8, the Market Monitor will initiate a discussion with the Market Participant concerning an explanation of the parameter changes. The Market Monitor will inform the Market Operator of any potential issue. If the Market Operator, in consultation with the Market Monitor, concludes that the Market Participant has demonstrated the validity of the submitted Resource Offer parameter, no further action will be taken. If not, the Market Operator will replace the Resource Offer parameter with the corresponding reference level. Mitigation measures will remain in place until such time that the Market Participant demonstrates the validity of the Resource Offer parameter or the Market Participant notifies the Market Monitor that the Resource Offer parameter has been changed to a value that is within the tolerance range as described above, and the Market Monitor has

verified that this change has occurred. In the event that the Market Participant submits a dispute, the mitigation measure will remain in place until the resolution of the dispute.

In all cases under this Section 3.8, cost data submitted for the development of mitigated offers, including opportunity cost data, is subject to the confidentiality provisions set forth in Attachment A, Section 10 ~~of Attachment A of this Tariff~~.

3.~~9~~8 Market Impact Test

If any Resource meets the conditions in Attachment B, Section 3.2 ~~of this Attachment B~~, then the Market Operator compares a market solution with no mitigation measures to a market solution with mitigation measures applied. The Market Operator will apply mitigation measures to all such Resources when:

(1) An LMP or MCP at a Settlement Location exceeds the corresponding price from the market solution with mitigation measures applied by the applicable impact test threshold, or

(2) A make whole payment for any Resource exceeds the corresponding make whole payment from the market solution with mitigation measures applied by make whole payment impact test threshold.

The LMP, MCP, and make whole payment impact threshold is calculated as the product of (i) the MEC from the market solution with mitigation measures applied and (ii) the Slope Factor, where the impact threshold is between the minimum and maximum impact thresholds, inclusive.

(1) The Slope Factor determines how much the MEC affects the impact threshold between the minimum impact threshold and maximum impact threshold. The Slope Factor is 0.5; and

(2) The minimum impact threshold is $5 and the maximum impact threshold is $100.

4 Miscellaneous Provisions

4.1 Rights and Remedies

The Market Power Mitigation Plan does not restrict the Market Operator and Market Participants from asserting any rights they may have under state and federal regulation and laws, including initiating proceedings before the FERC regarding any matter which is subject to this Market Power Mitigation Plan.

Except as otherwise stated in this Market Power Mitigation Plan, disputes as to the implementation of, or compliance with, this Market Power Mitigation Plan are subject to the dispute resolution procedures under this Tariff or the SPP Bylaws as applicable or may be raised with ~~the~~ FERC.

ATTACHMENT C
Market Monitoring Plan

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1. Purpose and Objective

1.1 Purpose of the Plan

This plan is intended to provide for the monitoring of Markets and Services and submissions of recommendations to the FERC and the SPP Board of Directors.

1.2 Market Monitoring Plan ("Plan")

The Plan is developed, implemented and maintained by SPP's Market Monitor. The Market Monitor has the responsibility for implementing the Plan by (a) continuously monitoring Markets and Services, (b) recommending compliance and corrective actions per this Tariff, (c) collecting and retaining the data and information necessary for the performance of the Plan, (d) recommending updates to the monitoring plan contained within Attachment C to this Tariff, and (e) periodically reporting on Markets and Services.

1.3 Mission Statement and Objectives of the Market Monitor

1.3.1 Mission Statement

The mission of the Market Monitor is to (a) monitor and report on possible abuses of horizontal and vertical market power and gaming in Markets and Services by any Market Participant (b) identify market design flaws and recommend any changes in design to improve the operation of Markets and Services for the benefit of consumers and Market Participants and (c) monitor Market Participants' compliance with market rules.

1.3.2 Objectives

The Market Monitor will work to ensure that its functions and activities are implemented fairly and consistently, and that it protects and fosters competition while minimizing interference with open and competitive markets. The Market Monitor's preferred approach is to make recommendations to improve the operation of markets and to prevent the exercise of market power in advance rather than punishing offenders afterward.

The Market Monitor will evaluate existing and proposed market rules, Tariff provisions, and market design elements and recommend proposed rules and Tariff changes to the Market Operator, FERC, and other interested entities such as state commissions and Market Participants. The Market Monitor will limit distribution of its identifications and recommendations to the Market Operator and FERC in the event that the Market Monitor believes that broader

dissemination could lead to exploitation, with an explanation of why further dissemination should be avoided.

The Market Monitor will review the performance of the Markets and Services and provide an annual report on the state of the market as provided in Attachment C, Section 7 ~~of this Attachment C~~.

The Market Monitor will recognize that entities otherwise identified as having market power may engage in conduct giving the impression of market power but, after analysis by the Market Monitor, may prove to be pro-competitive and efficient. In making this distinction, the Market Monitor will generally focus on an analysis of the identified conduct and associated market impacts, rather than seeking to determine the intent of the Market Participant (e.g., conducting profitability analyses that would require comprehensive information on all the physical and final positions of a participant).

1.4 Independence of the Market Monitor

The Market Monitor independently performs those activities necessary to provide impartial and effective market monitoring within the scope of the Plan. The Market Monitor may verify information with affected Market Participants prior to making recommendations or reports.

1.5 Resolution of Conflicts

In the event there is a conflict between this Attachment C and any other provision of this Tariff, this Attachment C will control.

2. Definitions

For purposes of this Plan, capitalized terms have the meanings specified below:

2.1 Confidential Information

The term defined under Section 1 to this Tariff.

2.2 Data and Information

Writings, documents and records of every type, including audio recordings and electronic files.

2.3 Interested Government Agencies

The FERC and any state regulatory commission or agency with relevant regulatory oversight responsibilities.

2.4 Markets and Services

The markets and services offered under the Markets+ tariff.

3. Market Monitor

The Market Monitor is responsible for implementing the Market Monitoring Plan as defined in this Tariff.

3.1 Staffing and Resources

The Market Monitor is an organization within SPP reporting to the Board of Directors, excluding any SPP management representatives serving on the Board of Directors. The Market Monitor will be comprised of employees of SPP with the necessary experience and qualifications to perform the duties of the Market Monitor. The duties and responsibilities of the Market Monitor are assigned by the Board of Directors. However, the Market Monitor's duties and responsibilities will not include purely administrative matters (e.g., enforcement of late fees and the untimely submission of outage reports and Meter Data). SPP management representatives on the Board of Directors will be excluded from the Board of Directors' oversight of the Market Monitor. SPP must establish and provide appropriate staffing and/or resources for the Market Monitor and must ensure that the Market Monitor has such adequate employees, funding and/or other resources, access to required information, and the full cooperation of SPP Staff, Organizational Groups, and other persons, as necessary, for the effective functioning of the Market Monitor and implementation of this Plan. The Market Monitor has full responsibility for implementing Attachment C.

3.2 Relationships and Notifications

As a general principle, the Market Monitor may obtain input from SPP staff, FERC, the Markets+ State Committee, and affected state regulatory authorities for the purpose of executing its duties.

In accordance with this Tariff, the Market Monitor must at any time bring any instances of market behavior that may require investigation (including, but not limited to, suspected Tariff violations, suspected violations of FERC-approved rules and regulations, suspected market manipulation, and inappropriate dispatch) to the attention of FERC's Office of Enforcement (or its successor organization) staff.

In the event the Market Monitor identifies a significant market design or policy problem that may require (a) a change to this Tariff or (b) referral to FERC, the Market Monitor must provide notification to the M+ Independent Panel Board of Directors, the President of SPP, and the

appropriate FERC staff, and other interested and relevant entities such as state regulatory commissions, as soon as practicable. In the event the Market Monitor believes broader dissemination could lead to exploitation, it may limit distribution of its identifications and recommendations to M+ Independent Panel, the Board of Directors, the President of SPP, and FERC with an explanation of why further dissemination should be avoided at that time.

The Market Monitor may also interface with FERC and other RTO and ISO market monitors in adjacent regions as needed for the purpose of addressing electricity market issues in a comprehensive manner.

3.3 Independence and Ethics Standards

The Market Monitor and its employees must abide by SPP's Standards of Conduct, which are appropriate for establishing the professional and financial independence of the Market Monitor.

Consistent with this requirement, the Market Monitor and its employees must:

(a) have no material affiliation with any Market Participant or any affiliate of a Market Participant;

(b) not serve as an officer, employee, or partner of a Market Participant;

(c) have no material financial interest in any Market Participant or any affiliate of a Market Participant (allowing for such potential exceptions as mutual funds and non-directed investments);

(d) not engage in any market transactions other than the performance of their duties under this Tariff;

(e) not be compensated, other than by SPP, for any expert witness testimony or other commercial services to SPP or to any other party in connection with any legal or regulatory proceeding or commercial transaction relating to SPP;

(f) not accept anything of value from a Market Participant in excess of a de minimis amount;

(g) advise their relevant supervisor (or, in the case of the Market Monitoring management, SPP's Board of Directors) in the event they seek employment with a Market Participant, and must disqualify themselves from participating in any matter that would have an effect on the financial interest of such Market Participant.

These restrictions are not exclusive of the other requirements specified in SPP's Standards of Conduct. In the event there is a conflict between this Attachment C and SPP's Standards of Conduct, this Attachment C will control.

The Market Monitor must certify compliance with such policies to the President of SPP. The Market Monitor must require any external consultants or experts to certify compliance with these policies.

4. Market Monitoring

4.1 Markets to be Monitored

The Market Monitor will monitor Markets and Services. The Market Monitor will not monitor bilateral energy, transmission or capacity markets and services not administered, coordinated or facilitated by SPP, except to assess the effect of these markets and services on Markets and Services, or the effects of Markets and Services on these unmonitored markets. Similarly, the Market Monitor will not monitor the energy, transmission, or capacity markets and services in regions adjacent to the Markets+ Footprint except to assess the effect of these markets and services on Markets and Services, or the effects of Markets and Services on these adjacent markets.

4.2 Market Monitoring Scope

The Market Monitor will monitor Markets and Services by reviewing and analyzing market data and information including, but not limited to:

(a) Resource registration data;

(b) Resource Offer data including non-price related offer parameters required for use in either the Day-Ahead Market, Reliability Unit Commitment processes and/or Real-Time Balancing Market; including parameters related to GHG;

(c) Demand Bids for the purchase of Energy in the Day-Ahead Market;

(d) Virtual Energy Bids for the purchase of Energy in the Day-Ahead Market and Virtual Energy Offers for the sale of Energy in the Day-Ahead Energy Market;

(e) Export Interchange Transaction Bids and Import Interchange Transaction Offers for the purchase and sale of Energy in the Day-Ahead Market and the Real-Time Balancing Market;

(f) Actual commitment and dispatch of Resources, including but not limited to Resource MW capability and output, MVAR capability and output, status, and outages;

(g) Locational Marginal Prices and zonal Market Clearing Prices at all Settlement Locations in or affecting any of Markets and Services;

(h) Markets+ participating Balancing Authority Area data, including but not limited to demand, area control error, Net Scheduled Interchange, actual total net interchange, and forecasts of operating reserves and peak demand;

(i) Conditions or events both inside and outside the Markets+ Footprint affecting the supply and demand for, and the quantity and price of, products or services sold or to be sold in Markets and Services;

(j) Information regarding transmission services and rights;

(k) Information regarding the nature and extent of transmission congestion in the region and, to the extent practicable, transmission congestion on any other system that affects Markets and Services, including but not limited to causes of, costs of and charges for transmission congestion, transmission facility loading, MVA capability, line status and outages;

(l) Settlement data for the Markets and Services;

(m) Any information regarding collusive or other anticompetitive or inefficient behavior in or affecting any of Markets and Services;

(n) Generation resource operating cost data for estimating resource incremental cost, including fuel input costs, heat rates where applicable, start-up fuel requirements, environmental costs and variable operating and maintenance expenses; and

(o) Any additional Resource and transmission facility outage data not otherwise provided for in this Section 4.2;

In addition to the monitoring of market Data and Information, the Market Monitor may communicate with SPP Staff and Market Participants at any time for the purpose of monitoring and assessing market conditions.

4.3 Referrals to FERC

(a) The Market Monitor will refer suspected market violations, as defined in 18 CFR 35.28(b)(8), to FERC's Office of Enforcement (or its successor organization) staff in accordance with the FERC's reporting protocols for referrals by market monitors as specified in 18 C.F.R. § 35.28(g)(3)(iv) in a timely manner. Any such referrals by the Market Monitor to FERC Staff will be on a confidential basis, and all information and documents included in such reports will not be released to any other party except to the extent FERC directs or authorizes such release, unless such information and documents are already in the public domain.

(b) The Market Monitor will refer any perceived market design flaws and recommended Tariff language changes to FERC's Office of Energy Market Regulation or its successor office/organization in accordance with 18 C.F.R. § 35.28(g)(3)(v).

4.4 Monitoring for Potential Market Manipulation

The Market Monitor will monitor for potential instances of market manipulation as defined in 18 C.F.R. §1c.2.. The Market Monitor will report any market manipulation to FERC in a timely manner.

4.5 Monitoring for Potential Transmission Market Power Activities

The Market Monitor will monitor Markets and Services for the exercise of transmission market power by reviewing and analyzing data and information related to the availability of transmission facilities that impact access to services under this Tariff. The Market Monitor will monitor for activities particularly with respect to the withholding of transmission facilities or transmission capacity, including activities such as but not limited to, the following:

(a) Physical withholding by Transmission Owners by providing improper information related to the availability of transmission, such as information related to the capability or other modeling data used by SPP for use in system operations;

(b) Economic withholding by Transmission Owners through the use of methods and data for estimating costs of interconnection and system upgrades that is not comparable for affiliates and non-affiliates;

(c) Unavailability of transmission facilities through planned and unplanned maintenance outages that routinely exceed historical baselines; and

(d) Withholding of transmission capacity through excess reservations that are not actually used.

The Market Monitor will refer any instance(s) of the suspected exercise of transmission market power directly to FERC's Office of Enforcement (or its successor organization) utilizing the protocols for referrals to FERC for suspected instances of the exercise of market power that may be part of a suspected market violation, such as manipulation, in accordance with 18 C.F.R. § 35.28(g)(3)(iv). Where appropriate, the Market Monitor will also provide the FERC with an estimate of damages equal to (i) the effect on prices multiplied by (ii) the affected energy produced by the Transmission/Generation Owner. The Market Monitor may also request FERC to impose additional sanctions and penalties, which may consist of a fixed dollar amount based on each instance, or an amount up to (i) the effect on prices multiplied by (ii) the affected energy produced by Market Participants other than the Transmission/Generation Owner.

4.6 Monitoring for Market Participant Behavior Possibly Warranting Mitigation

The Market Monitor will monitor Markets and Services for potential abuse associated with the following categories of Market Participant behavior: (1) economic withholding; (2) uneconomic production; (3) physical withholding; and (4) uneconomic Virtual Bids and Virtual Offers. Abuse of these types of behaviors is prohibited. The above list is not an exhaustive list of potential signs of market manipulation. The mitigation measures for each of the behaviors identified in items (1) through (4) of this paragraph are described in Attachment B. When the

Market Monitor determines that there is sufficient credible information about a specific abusive practice, the issue will be referred to FERC's Office of Enforcement (or its successor organization). Nothing in this section limits the Market Monitor's obligation to refer other suspected market violations to FERC's Office of Enforcement, even where suspected behavior does not fall explicitly within the abovementioned categories or descriptions, including for market manipulation as described in Attachment C, Section 4.4.

4.6.1 Uneconomic Production

The Market Monitor will monitor the Markets+ for uneconomic production and may recommend that the Market Operator impose appropriate mitigation measures if such conduct is detected. These measures may include recommendations to replace the market offer with the mitigated offer, or to override parameters. Uneconomic production is increasing the injection or withdrawal of a Resource to levels that would otherwise be uneconomic in order to cause and obtain benefits from (1) congestion on a transmission constraint; or (2) price separation between Reserve Zones. The provisions of this Section 4.6.1 do not apply to Demand Response Resources.

4.6.2 Monitoring for Virtual Energy Bids and Virtual Energy Offers

The Market Monitor will monitor the level of divergence between the Day-Ahead Market LMPs and the Real-Time Balancing Market LMPs. Section 4.6.3 defines the monitoring metric and thresholds to be used in determining the existence of excessive LMP divergence. In the case that there is excessive LMP divergence, the Market Monitor will determine if the LMP divergence is attributable to the Virtual Energy Bid and Virtual Energy Offer behavior of one or more Market Participants. If the Market Monitor identifies one or more Market Participants as having caused the excessive LMP divergence through Virtual Energy Bid and Virtual Energy Offer behavior, then the Market Monitor will recommend that the Market Operator apply the mitigation measures described in Attachment A, Section 5.4 ~~of Attachment A~~.

4.6.3 Metric and Threshold Specifications

The Market Monitor computes the hourly LMP deviation between the Day-Ahead Market and Real-Time Balancing Market using the following formula: $[(LMP_{RTBM} / LMP_{DA\ Market}) - 1] * 100$. The average hourly LMP deviation is computed over a rolling four (4) week period or any other period that the Market Monitor determines is appropriate. If the rolling average is below negative ten percent (-10%) or in excess of ten percent (10%), then the divergence is considered excessive and additional analysis is required.

4.6.4 Physical Withholding

(1) Physical withholding and unavailability of facilities includes but is not limited to:

(a) Declaring that a Resource has been derated, forced out of service or otherwise been made unavailable for technical reasons that are untrue or that cannot be verified;

(b) Refusing to provide offers or schedules for a Resource when it would otherwise have been in the economic interest to do so without market power;

(c) Operating a Resource in real-time to produce an output level that is less than the Dispatch Target minus the Resource's Operating Tolerance defined in Attachment A, Section 6.4.1 ~~of Attachment A to this Tariff~~ and the Resource is not exempt from URD under Attachment A, Section 6.4.11 ~~of Attachment A to this Tariff~~;

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(d) Derating a transmission facility for technical reasons that are not true or verifiable;

(e) Operating a transmission facility in a manner that is not economic and that causes a binding transmission constraint, binding reserve zone, Local Reliability Issue, or Emergency Condition; and

(f) Declaring that the magnitude of the capability of a Resource is reduced for reasons that are not true or verifiable. This capability includes but is not limited to the following:

(i) The capability to provide Energy;

(ii) The capability to provide Flexibility Reserve Products;

(iii) In the case of MSRs, the capability to charge and/or to discharge.

(2) Market Participant will be deemed not to be physically withholding if:

(a) They are following the directions of the Balancing Authority, Reliability Coordinator, transmission service provider, or applicable reliability standards. ; or

(b) The Market Participant satisfies the must offer requirements as detailed in Attachment A, Section 5.1; or

(b) They are selling into another market at a higher price; or

(c) The Market Participant is reducing the magnitude of the MSR's maximum capability, either charging or discharging, from its true and verifiable physical or environmental limitations in order to provide that capability for the duration of the minimum clearable commitment period; or

(e) They are following water management requests or directives pursuant to the legal authority and operational responsibilities of the hydro operator or hydro participant.

(f) The Market Participant is subject to the terms of a power purchase agreement, or other power supply agreement, that limits the availability of capacity or energy deliveries to Markets+ as a result of (i) the good faith exercise by the Market Participant of contractual or operational responsibilities thereunder, (ii) the technical or operational limitations of the resource or interconnected facilities, which limitations are beyond the control of the Market Participant to mitigate, or (iii) a request, order, or directive issued by a legal authority with jurisdiction over the resource or interconnected facilities. The purchase agreement, or other power supply agreement, will by made available to the Market Monitor upon request.

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4.6.4.1 Thresholds for Identifying Physical Withholding of Resource Capacity

A Market Participant is deemed to be physically withholding capacity if the Market Participant is not deemed to be not physically withholding pursuant to Section 4.6.4 (2) and all of the following conditions exist:

(a) One or more transmission constraints are binding or a Reserve Zone is binding; and

(b) The Market Participant owns or controls one of more Resources that have market power as defined in Attachment B, Section 3.12 of ~~Attachment B of this Tariff~~; and

(c) One of the following conditions apply:

(1) Such Resource(s) satisfy one of the conditions in Attachment C, Sections 4.6.4(a), 4.6.4(b), or 4.6.4(f) ~~of this Attachment C~~ and the total withheld capacity exceeds the lower of 5 percent of the total capability owned or controlled by the Market Participant or 200 MW; or

(2) Where the real-time output of each such Resource is less than the Dispatch Target minus the Resource's Operating Tolerance defined in Attachment A, Section 6.4.1 ~~of this Tariff~~ and the Resource is not exempt from Uninstructed Resource Deviation under Attachment A, Section 6.4.1.1 ~~of this Tariff~~.

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4.6.4.2 Thresholds for Screening of Potential Physical Withholding of Transmission Facilities

A transmission facility fails the physical withholding screen if either of the following conditions is met:

(a) The transmission facility satisfies a condition in Attachment C, Section 4.6.4(d) or 4.6.4(e) ~~of this Attachment C~~; or

(b) The Market Monitor identifies a pattern of scheduling outages resulting in increased market costs compared to an alternative and lower cost impact outage schedule.

4.6.4.3 Sanctions

The Market Monitor will record instances where Market Participants have failed the screens in Attachment C, Sections 4.6.4.1 and 4.6.4.2 ~~of this Attachment C~~. The Market Monitor will notify FERC's Office of Enforcement, or successor organization, of suspected physical withholding behavior. In the event the Market Monitor determines there is credible evidence of a market violation, the Market Monitor will make a referral to FERC as described in Attachment C, Section 4.3 ~~of this Attachment C~~.

5. Review of Market Activity

5.1 Requests

Any Market Participant or Interested Government Agency may raise any issue with the Market Monitor and request that the Market Monitor consider the issue in its monitoring and reporting. The Market Monitor may include this issue in its monitoring or reporting if it determines it is appropriate to do so. The Market Monitor should not monitor or report on any complaint pertaining to issues not related to Markets and Services or activities not monitored and overseen by the Market Monitor.

Any requests by Market Participants and Interested Government Agencies to the Market Monitor may be made confidentially. The Market Monitor will maintain the confidentiality to the extent practicable.

6. Compliance and Corrective Actions

6.1 Compliance

The Market Monitor will administer the Market Monitoring Plan as described in this Attachment C and will report any actual or potential abuse of market power or market design inefficiencies as part of its monitoring process. However, the Market Monitor's activities are limited to matters that (i) are expressly set forth in this Tariff; (ii) involve objectively-identifiable behavior; and (iii) do not subject the Market Participant to sanctions or other consequences other than those expressly approved by FERC and set forth in this Tariff.

As part of the monitoring process, the Market Monitor may issue a demand letter requesting Market Participants causing the issue to arise to change actions as the Market Monitor deems proper to achieve compliance and the Market Monitor may also engage in discussions with persons or entities other than Market Participants as necessary as part of any investigatory or compliance process.

6.2 Corrective Actions for Market Design

If the Market Monitor discerns any weaknesses or failures in market design and market rules, including the determination that Markets and Services are not resulting in just and reasonable prices or providing appropriate incentives for investment in needed infrastructure, the Market Monitor will advise the appropriate Organizational Group of SPP, the President of SPP, the MSC, appropriate state authorities, FERC, and relevant Market Participants. In the event the Market Monitor believes providing such information could lead to exploitation, it will restrict such notification to the President of SPP, the Chairman of the SPP Oversight Committee, and FERC, and will provide a justification for such limited notification.

Should SPP not respond within sixty (60) days, the Market Monitor may recommend changes in market design and market rules to the Board of Directors, FERC, and the MSC as needed. If SPP responds, but does not recommend changes to market design and market rules that are acceptable to the Market Monitor, the Market Monitor will report to the Board of Directors and the appropriate regulatory body or bodies as needed, and then SPP may file a petition or submission seeking appropriate action from FERC or any other appropriate enforcement agency. The Market Monitor may make recommendations for changes to this Tariff as necessary to correct weaknesses or failures in Markets and Services.

In the event that any weaknesses or failures in market design require immediate corrective action to ensure just and reasonable prices, the Market Monitor may request the President of SPP to authorize an immediate FERC filing requesting implementation of a corrective action while the appropriate Organizational Group of SPP responds to the Market Monitor's notification as described above. The requested immediate corrective action should be the method least intrusive or disruptive to Markets and Services necessary to resolve the market weakness or failure as determined by the Market Monitor. Prior to making such a request to the President of SPP, the Market Monitor will make reasonable efforts to discuss with affected Market Participants and the staff of affected Interested Government Agencies the market weakness or failure potentially requiring immediate corrective action, unless the Market Monitor determines that such discussions would lead to exploitation.

7. Periodic Reports and Updates to SPP, Government Agencies, and Market Participants

7.1 Reports and Updates to the Board of Directors

7.1.1 State of the Market Reports

(1) The Market Monitor will publish an annual state of the market report providing details on the market for the previous year. As a part of its annual reports, the Market Monitor may make recommendations regarding any matter within its purview as defined in the Tariff. The Market Monitor will submit and present on its annual state of the market report to the Oversight Committee and Board of Directors.

(2) The Market Monitor will publish a quarterly state of the market report providing details on the market for the previous quarter. As part of its quarterly reports, the Market Monitor may make recommendations regarding any matter within its purview as defined in the Tariff. The Market Monitor will post the quarterly state of the market report on the Market Operator's website.

Any such reports may be subject to confidentiality provisions consistent with Section 8.1.

7.1.2 Market Monitor Activities Report

The Market Monitor will also prepare and submit to the Oversight Committee quarterly updates on Market Monitor activities emphasizing any issues of concern to the Market Monitor.

7.1.3 Report Comments

SPP and Market Participants may comment on any public reports made pursuant to this section, through the appropriate stakeholder process or directly to the Market Monitor. The independent Market Monitor maintains discretion to disregard any comments or suggestions with which it disagrees.

7.2 Reports to Government Agencies, the Market Operator, and Market Participants

After an annual review of the performance of the wholesale markets as discussed in Attachment C, Section 1.3.2 ~~of this Attachment C~~, the Market Monitor will provide its annual State of the Market Report to FERC, the SPP Board of Directors, the Market Operator, state commissions, Market Participants, and other interested entities. The Market Monitor will also make available, as described below, the reports provided to the Board of Directors and other such reports as may be requested by the FERC or such authorities subject to protection of confidential, proprietary and commercially sensitive information and the protection of the confidentiality of ongoing monitoring activities.

7.2.1 The Market Monitor will submit such reports to the FERC and other affected regulatory authorities, including the Markets+ State Committees.

7.2.2 These Market Monitor reports are made available on the Market Operator's website.

7.2.3 The Market Monitor will hold conference calls related to these reports. Any interested party may attend these conference calls. The Market Monitor will make one or more of its staff members available for regular conference calls. Individual entities may request meetings to discuss these reports.

8. Data Access, Collection and Retention

8.1 Confidentiality

SPP and Market Participants may designate Data and Information as Confidential Information consistent with the terms of SPP's Membership Agreement and Attachment A, Section 110 of ~~Attachment A~~. If the designation of Confidential Information appears to be unreasonable, the Market Monitor may challenge such designation of Confidential Information consistent with Attachment A, Section 110 of ~~Attachment A~~.

The Market Monitor will provide Confidential Information to Interested Government Agencies consistent with the terms of Attachment A Section 110.~~4 of Attachment A~~.

8.2 Access to Data and Information

The Market Monitor must have access to all market impacting Data and Information. This Data and Information will be gathered or generated by the Market Operator, participating Balancing Authority, or Market Participant. This Data and Information includes, but is not limited to the operational data, listed in Section 4 of this Plan, gathered or generated by all market impacting entities which may include the Market Operator, Balancing Authority, Reliability Coordinator, and transmission service provider. All Data and Information listed in Section 4 of this Plan must be retained for a minimum period of six years.

8.3 Access to Market Participant Data and Information

Market Participants must retain Data and Information listed below, and in Section 4 of this Plan as applicable, that is in the custody and control of Market Participants, for a minimum of six years and must promptly provide any such Data and Information to the Market Monitor upon request, unless such Data and Information is not required for sharing with the Market Monitor as detailed in this section.

Market Participants must provide the Data and Information to the Market Monitor, upon request, unless explicitly exempted in a Markets+ participant agreement. Requested Data and Information must be shared in a commonly used format along with a description of the data and format. Market Participants will not continuously share data on Resources beyond what is necessary to represent the resource's generation capability in the market optimization software for the applicable period. If necessary, due to proprietary format restrictions, the Market

Participant must provide the data to the Market Monitor in a non-proprietary format, such as CSV or XML format along with a description of the data and format. Market Participants may designate such Data and Information as Confidential Information, but such Data and Information must not be redacted or modified in any manner prior to delivery to the Market Monitor by the Market Participant.

Unless explicitly exempted in a Markets+ participant agreement, Market Participants must retain the following Data and Information for all parties affiliated with the Market Participant and provide it to the Market Monitor upon request:

(a) All Data and Information relating to the costs of operating a resource, including but not limited to, heat rates, start-up fuel requirements, fuel purchases, environmental costs, and operating and maintenance expenses;

(b) All Data and Information regarding opportunity costs of a resource, including but not limited to, regulatory, environmental, technical, or other restrictions that limit the run-time or other resource operating characteristics;

(c) All Data and Information relating to the operating status of a resource, including but not limited to logs showing the status of a resource, including information relating to an outage or derate;

(d) All Data and Information relating to the operating status of a transmission facility, a contingency, tap setting of a phase shifting transformer, or other operating consideration, including but not limited to an outage or derate of a transmission system component;

(f) All Data and Information relating to the ability of a Market Participant or its affiliate to determine the pricing or output level of resource capacity owned by another entity, including but not limited to any document setting forth the terms or conditions of such ability;

(g) All Data and Information used in the course of business operations in arriving at a decision by a reserve sharing group member to call an operating reserve contingency and to request assistance;

If any additional Data and Information not listed above or in Section 4 of this Plan is required from Market Participants by the Market Monitor for the purpose of fulfilling its responsibilities, the Market Monitor may request such Data and Information from Market Participants, unless such Data and Information is explicitly excluded as a sharing obligation in this Section or exempted in a Markets+ participant agreement. Such eligible Data and Information must be provided in a timely manner by Market Participants. If a Market Participant receiving a request for Data and Information not listed above or in Section 4 of this Plan believes that production of the requested Data and Information would impose a substantial burden or expense, or would require the party to produce information that is not relevant to achieving the purposes or objectives of this Plan, the Market Participant receiving the request should promptly notify the Market Monitor. If the Market Monitor determines that the request can be narrowed or otherwise modified to reduce the burden or expense of compliance, the Market Monitor may modify the request. No party that is the subject of a data request will be required to produce any summaries, analyses, or reports of the data that do not exist at the time of the data request, other than a description of the data.

If the Market Monitor determines that the requested Data and Information has not or will not be provided in a timely manner, the Market Monitor may (a) follow the dispute resolution procedures under this Tariff or under the SPP Markets+ Bylaws as applicable or (b) make a filing with the appropriate regulatory or enforcement agency to compel the production of the requested information.

8.4 Data Created by Market Monitor

Any data created by the Market Monitor, including any reconfiguration of Data and Information under this section, will remain within the Market Monitor's exclusive control. Such data may be shared at the Market Monitor's sole discretion and on a non-discriminatory basis, subject to the confidentiality provisions specified in this Attachment C and Attachment A, Section 11~~0 of Attachment A of the M+ Tariff~~.

9. Miscellaneous Provisions

9.1 Rights and Remedies

This Plan does not restrict SPP and Market Participants from asserting any rights they may have under state and federal regulation and laws, including initiating proceedings before the FERC regarding any matter which is subject to this Plan.

9.2 Disputes

Disputes as to the implementation of, or compliance with, this Plan are subject to the dispute resolution procedures under this Tariff or under the SPP Markets+ Bylaws as applicable or subject to review by FERC.

10. Review of Market Monitor

The activities of the Market Monitor will be reviewed from time to time by the Board of Directors.

From: Gentry Crowson <gtcrowson@spp.org>
Sent: Wednesday, November 15, 2023 2:59 PM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] Congestion Rent Allocation Spreadsheet
Attachments: CR Allocation.xlsx

Markets+ Congestion Rent Task Force,

Attached is the spreadsheet used as a reference in today's meeting. The spreadsheet walks through different scenarios of Congestion Rent Allocation.

Thanks,
Gentry Crowson
MCRTF Staff Secretary

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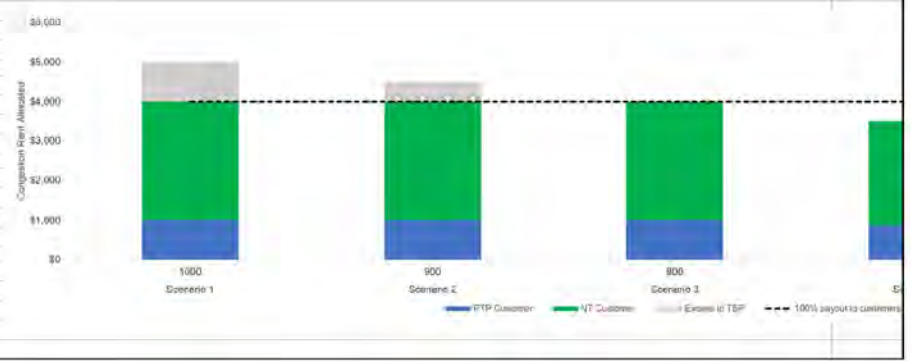
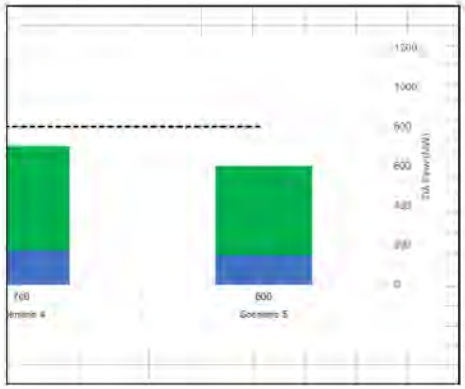
(It may be necessary to cut and paste the above URL if the line is broken)

or send a blank email to leave-124738-234283.ab060f4db6e56ad7a74d8702edd00012@spplist.spp.org

	Scenario 5	Tariff Reference
DA Flow	1000	900	800	700	600	
Shadow Price	$ 5	$ 5	$ 5	$ 5	$ 5	
Congestion Rent Available for Allocation	$ 5,000	$ 4,500	$ 4,000	$ 3,500	$ 3,000	9.2.13 (1)
TSR Holders						
PTP Customer	200	200	200	200	200	
NT Customer	600	600	600	600	600	
Total TSR Holder Positive MW Impacts	800	800	800	800	800	
TSR Holder Congestion Rent Allocation Factor						
TSR Holders >= DA Flow?	FALSE	FALSE	TRUE	TRUE	TRUE	If true, then follow 9.2.14 (1) (b), else follow 9.2.14 (1) (c)
PTP Customer Allocation Factor	20%	22%	25%	25%	25%	
NT Customer Allocation Factor	60%	67%	75%	75%	75%	
Congestion Rent Allocation						
PTP Customer	$ 1,000	$ 1,000	$ 1,000	$ 875	$ 750	9.2.14 (1) (a)
NT Customer	$ 3,000	$ 3,000	$ 3,000	$ 2,625	$ 2,250	9.2.14 (1) (a)
Excess to TSP	$ 1,000	$ 500	$ -	$ -	$ -	9.2.15
100% payout to customers	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000	




1200
1000
800
600
400
200
0
700
600

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Monday, October 16, 2023 3:06 PM
To: Kristen Darden; Mantifel,Russell (BPA) - BT-3
Subject: [EXTERNAL] RE: November MDWG Meetings

1. I am good with your suggestion
2. If you think it works keep it
3. I am good with the Agenda, that is a ton on that agenda – I hope you can get through it all. GHG will be a challenge as I hear there are diverse positions on the direction that group has headed down.

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, October 16, 2023 3:06 PM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Subject: November MDWG Meetings

EXTERNAL - STOP & THINK before opening links and attachments.

Hey there –

Following up on a couple of things:

1. We need to reschedule the 11/13 MDWG meeting due to NARUC being held in CA at this time. Thoughts on **Monday, 11/27 – 10:30-5:00 CPT?** We will have another meeting the following day, 11/28, as well.
2. 11/1 – we have a meeting 12-5 CPT. Jeff Spires mentioned there's an M+ leadership meeting at that exact same time. I talked with Carrie andshe thinks there shouldn't be that much overlap and we should be good to keep it, but we want to check with you to make sure you are good with keeping the 11/1.
3. Draft 10/26 Joint MDWG/MTWG agenda attached, to be posted by COB Thursday, 10/19. It's a big meeting. Transmission and associated MTU language, GHG, RA, Seams... We need to remind people during the meeting that the language coming from other WGs/TFs that do not fall under the MDWG (such as MSWG, MTWG, MRATF), should not require a lot of discussion. We are just reviewing to make sure it doesn't break the overall market design. The internal M+ Tariff Team has been reviewing this stuff behind the scenes as well, so it will not be the first time we see it.

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

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From: Carrie Simpson <csimpson@spp.org>
Sent: Thursday, March 7, 2024 10:49 AM
To: Chris Nolen; Gilhen, Jonathan; Sabers, Cathy; Miller,Todd E (BPA) - LP-7; Gorlin, David; Fina, Giuseppe (Joe); Mastrogiacomo, Tim T; Karilee S Ramaley; Hickey, Lisa; Christine Dillard; 'Alaine Ginocchio'; Jason.Kuzma@pse.com; Engelby, Ben; Charles.VonReis@chelanpud.org; 'Irene Scruggs'; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7; elee; Davis,Thomas E (BPA) - LT-7; Kallstrom, Jeffrey; Starnes, Heather; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew; Tabak, Gabe; Rubin, David; mmorais@nationalgridrenewables.com; Gray, Spencer; Simmerson, William; tcreekpaum@ppcpdx.org
Cc: Rachel Kane; Emon Mahony; Joseph Ghormley; Kristen Darden; Trolese, Laura; Cole, Brian; Egge, Eric; Mantifel,Russell (BPA) - MTM-3; Holman, Mark
Subject: RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

Thanks – all – it appears I sent my email a few minutes late as I now see additional traffic – apologies for that.

Joe F – I'll defer to you on next steps for the legal sub-group on recommendation.

From: Carrie Simpson
Sent: Thursday, March 7, 2024 12:40 PM
To: Chris Nolen <cnolen@spp.org>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Gorlin, David <Gorlin@WAPA.GOV>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; Hickey, Lisa <lisa@interwest.org>; Christine Dillard <cdillard@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Cole, Brian <brian.cole@aps.com>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; Mantifel, Russ <rxmantifel@bpa.gov>; Holman, Mark <Mark.Holman@powerex.com>
Subject: RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

All,
I am reaching out to close the loop on this issue because SPP staff needs to follow up with MPEC (promptly) on the WAPA-DSW provisions and needs a recommendation from this sub-group.

I see comments from BPA and Powerex below indicating a desire to keep the provisions in the tariff to create flexibility for WAPA to join later, but (in my opinion) I haven't seen a solution that addresses SPP legal's concerns. Please correct me if I am mistaken.

Returning to Joe's original question (paraphrasing): is there a legal reason why the language should be put back in?

What do we need to do to officially reach a recommendation from this group?

Thanks!

Carrie L. Simpson (she/her/hers) | Senior Director, Seams & Western Services | csimpson@spp.org |(b)(6)
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool

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From: Chris Nolen <cnolen@spp.org>
Sent: Wednesday, March 6, 2024 2:03 PM
To: Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Gorlin, David <Gorlin@WAPA.GOV>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; Hickey, Lisa <lisa@interwest.org>; Christine Dillard <cdillard@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>; Joseph Ghormley <jghormley@spp.org>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Cole, Brian <brian.cole@aps.com>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>
Subject: RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

Want to reiterate…if WAPA-DSW determines that they will participant in M+ at some point in the future, we would make a simple 205 filing amending the then-existing tariff.

The risk to keeping the unnecessary provision outweighs the slight extra effort required to make a future filing adding the WAPA special provision to the tariff if WAPA determines that they are going to participate in the future.

cmn

Christopher M. Nolen
Managing Attorney
Southwest Power Pool, Inc.
cnolen@spp.org
(b)(6)

From: Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>
Sent: Wednesday, March 6, 2024 1:10 PM
To: Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Chris Nolen <cnolen@spp.org>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Gorlin, David <Gorlin@WAPA.GOV>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; Hickey, Lisa <lisa@interwest.org>; Christine Dillard <cdillard@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew

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<binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>; Joseph Ghormley <jghormley@spp.org>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Cole, Brian <brian.cole@aps.com>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>
Subject: **External Email** RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

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Be very cautious of any links or attachments unless you recognize this sender - Jonathan.Gilhen@powerex.com and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

All – apologies for responding so late on this. To the greatest extent possible, I think we should preserve the ability for WAPA to join at the outset with their required language included in the tariff, but I appreciate SPP legal's (and Black Hills) perspective on this and do not want to jeopardize approval of the tariff.

I am offering some questions and alternative suggestions here and hoping to get feedback on these.

Is WAPA prepared to file comments/supporting evidence even if WAPA has not made a decision whether to join Markets+ and explain why the provisions are just and reasonable?

To SPP legal's concern below, I note that CAISO, in its EDAM filing, appears to have indicated that certain aspects of its DAME and EDAM proposals were severable (and FERC rejected the EDAM access charge without prejudice). This is not my area of expertise, but could the Markets+ Tariff be filed with the WAPA provision severable from the rest of the tariff if found not to be just and reasonable. If WAPA is prepared to file supporting comments and evidence, I wonder whether this is a viable path particularly as substantially similar language is in IM and WEIS without jeopardizing the whole of the tariff.

If we retain the WAPA language, should the introductory language to Section 6.4 be revised to make it a bit more expressly conditional on WAPA joining/being a Market Participant?

Again, this is not my area of expertise, but hoping there might be a middle ground that works for all. If not, and on balance there is a material risk that FERC may not approve the Markets+ tariff, I would support the legal working group endorsing their removal before filing.

Jonathan

Jonathan Gilhen
Lead Counsel, Power & Renewable Products | Powerex Corp.
Email Jonathan.Gilhen@powerex.com

From: Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>
Sent: Monday, March 4, 2024 11:51 AM
To: Chris Nolen <cnolen@spp.org>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Gorlin, David <Gorlin@WAPA.GOV>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Hickey, Lisa <lisa@interwest.org>; Christine Dillard <cdillard@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; matt@healylawoffices.com;

edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>; Joseph Ghormley <jghormley@spp.org>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Cole, Brian <brian.cole@aps.com>; Egge, Eric M <Eric.M.Egge@blackhillscorp.com>
Subject: RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

You don't often get email from cathy.sabers@blackhillscorp.com. Learn why this is important

⚠ **Caution: External Email**

Black Hills agrees with the sentiments expressed by SPP legal staff. If there are no participating WAPA entities any special provisions for those entities should be removed.

Cathy

Cathy Sabers I Black Hills Energy I Associate General Counsel I Desk: 605-721-1914 I Cell: (b)(6)

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From: Chris Nolen <cnolen@spp.org>
Sent: Monday, March 4, 2024 11:58 AM
To: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Gorlin, David <Gorlin@WAPA.GOV>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; 'Gilhen, Jonathan' <Jonathan.Gilhen@powerex.com>; Hickey, Lisa <lisa@interwest.org>; Christine Dillard <cdillard@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>; Joseph Ghormley <jghormley@spp.org>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Cole, Brian <brian.cole@aps.com>
Subject: RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

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SPP legal has a *strong* preference for removing the unnecessary section.

Retaining the unneeded language is, *at best*, a net neutral and more likely puts the broader tariff in jeopardy.

Post-*NRG*, there are *very* limited circumstances wherein FERC can order the change of tariff language presented in a 205 filing (which is what the M+ tariff filing will be). They give a thumbs up or a thumbs down on the full tariff, all provisions included.

SPP legal cannot represent in its 205 filing that 6.4 is necessary in order for the tariff to be just and reasonable.

Moreover, SPP does not justify the special provisions that apply to the FPMAs; the FPMAs must carry their own water in the docket via comments/testimony in support of their special provisions.

If, in the future, WAPA-DSW determines that it intends to participate in M+, SPP would make a standard 205 filing at FERC of the language then-approved through the M+ stakeholder process.

Thank you!

cmn

Christopher M. Nolen
Managing Attorney
Southwest Power Pool, Inc.
cnolen@spp.org
(b)(6)

From: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>
Sent: Monday, March 4, 2024 12:25 PM
To: Gorlin, David <Gorlin@WAPA.GOV>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; 'Gilhen, Jonathan' <Jonathan.Gilhen@powerex.com>; Hickey, Lisa <lisa@interwest.org>; Christine Dillard <cdillard@spp.org>; Chris Nolen <cnolen@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>; Joseph Ghormley <jghormley@spp.org>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Cole, Brian <brian.cole@aps.com>
Subject: **External Email** RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

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Joe,

Thank you for quickly getting this issue in front of the M+ Legal Group. While I understand SPP staff's reaction to the letter from WAPA, Bonneville would like to have section 6.4 remain in the tariff that is filed. Our rationale for retaining the section is that while WAPA is not planning on participating now, it will be at least three years before the market starts operations and the tariff becomes effective. That is a long-time period in which WAPA could change their mind about participation in a day ahead market. At this point we do not know who will ultimately commit to join the market. Participants and SPP staff worked hard to pull the whole tariff together and section 6.4 has been approved through the MPEC and the IMIP. From a FERC filing perspective it will be much easier to get section 6.4 approved as a small part of the overall tariff, as opposed to filing later, if WAPA decides to participate, as a single issue filing, in which FERC would only be focused on the special provisions needed to allow WAPA's participation. It would be much easier to leave 6.4 in the tariff for now, and if it is clear that WAPA will not participate in 2027 or soon thereafter, remove the section in a filling just before start-up when other adjustments will be needed to account for actual participation.

I realize that based on the IMIP tariff approval, the Legal Group will need to make a recommendation to retain the provision, MPEC will need to approve, and IMIP will need to have a meeting to decide the one issue, prior to the March 25th SPP Board meeting. Booneville asks that, based on the logic describe above, the Legal group recommend retaining section 6.4 and see where the process takes us from there.

-Todd

From: Gorlin, David <Gorlin@WAPA.GOV>
Sent: Monday, March 4, 2024 10:03 AM
To: Fina, Joe <GFina@SNOPUD.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; 'Gilhen, Jonathan' <Jonathan.Gilhen@powerex.com>; lisa@interwest.org; 'Christine Dillard' <cdillard@spp.org>; 'Chris Nolen' <cnolen@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; 'Engelby, Ben' <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; 'Irene Scruggs' <iscruggs@ppcpdx.org>; 'Sabers, Cathy' <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; 'Starnes, Heather' <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; 'Binette, Matthew' <binette@wrightlaw.com>; 'Tabak, Gabe' <gtabak@cleanpower.org>; 'Rubin, David' <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; 'Gray, Spencer' <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: 'Rachel Kane' <rkane@spp.org>; 'Emon Mahony' <emahony@spp.org>; 'Joseph Ghormley' <jghormley@spp.org>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Laura Trolese <ltrolese@teainc.org>; Brian Cole (APS) <Brian.Cole@aps.com>
Subject: RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

Joe – Thanks for your note and for initiating this discussion.

If I had to categorize WAPA's position at present, it would be neutral. While we understood SPPs preference to remove them given that no WAPA region currently plans to join Markets+, I should note we also saw some benefits to retaining the provisions. They have been vetted and approved by this group and the MPEC, are nearly identical to provisions established in the Integrated Marketplace and WEIS, and they would establish the foundation by which WAPA could become a market participant in the future without the need for additional tariff revisions.

At the very least, we appreciate SPP's and all stakeholders' engagement throughout this process, and if the WAPA provisions in 6.4 are removed from the tariff, we would expect them to form the basis of any discussions if a WAPA region determined to join Markets+ in the future.

Thanks!

Dave

David Gorlin
Attorney-Advisor
U.S. Department of Energy
Western Area Power Administration
12155 W. Alameda Pkwy.
Lakewood, CO 80228
Phone: (720) 962-7028
Email: gorlin[at]wapa.gov

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From: Fina, Joe <GFina@SNOPUD.com>
Sent: Friday, March 1, 2024 4:28 PM
To: Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; 'Gilhen, Jonathan' <Jonathan.Gilhen@powerex.com>; lisa@interwest.org; 'Christine Dillard' <cdillard@spp.org>; 'Chris Nolen' <cnolen@spp.org>; Gorlin, David <Gorlin@WAPA.GOV>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; 'Engelby, Ben' <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Todd Miller' <temiller@bpa.gov>; 'Irene Scruggs' <iscruggs@ppcpdx.org>; 'Sabers, Cathy' <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; elee <elee@cityoftacoma.org>; 'Davis,Thomas E (BPA) - LT-7' <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; 'Starnes, Heather' <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; 'Binette, Matthew' <binette@wrightlaw.com>; 'Tabak, Gabe' <gtabak@cleanpower.org>; 'Rubin, David' <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; 'Gray, Spencer' <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: 'Rachel Kane' <rkane@spp.org>; 'Emon Mahony' <emahony@spp.org>; 'Joseph Ghormley' <jghormley@spp.org>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Laura Trolese <ltrolese@teainc.org>; Brian Cole (APS) <Brian.Cole@aps.com>
Subject: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

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Markets+ Legal Group,

During today's IMIP meeting, SPP announced that WAPA-DSW had provided notice to exit from its Phase 1 funding agreement. In light of that, SPP recommended that the WAPA-DSW related tariff language be removed. After some discussion, I and SPP Legal identified Article II ("Special Rules"), Section 6.4 as the only section that needed to be removed. The IMIP unanimously voted to approve the tariff without Article II, Section 6.4. However, the IMIP also created an action item for the legal group and then the MPEC to review the revised tariff as approved. SPP Legal was also asked to provide an explanation as to why the WAPA-DSW tariff language should be removed.

I think the questions for our group to answer to help the MPEC in their discussions are:

1. Whether there is a particular legal/practical reason why the language should be put back in; and

2. Assuming the MPEC does not recommend that the WAPA-DSW language be put back in and besides having to re-number Section 6, whether we need to remove or revise any other tariff language besides Article II, Section 6.4.

Please provide your feedback by **COB Wednesday.** I'll also ask SPP Legal and Dave Gorlin from WAPA to provide any additional context. Dave, in particular the group would benefit if WAPA has a preference to include or not include the language, or whether WAPA is neutral.

Here is a link to the tariff: https://spp.org/Documents/70999/Markets%20Plus%20Tariff_Public_012624.docx

Thanks,

Joe

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From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Friday, September 8, 2023 8:06 AM
To: Spires, Jeff; Kochheiser,Todd W (BPA) - TOI-DITT-2; Applegate, Rick; Eaton,Sara L (BPA) - PTMA-5
Cc: Mantifel,Russell (BPA) - PGL-5; Siewert,Christopher W (BPA) - PGS-5
Subject: RE: [External Sender] RE: [EXTERNAL] RE: Grouped Hydro Language

Good morning,
I'm not going to be able to make the call today. In general, language that works for BPA should work for us.

Thanks,
Adam

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Thursday, September 7, 2023 4:27 PM
To: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Applegate, Rick <rapplegate@cityoftacoma.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Cc: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Cornelius, Adam <ACCornelius@Snopud.com>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: [External Sender] RE: [EXTERNAL] RE: Grouped Hydro Language

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Thanks Todd,

I appreciate the heads up. We can speak to our specific situation during the call, recognizing we may have some slightly different needs to BPA or others.

Jeff

Jeff Spires | Director, Power | Powerex Corp. | Cell (b)(6) [redacted]

From: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>
Sent: Thursday, September 7, 2023 12:34 PM
To: Applegate, Rick <rapplegate@cityoftacoma.org>; Spires, Jeff <Jeff.Spires@powerex.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Cc: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Cornelius, Adam <accornelius@snopud.com>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: RE: [EXTERNAL] RE: Grouped Hydro Language

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-SPP

Rick and Jeff,

Prior to tomorrow's call with SPP, I wanted you to know that BPA is generally okay with the hydraulically linked language and probably most of SPP's earlier draft tariff language - our aggregations meet that definition fairly nicely *(ignoring ownership language which needs to be tweaked)*. It was based on a conversation with Powerex that we added the language about electrically similar, but to be honest it's not something BPA currently anticipates needing. Removing the hydraulically linked portion of the first bullet point would, in my opinion, end up defining a generic aggregated resource. I think that would be fine to have in the tariff as a resource type (e.g., 4.2.X Generic Aggregation?). However, if that definition includes the electrically similar language, that could be problematic for our aggregations so we'd want the Hydro Aggregation type (4.2.6) to also be available. Removing the entire first bullet may also be an option, but that may be too generic. ☺

Looking forward to the conversation tomorrow!

Best,
Todd

From: Applegate, Rick <rapplegate@cityoftacoma.org>
Sent: Tuesday, August 29, 2023 3:05 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Kelli Schermerhorn <kschermerhorn@spp.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Cornelius, Adam <accornelius@snopud.com>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: [EXTERNAL] RE: Grouped Hydro Language

I am available on Friday as well, but unfortunately have other SPP meeting conflicts with the other times that work for Jeff...To the extent you need to meet during those times, please feel free. My only issue with respect to the language is the requirement of a hydraulic linkage in bullet point number one. If that bullet point is removed in its entirety, I am happy.

Thank you,

Rick

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Tuesday, August 29, 2023 1:27 PM
To: Kelli Schermerhorn <kschermerhorn@spp.org>; Eaton, Sara <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Cornelius, Adam <accornelius@snopud.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov; 'Siewert,Christopher W (BPA) - PGS-5' <cwsiewert@bpa.gov>
Subject: Re: Grouped Hydro Language

Hi Kelli

Thank you for following up. I think a call would be valuable before moving this forward. Speaking for Powerex, we were comfortable with the language that BPA proposed and we have some challenges with the edits from SPP. I think it would be useful to arrange a discussion to hear your concerns about BPA's proposed language and to work through workable alternatives.

I am on the road this week so my availability is limited to Thursday 130-3 pm PT or Friday 12 pm - 3 pm PT. Anytime Tuesday Sept 5th would work for me as well.

Jeff

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From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Tuesday, August 29, 2023 1:06 PM
To: Eaton, Sara <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Cornelius, Adam <accornelius@snopud.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov <twkochheiser@bpa.gov>; 'Siewert,Christopher W (BPA) - PGS-5' <cwsiewert@bpa.gov>
Subject: RE: Grouped Hydro Language

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Hello team,

Please let me know if it would be helpful to discuss this language once you have had a moment to digest. Thanks much!

Kelli Schermerhorn
Lead Analyst, Market Design West
Staff Secretary, M+ Resource Adequacy Task Force

From: Kelli Schermerhorn
Sent: Monday, August 28, 2023 8:31 AM
To: Eaton, Sara <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Spires, Jeff <jeff.spires@powerex.com>; Cornelius, Adam <accornelius@snopud.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: RE: Grouped Hydro Language

Good morning!

We reviewed the comments provided last week, please see the attached response. It would be nice to discuss this as a smaller group before discussing in MDWG; we were thinking given the importance of this issue, we may wish to move approval to the 9/20 meeting to allow more time for consideration.

Please let me know if you all would like to touch base on these revisions.

Thank you for your engagement and thought on these issues.

Kelli Schermerhorn
Lead Analyst, Market Design West
Staff Secretary, M+ Resource Adequacy Task Force

From: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Sent: Friday, August 25, 2023 12:32 PM
To: Jim Gonzalez <jgonzalez@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Spires, Jeff <jeff.spires@powerex.com>; Kelli Schermerhorn <kschermerhorn@spp.org>; Cornelius, Adam <accornelius@snopud.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
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Hi Jim,

Thanks for your patience on the hydro language.
BPA has worked with Powerex, Snohomish and Tacoma to come to some shared language that would work for all of us and how we participate with our resource aggregations.
We think this language would be a good starting point for discussions in the upcoming MDWG.

Please let us know if you have any questions on the draft language.
Best,

Sara Eaton (she/her)
Senior Markets Policy Analyst | Market Policy and Pricing | PTMP
Bonneville Power Administration
C: (b)(6) | W: 503-230-5222 | sleaton@bpa.gov

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From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Friday, August 25, 2023 9:09 AM
To: Eaton,Sara L (BPA) - PTMA-5; Applegate, Rick; 'Spires, Jeff'
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2; Mantifel,Russell (BPA) - PGL-5; Siewert,Christopher W (BPA) - PGS-5; Fina, Joe
Subject: RE: [External Sender] RE: [EXTERNAL] RE: Hydro Aggregation Draft Tariff Language
Attachments: Attachment A 4.2.6 Hydro Aggregation (SNPD).docx

Trying again and actually copying Joe this time 😊

From: Cornelius, Adam
Sent: Friday, August 25, 2023 8:52 AM
To: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Applegate, Rick <rapplegate@cityoftacoma.org>; 'Spires, Jeff' <Jeff.Spires@powerex.com>
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: RE: [External Sender] RE: [EXTERNAL] RE: Hydro Aggregation Draft Tariff Language

Thanks Sara,

Generally speaking, if the language works for BPA it likely works for us. Two quick comments/questions:

- Who makes the electrically similar and material impact determinations in the first requirement?
- I recall in CAISO that there is a requirement that the resource scheduling coordinator must submit the distribution factors for each resource in the aggregation to show how an energy award would be distributed among the resources. Not sure if that needs to be spelled out here or is covered by "any other information required by the market operator" and can fall into protocols. I unsuccessfully tried to track down the CAISO tariff section enabling this as a comparison, but might have been searching for the wrong terms.

I'm copying Joe here as he may have some additional comments, but I think this works as a starting point at MDWG.

-Adam

From: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Sent: Friday, August 25, 2023 8:21 AM
To: Applegate, Rick <rapplegate@cityoftacoma.org>; Cornelius, Adam <ACCornelius@Snopud.com>; 'Spires, Jeff' <Jeff.Spires@powerex.com>
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
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Hi Rick,

No worries – it's a busy week, as always.
Jim from SPP reached out with some language – so if everyone here's comfortable, I think we'll forward this attachment to Jim.

Adam – let me know if there's anything you think would be an issue (at least as a starting point for MDWG discussions)?

Best,
Sara

From: Applegate, Rick <rapplegate@cityoftacoma.org>
Sent: Friday, August 25, 2023 8:15 AM
To: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Adam Cornelius <ACCornelius@Snopud.com>; 'Spires, Jeff' <Jeff.Spires@powerex.com>
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: [EXTERNAL] RE: Hydro Aggregation Draft Tariff Language

Hi Sara,

Thank you for doing this, and my apologies for the slow response...I do believe this language works from our perspective.

Best regards,

Rick

From: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Sent: Thursday, August 24, 2023 10:08 AM
To: Applegate, Rick <rapplegate@cityoftacoma.org>; Adam Cornelius <ACCornelius@Snopud.com>; 'Spires, Jeff' <Jeff.Spires@powerex.com>
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: Hydro Aggregation Draft Tariff Language

Hi All,

I know many of us have been working on hydro tariff language and I wanted to get all of us together and get input on the attached version. I think the draft version should accommodate a range of potential participation models, while still respecting the necessary electrical considerations to participate in the market.

Looking forward to your input—probably sooner than later as I think SPP is hoping to include this language in the next MDWG meeting.

Best,

Sara Eaton (she/her)
Senior Markets Policy Analyst | Market Policy and Pricing | PTMP
Bonneville Power Administration
C: (b)(6) | W: 503-230-5222 | sleaton@bpa.gov

29330381

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, July 27, 2023 5:53 PM
To: Cornelius, Adam; Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] RE: Tariff Definitions
Attachments: Markets Plus Tariff Definitions_DRAFT_072723.docx

Hey Adam –

Yes I'll be glad to send you the latest definitions that I have. We need to update these on SPP.org, so I will probably do that soon as well.

I love your recommendations. I will try to do that moving forward with our materials. It would definitely be beneficial for you all I'm sure to be able to reference the definitions as we are talking through language.

Thank you for your involvement in this effort. I really appreciate your participation!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Wednesday, July 26, 2023 7:15 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** Tariff Definitions

CAUTION: This email originated from outside of the SPP network. Do not click links or open attachments unless you recognize or can verify the sender, or were expecting an email from the sender. The original sender of this email is ACCornelius@Snopud.com

Hi Kristen,

Thank you for your patience with all of us as we work through these issues.

I have a follow up question on the tariff language: Is there an updated/running list of tariff definitions posted anywhere? I am seeing a version posted in the 5/23 MDWG meeting materials, but can spot some differences between that version and what you showed on the screen today. If not, would you be able to send me the latest version?

I recognize these are likely constantly being updated as we work through various tariff sections. Two possible ways to handle this moving forward:

- Include an up-to-date version of all tariff definitions in meeting materials for future MDWG meetings (with any changes from prior version in redline)
- Add referenced tariff definitions to the beginning or end of each document containing tariff language that we are reviewing (i.e. include definitions for all capitalized terms at the front or back of 09a-Attachment A_Sec 4-4.2.8_Tariff.docx)

Thanks!

-Adam

This email and any attachments are for the sole use of the intended recipient(s) and may contain confidential information. If you receive this email in error, please notify the sender, delete the original and all copies of the email and destroy any other hard copies of it.

1 Definitions

DRAFT

A - Definitions

Aggregator of Retail Customers (ARC)

A Market Participant that registers demand response on behalf of one or more eligible retail customers, for which the participant is not such customers' LSE, and intends to offer that demand response directly into the Market Operator's Energy and Flexibility Reserve Markets.

Ancillary Service Plan

A plan submitted by a Market Participant with regulation service and contingency reserve service obligations to meet its next day obligations and current day obligations.

Asset Owner

An aggregation of assets defined by a Market Participant through the Market Operator's registration process that is eligible to be represented by the Market Participant through any combination of Resource and load.

Authorized Agency

A state public utility commission that regulates, within the Markets+ Footprint, the distribution or supply of electricity to retail customers or is legally charged with monitoring the operation of wholesale or retail markets serving retail suppliers or customers; (ii) the Markets+ State Committee or any successor organization formed to act as a regional state committee within Markets+; or (iii) a state agency that has both access to documents in the possession of a state public utilities commission pursuant to state statute and the ability to protect those documents in accordance with Attachment F of this Tariff.

Authorized Requestor

An individual who has executed the Non-Disclosure Agreement found in Attachment F of this Tariff and is authorized by an Authorized Agency to receive and discuss Confidential Information.

DRAFT

B - Definitions

Balancing Authority (BA)

A responsible entity that integrates resource plans ahead of time, maintains load-interchange-generation balance within a Balancing Authority Area, and supports interconnection frequency in real time in order to:

(1) Match, at all times, the power output of the generators within the electric power system(s) and capacity and energy purchased from entities outside the electric power system(s), with the load within the electric power system(s);

(2) Maintain scheduled interchange with other Balancing Authorities, within the limits of Good Utility Practice;

(3) Maintain the frequency of the electric power system(s) within reasonable limits in accordance with Good Utility Practice; and

(4) Provide for sufficient generating capacity to maintain operating reserves in accordance with Good Utility Practice.

Balancing Authority Area

The collection of generation, transmission, and loads within the metered boundaries of a Balancing Authority. A Balancing Authority maintains load-resource balance within this area.

Behind-the-Meter Generation

Comment [KLD1]: MORWG/MTWG: Feedback needed – help us to determine definition that works for all.

A generation unit that is connected on the load side of a load Meter Settlement Location and is used by the load Market Participant that is the registered owner of that Meter Settlement Location to serve all or part of its capacity, energy, or ancillary service needs.

Bid

A commitment to pay a specific maximum price for a quantity of Energy that includes a Demand Bid, a Virtual Energy Bid, or an Export Interchange Transaction Bid.

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Billable Metered Load

The Reported Load adjusted as described under Section 9.3.1.1 of Attachment A.

Business Day

A day on which the Federal Reserve System is open for business.

DRAFT

C – Definitions

Calendar Day

Any day including Saturday and Sunday.

Combined Interest Resource

A Resource registered to reflect shared interest of multiple Asset Owners and modeled as one commercial Resource. Credits and charges for these Resources are allocated post market using the submitted interest share percentages.

Commercial Model

A representation of the attributes of and the relationships between Market Participants, Asset Owners, Resource and load assets and Price Nodes for use in Markets+.

Commit Time

The time specified by the Market Operator in a Market Commitment at which a Resource is to be synchronized and operating at or above its Minimum Economic Capacity Operating Limit. For an MSR, this is the time specified by the Market Operator in a Market Commitment at which the Resource should be connected and at or above its Minimum Discharge Limit or its Minimum Charge Limit.

DRAFT

Common Bus

A single bus to which two or more Resources registered by the same Market Participant are connected in an electrically equivalent manner where such Resources may be treated as interchangeable for certain compliance monitoring purposes.

Comment [KLD2]: May not need; talk with MDWG; dependent upon Flex products potentially

Composite Energy Offer

A Market Operator-calculated Energy Offer for a Fast-Start Resource arrived at by modifying each price point on the Energy Offer Curve for each market interval of the Minimum Run Time by adding amortized start-up and no-load costs.

Confidential Information

Information containing or revealing:

(1) Any proprietary or commercially or competitively sensitive information, trade secret or information regarding a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Market Participant, which is designated as confidential by that Market Participant when supplying the information to the Market Operator, whether conveyed orally, electronically, in writing, through inspection, or otherwise; or

(2) Any software, products of software or other vendor information that SPP is required to keep confidential under its agreements.

Confidential Information does not include Critical Energy Infrastructure Information ("CEII") materials as designated by FERC, which must be obtained in accordance with FERC regulations.

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Control Status

A parameter communicated electronically to the Market Operator by a Market Participant at any time during an Operating Hour indicating a Resource's ability to follow Dispatch Targets.

DRAFT

D - Definitions

Data Error

A data error shall be the following:

(i) Data received by the Market Operator from an independent source, including data produced by a system or submitted by a third party, that is inaccurately modified by the Market Operator during the execution of a market function; or

(ii) Data received by the Market Operator from an independent source, including data produced by a system or submitted by a third party, that is patently incorrect and is used by the Market Operator during the execution of a market function; or

(iii) Incorrect data produced and used by Market Operator during the execution of a market function.

Day-Ahead

The time period starting at 0001 and ending at 2400 on the day prior to the Operating Day.

Day-Ahead Market

The market for Energy and Flexibility Reserves that is conducted on the day prior to the Operating Day.

Day-Ahead Market Commitment Period

The contiguous period of time between a Resource's Day-Ahead Market Commit Time and Day-Ahead Market Shutdown Time.

Demand Bid

A proposal by a Market Participant associated with a physical load to purchase a fixed or price sensitive amount of Energy at a specified location and period of time in the Day-Ahead Market.

DRAFT

Demand Bid Curve

A Demand Bid specified as megawatt and dollars per megawatt hour with up to ten (10) price/quantity pairs.

Demand Curve

A series of quantity/price points used to set Locational Marginal Prices and Market Clearing Prices when there is a shortage of Energy or Flexibility Reserve Products.

Demand Response Load

A registered measurable load that is capable of being reduced at the instruction of the Market Operator and subsequently may be increased at the instruction of the Market Operator.

Demand Response Resource (DRR)

A controllable load available for dispatch by the Market Operator that can reduce the withdrawal of Energy from the transmission grid, and for which an Offer Curve has been submitted.

Dispatch Interval

The interval for which the Market Operator issues Dispatch Instructions for Markets+ in the RTBM. The Dispatch Interval is five (5) minutes.

Dispatch Locational Marginal Price (DLMP)

The price for Energy at a given Price Node that results from the co-optimization of Energy and Flexibility Reserve Products, based on the Bids, Energy Offers, and Flexibility Reserve Product Offers submitted by the Market Participants. The DLMP does not include Fast-Start Resource composite Energy Offers, as described in Section 3.1.

Dispatch Target

DRAFT

The communicated Resource target Energy megawatt output level at the end of the Dispatch Interval.

Dispatchable Resource

A Resource for which an Offer Curve has been submitted and that is available for dispatch by Market Operator.

Dispatchable Variable Energy Resource (DVER)

A Variable Energy Resource registered in Markets+ that is capable of being dispatched by the Market Operator.

DRAFT

E – Definitions

Electric Storage Resource (ESR)

A resource capable of receiving electric energy and storing it for later injection of electric energy to the grid. A resource that is either (1) physically incapable of injecting electric energy to the Transmission System due to its design or configuration or (2) contractually barred from injecting electric energy to the Transmission System is excluded from this definition.

Electric Storage Resource Loss Factor

The factor that represents round-trip efficiency related to the amount of Energy an ESR loses from charge to discharge. This loss factor is the ratio of (1) the Energy the ESR is able to inject via discharge to (2) the Energy withdrawn in order to store that charge.

Electrical Node (Enode)

A physical node represented in the Network Model where electrical equipment and components are connected.

Emergency Condition

A condition or situation determined by a Reliability Coordinator or Balancing Authority within the SPP Markets+ Footprint that is imminently likely to cause damage to or a materially adverse effect on the reliability or security of the Transmission System.

Comment [KLD3]: MORWG Feedback needed

Energy

An amount of electricity that is Bid or Offered, produced, purchased, consumed, sold, or transmitted over a period of time, which is measured or calculated in megawatt hours.

Energy Offer Curve

A set of monotonically non-decreasing price/quantity pairs that consists of megawatts and dollars per megawatt hour with up to ten (10) price/quantity pairs.

DRAFT

Export Interchange Transaction

A Market Participant schedule for exporting Energy out of the Markets+ Footprint.

Export Interchange Transaction Bids

A proposal by a Market Participant to purchase a fixed or price sensitive amount of Energy for delivery outside of the Markets+ Footprint at a specified External Interface and for a period of time.

Comment [KLD4]: Need outside assistance

External Interface

A Settlement Location representing a physical interconnection point(s) between a Balancing Authority Area within the Markets+ Footprint and a Balancing Authority Area external to the Markets+ Footprint.

External Resource

A Resource located outside of the Markets+ Footprint that is included in a Markets+ Balancing Authority Area through an External Resource Pseudo-Tie.

External Resource Pseudo-Tie

A non-physical electrical interconnection point between Balancing Authorities, whereby all or a portion of an External Resource in one Balancing Authority Area is considered to be in another Balancing Authority Area within the SPP Markets+ Footprint.

DRAFT

F – Definitions

Fast-Start Resource (FSR)

A Resource with the following submitted offer parameters for a Day-Ahead Market or Real-Time Balancing Market interval: (1) a Start-Up Time offer of ten (10) minutes or less; and (2) a Minimum Run Time offer of sixty (60) minutes or less. MSRs must also have a Minimum Discharge Time offer of sixty (60) minutes or less to qualify as a Fast-Start Resource. MCRs must also have a Group Minimum Run Time offer of sixty (60) minutes or less to qualify as a Fast-Start Resource.

Federal Energy Regulatory Commission (FERC)

An independent, federal agency that regulates the interstate transmission and wholesale sale of natural gas, oil, and electricity.

Flexibility Reserve Products

DRAFT

G – Definitions

Good Utility Practices

Any of the practices, methods, and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, safety, and expedition. Good Utility Practices is not intended to be limited to the optimum practice, method or act to the exclusion of all others, but rather to be acceptable practices, methods or acts, generally accepted by the region.

Group Minimum Down Time

For an MCR, the minimum length of time a defined group of configurations must remain offline following transition to a different defined group of configurations.

Group Minimum Run Time

For an MCR, the minimum length of time a defined group of configurations must run from the time the group is put online to the time the group is shut down.

DRAFT

H – Definitions

Hybrid Storage Market Resource (HSMR)

Generating resource(s) and ESR(s) located behind the same point of interconnection that are registered together in the Energy and Flexibility Reserve Products market as a single Resource.

Hydro Aggregation

Hydroelectric facilities, including pumped storage facilities, which share a common hydrological basin, river system, ownership and operational control, and are registered as a Hydro Aggregation.

Comment [KLD5]: To be tweaked

DRAFT

I – Definitions

Import Interchange Transaction

A schedule for importing Energy into the Markets+ Footprint.

Import Interchange Transaction Offer

A proposal by a Market Participant to provide Energy from a source external to a Markets+ Balancing Authority Area at a specified External Interface and period of time.

Instantaneous Load Capacity

The achievable change in real power output required to account for differences between the average load and the projected instantaneous load.

Information Request

A written request for disclosure of Confidential Information pursuant to Section 10.4 of Attachment A to the Tariff.

Interchange Transaction

Any Energy transaction that is crossing the boundary of the Markets+ Footprint and requires checkout with one or more Balancing Authority Areas external to the Markets+ Footprint. This includes any Import Interchange Transaction, Export Interchange Transaction, or Through Interchange Transaction.

DRAFT

J - Definitions

Jointly Owned Unit

A Resource that is:

1) Owned by more than one Market Participant; or
2) A Resource for which (a) one or more Market Participants and one or more non Market Participants have contractual rights or financial obligations and (b) which the Market Participant registers as a Jointly Owned Unit.

DRAFT

K - Definitions

DRAFT

L – Definitions

Load Serving Entity (LSE)

A distribution utility or an electric utility that has a service obligation, where a service obligation, as defined in Section 217(a) of the Federal Power Act, means a requirement applicable to, or the exercise of authority granted to, an electric utility under federal, state, or local law, or under long-term contracts to provide electric service to end-users or to a distribution utility.

Local Reliability Issue

A local voltage or reliability issue necessitating a Local Reliability Issue Commitment issued by a Balancing Authority or Reliability Coordinator.

Local Reliability Issue Commitment

A Balancing Authority or Reliability Coordinator commitment issued to address a Local Reliability Issue. These commitments are initiated prior to or during an Operating Day and are based on projected local reliability requirements, operational considerations, and generation and transmission outages.

Local Settlement Area

A geographic area equivalent to a Balancing Authority participant area.

Locational Marginal Price

The marginal price of Energy at a given Price Node as calculated by the Market Operator's Simultaneous Co-optimization Methodology.

Long-Lead Resource

Resources that require more notification time to start than is available when the day-ahead commitment processes complete.

DRAFT

M – Definitions

Marginal Congestion Component

The calculated portion of the Locational Marginal Price at a Settlement Location representing transmission congestion costs between that Settlement Location and a reference location as calculated under Section 3.2.2 of this Attachment A.

Marginal Energy Component

The compound Locational Marginal Price at a Reference Bus.

Marginal Loss Component

The calculated portion of the Locational Marginal Price at a Settlement Location representing marginal loss costs between that Settlement Location and a reference location as calculated under Section 3.2.1 of this Attachment A.

Market Clearing Price

The price used for settlements of a Flexibility Reserve Product in each Reserve Zone.

Market Commitment

The Day-Ahead Market or Reliability Unit Commitment processes results communicated by the Market Operator to a Market Participant to (i) either start up or shut down a specified Resource and/or (ii) transition an MCR from one configuration to another.

Market Monitor

The Market Monitoring Unit established under the Tariff.

Market Operator

The entity that operates Markets+ in accordance with this Tariff.

DRAFT

Markets+ Footprint

The geographic region defined by the Balancing Authorities participating in Markers+ under this Tariff.

Market Participant

An entity that generates, transmits, distributes, purchases, or sells electricity in Markets+. Market Participant expressly including any entity offering Resources for sale into Markets+ that executes the Service Agreement specified in Attachment E to this Tariff, or on whose behalf an unexecuted Service Agreement has been filed at FERC.

Hybrid Market Storage Resource (HMSR)

An ESR that registers consistent with the requirements under Section 4.2.3 of this Attachment A.

Markets+ Tariff

The Tariff describing Markets+ including all schedules or attachments thereto, as amended from time to time and approved by FERC.

Maximum Charge Limit

The maximum MW level that an MSR is able to withdraw from the grid during normal operating conditions.

Maximum Charge Time

The maximum duration of time that an MSR is able to withdraw from the grid.

Maximum Discharge Limit

The maximum MW level that an MSR is able to inject into the grid used during normal operating conditions.

DRAFT

Maximum Discharge Time

The maximum duration of time that an MSR is able to inject into the grid.

Maximum Emergency Charge Limit

The maximum MW level that an MSR is able to withdraw from the grid during an Emergency Condition.

Maximum Emergency Discharge Limit

The maximum MW level that an MSR is able to inject into the grid during an Emergency Condition.

Maximum State of Charge

The maximum State of Charge that should not be exceeded.

Meter Agent

An entity responsible for collecting load and Resource data associated with identified Meter Settlement Locations within a Settlement Area for the purpose of energy accounting that impacts market settlements. Meter Agent may refer to a Market Participant performing the Meter Agent function on its own behalf, or to a Meter Agent designated by the Market Participant to act on its behalf in accordance with the Tariff.

Meter Data

Real power measurement of Resources, loads, or tie-line flows between Settlement Areas and external Balancing Authority Areas, including pseudo-ties, and any other electrical quantities required for market settlement.

Meter Data Submittal Location

DRAFT

One or more Meter Settlement Locations contained within a single Settlement Area for which Meter Data is submitted to the Market Operator by the Meter Agent for settlement purposes.

Meter Settlement Location

The effective point at which a Market Participant's registered load and Resources interchange Energy within the Markets+ Footprint.

Minimum Charge Limit

The minimum MWs level an MSR is able to withdraw from the grid during normal operating conditions.

Minimum Charge Time

The minimum duration of time an MSR is able to withdraw from the grid.

Minimum Discharge Limit

The minimum MW level that an MSR is able to inject into the grid during normal operating conditions.

Minimum Discharge Time

The minimum duration of time that an MSR is able to inject into the grid.

Minimum Economic Capacity Operating Limit

A megawatt level at or above a Resource's Minimum Capacity Operating Limit used for Energy dispatch at a minimum level during normal operating conditions.

Minimum Emergency Charge Limit

The minimum MW level that an MSR is able to withdraw from the grid during an Emergency Condition.

DRAFT

Minimum Emergency Discharge Limit

The minimum MW level that an MSR is able to inject into the grid during an Emergency Condition.

Minimum Run Time

The minimum length of time a Resource must run from the time the Resource is put online to the time the Resource is shut-down.

Minimum State of Charge

The minimum State of Charge that should be maintained.

Min-to-Off Time

The time for a Resource to de-synchronize from the grid starting from the Resource's Minimum Economic Capacity Operating Limit, Minimum Discharge Limit, or Minimum Charge Limit, as applicable.

Multi-Configuration Resource (MCR)

A combined cycle Resource registered consistent with the offer submission option as defined under Section 4.2.9 of this Attachment A.

Multi-Day Reliability Advisory Process

A non-binding, informational study that provides a commitment and pricing forecast based on the latest available forecast and commitment data.

DRAFT

N – Definitions

Net Benefits Test

A calculation that measures the threshold price at which the benefits of dispatching Demand Response Load outweigh the costs.

Network Model

A representation of the transmission, generation, and load elements of the interconnected transmission systems within the Markets+ Footprint.

No-Load Offer

The compensation request in a Resource Offer, in dollars, by a Market Participant representing the hourly fee for operating a synchronized Resource at zero (0) megawatt output. For a generating unit, No-Load Offers are generally representative of the fuel expense required to maintain synchronous speed at zero (0) megawatt output. For a Dispatchable Demand Response Resources, No-Load Offers are generally representative of a combination of the fuel expense required to maintain synchronous speed at zero (0) megawatt output for Behind-The-Meter Generation and the ongoing hourly costs associated with manufacturing process changes associated with a reduction in load consumption. For an MSR, No-Load Offers are the cost to maintain a State of Charge when the MSR has a zero (0) MW output (i.e., the Resource is operating under a "No-Load" condition).

Non-Conforming Load

Load that is process driven that does not follow a predictable pattern.

Non-Dispatchable Variable Energy Resources (NDVER)

A Variable Energy Resource registered in the Markets+ Footprint that is not capable of being incrementally dispatched by the Market Operator.

DRAFT

O – Definitions

Offer

A commitment to sell a quantity of Energy at a specific minimum price that includes a Resource Offer, a Virtual Energy Offer or an Import Interchange Transaction Offer.

Operating Day

A daily period beginning at midnight.

Operating Hour

A sixty (60) minute period of time beginning at the top of the hour, typically expressed as hour-ending.

Operating Tolerance

The megawatt range of actual Resource output above and below the Resource's average Dispatch Instruction over the Dispatch Interval where the Resource will not be subject to charges associated with Uninstructed Resource Deviation.

Out-of-Merit Energy (OOME)

An instruction from a reliability coordinator, Balancing Authority, or a local transmission operator to address an Emergency Condition or reliability issue.

DRAFT

P - Definitions

Pacific Prevailing Time (PPT)

As established by national time standards, either Pacific Standard Time or Pacific Daylight Time.

Plant Minimum Down Time

For an MCR, the minimum length of time required following complete desynchronization that the entire combined cycle plant must remain offline prior to a subsequent synchronization.

Plant Minimum Run Time

For an MCR, the minimum length of time the combined cycle plant must run from the time the plant is committed to the time the plant is shut down.

Portal

Internet interface between the Market Operator and its Markets+ participants.

Price Node (Pnode)

A node in the Commercial Model where Locational Marginal Prices are calculated.

DRAFT

Q - Definitions

DRAFT

R – Definitions

Ramp-Rate-Down

A curve specifying MW/minute ramp rates applicable between Resource operating ranges that is used to dispatch Resources in the down direction. For MSRs, Ramp-Rate-Down is the rate at which a MSR can move from zero output to Maximum Charge Limit, which is represented as a negative (-) value for the MW breakpoint. This rate also represents the rate at which the MSR can move from Maximum Discharge Limit to zero output.

Ramp-Rate-Up

A curve specifying MW/minute ramp rates applicable between Resource operating ranges that is used to dispatch Resources in the up direction. For MSRs, Ramp-Rate-Up is the rate at which a MSR can move from zero output to Maximum Discharge Limit. This rate also represents the rate at which the MSR can move from Maximum Charge Limit, which is represented as a negative (-) value for the MW breakpoint, to zero output.

Real-Time Balancing Market (RTBM)

The market operated by the Market Operator continuously in real-time to balance the system through deployment of Energy and to clear Flexibility Reserves.

Reference Bus

The location on the Transmission System within the Markets+ Footprint relative to which all mathematical quantities will be calculated.

Reliability Unit Commitment (RUC)

The processes performed by the Market Operator to assess resource and Flexibility Reserve adequacy and to communicate Market Commitments of Resources to the appropriate Market Participants as necessary.

DRAFT

Reliability Unit Commitment Period

The contiguous period of time between a Resource's Reliability Unit Commitment Commit Time and Reliability Unit Commitment Shutdown Time.

Reported Load

The megawatt-hour quantity withdrawn from the Transmission System at a Meter Data Submittal Location, as submitted by the Meter Agent.

Reserve Zone

A zone containing a specific group of Price Nodes for which minimum and maximum Flexibility Reserve requirements are calculated.

Resettlement

The settlement of an Operating Day subsequent to the posting of the S120 Scheduled Settlement Statement for that Operating Day.

Residual Load

The unaccounted energy for load calculated by taking the sum of (a) injections at each Meter Data Submittal Location within the Settlement Area and (b) withdrawals at each Meter Data Submittal Location within the Settlement Area and (c) the sum of all Energy into and out of a Settlement Area.

Resource

Assets registered in Markets+ that inject Energy into the transmission grid, or reduce the withdrawal of Energy from the transmission grid, and may be self-dispatched or directly dispatched by the Market Operator.

DRAFT

Resource Offer

A Resource's Start-Up Offer, No-Load Offer, Energy Offer Curve, Transition State Offer, physical operating parameters, and Flexibility Reserve Product Offer.

DRAFT

S – Definitions

S7 Scheduled Settlement Statement

As defined in Section 9.8(1) of Attachment A to this Tariff.

S53 Scheduled Settlement Statement

As defined in Section 9.8(2) of Attachment A to this Tariff.

S120 Scheduled Settlement Statement

As defined in Section 9.8(3) of Attachment A to this Tariff.

Scarcity Price

The Locational Marginal Price and Market Clearing Price levels determined through the use of Demand Curves when there is insufficient Energy or Flexibility Reserve Products.

Scarcity Pricing

The calculation of Scarcity Prices in accordance with Sections 3.2 and 3.6.1 of this Attachment A.

Scheduled Settlement

The mandatory settlement of an Operating Day that is posted on a prescribed schedule.

Scheduled Settlement Statement

The statement produced from a Scheduled Settlement.

Self-Charging

Withdrawing Energy from the Transmission System without a Market Operator Dispatch Target.

DRAFT

Service Flow Constraint

An operating constraint limit equal to the sum of all the Market Participants', Joint Dispatch Transmission Service Providers', and participating Balancing Authorities' transmission capacity communicated to the Market Operator. Service Flow Constraints will be continuously activated in the Simultaneous Co-optimization Methodology to constrain the least cost dispatch to the transmission capacity made available for use in Markets+.

Setpoint Target:

The real-time target megawatt output signal calculated for a specific Resource by the Market Operator for a specified period within a Dispatch Interval.

Settlement Area

An area within a single Balancing Authority for which interval metering can account for the net injections and net interchange associated with that area.

Settlement Invoice

A weekly summary of Markets+ net daily charges and payments by Asset Owner and Operating Day that is generated for each Market Participant and contains data for all of the Operating Days settled, either on a Scheduled Settlement or Resettlement basis, during the invoice period. For each Operating Day, only the net amounts (current total less previously invoiced) contribute to the invoice amounts.

Settlement Location

A location comprised of one or more Meter Data Submittal Locations for calculation of settlements in the Day-Ahead Market and Real-Time Balancing Market. The five (5) types of Settlement Locations are: Resource (including pseudo-tied resources), Load (including pseudo-tied loads), Trading Hub, Resource Hub, and External Interface.

DRAFT

Settlement Statement

A daily summary of the Markets+ total daily charges and payments by charge type, Market Participant, Asset Owner and Operating Day which is generated for each Market Participant and contains data for all of the Operating Days settled, either on a Scheduled Settlement or Resettlement basis. For each Operating Day, the current, previous and net amounts are included on the statement.

Shadow Price

A price for a commodity that measures the marginal value of the commodity.

Shutdown Time

The time specified by the Market Operator or a local transmission operator in a Market Commitment at which a Resource is to begin de-synchronization procedures.

Simultaneous Co-optimization Methodology

An algorithm capable of committing, clearing, dispatching, and pricing Energy and Flexibility Reserve Products on a co-optimized basis that minimizes overall costs while enforcing multiple security constraints.

Software Error

Software results inconsistent with the requirements of Attachment A to this Tariff.

Start-Up Offer

The compensation required by a Market Participant to bring an off line Resource on line or to reduce consumption of a Dispatchable Demand Response Resource.

Start-Up Time

The time required to start a Resource and reach the Minimum Economic Capacity Operating Limit, Minimum Discharge Limit, or Minimum Charge Limit, as applicable, following receipt of a Market Commitment.

DRAFT

State Estimator

A standard industry tool that produces a power flow model based on available real-time metering information, information regarding the current status of lines, generators, transformers, and other equipment, bus load distribution factors, and a representation of the electric network, to provide a complete description of system conditions, including conditions at busses for which real-time information is unavailable.

State of Charge

The amount of Energy stored expressed in megawatt-hours.

State of Charge Forecast

The projected State of Charge for the beginning of each market interval used in the Day-Ahead Market and the RUC.

Synchronized Resource

A Resource that is electrically connected to the grid as evidenced by the closing of the Resource circuit breaker.

Sync-to-Min Time

The time required for a Resource's output to reach Minimum Economic Capacity Operating Limit, Minimum Discharge Limit, or Minimum Charge Limit, as applicable, following synchronization to the grid.

DRAFT

Third Party Request

Any request or demand by any entity upon an Authorized Requestor or an Authorized Agency for release or disclosure of Confidential Information. A Third Party Request shall include, but shall not be limited to, any subpoena, discovery request, request pursuant to state freedom of information or public records access statutes or regulations, or other request for Confidential Information made by any: (i) federal, state or local government subdivision, department, official, agency or court, or (ii) arbitration panel, business, company, entity or individual. This provision is subject to any applicable exception under Section 10 of Attachment A to the Tariff.

Trading Hub

A Settlement Location consisting of an aggregation of Price Nodes developed for financial and trading purposes.

Transition State Offer

An offer representing the cost to move an MCR to another configuration.

Transition State Time

An operating parameter representing the time required to move an MCR to another configuration.

Transmission Customer

Transmission Provider

Transmission Service

Transmission System

DRAFT

U – Definitions

Uninstructed Resource Deviation (URD)

The megawatt amount by which a Resource's actual output in a Dispatch Interval is above or below that Resource's average Setpoint Target over a Dispatch Interval.

DRAFT

V – Definitions

Variable Energy Resource

A device for the production of electricity that is characterized by an energy source that: (1) is renewable; (2) cannot be stored by the facility owner or operator; and (3) has variability that is beyond the control of the facility owner or operator.

Violation Relaxation Limit (VRL)

The values described under Section 7.9 of Attachment A to this Tariff.

Virtual Energy Bid

A proposal by a Market Participant to purchase Energy at a specified price, Settlement Location and period of time in the Day-Ahead Market that is not associated with a physical load.

Virtual Energy Bid Curve

A set of price/quantity pairs that consists of megawatt and dollars per megawatt-hour with up to ten (10) price/quantity pairs.

Virtual Energy Offer

A proposal by a Market Participant to sell Energy at a specified price, Settlement Location and period of time in the Day-Ahead Market that is not associated with a physical Resource.

DRAFT

W - Definitions

DRAFT

29330393

XYZ - Definitions

DRAFT

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Thursday, September 28, 2023 5:09 PM
To: Kristen Darden; Jared Greenwalt
Cc: Mantifel,Russell (BPA) - PGL-5; Nick Detmer; Aitken, Meredith
Subject: [EXTERNAL] Powerex Comments on Attachment B & C
Attachments: Powerex Comments on Markets+ Tariff Attachment B & C.pdf

Hi Kristin and Jared,

Please see attached Powerex's comments on the current draft of Attachment B (Market Power Mitigation Plan) and Attachment C (Market Monitoring Plan).

Regards,
Jeff

This email may contain information that is confidential. If you are not the intended recipient you may not distribute or copy this email or any attachments. If you have received this email in error, please notify the sender and delete this email and attachments from your system immediately. Thank you.

Powerex Comments on Attachment B (Market Power Mitigation Plan) and Attachment C (Market Monitoring Plan)

Submitted 9.28.2023

Powerex appreciates the opportunity to provide comments on the draft tariff language for Attachment B and C.

Powerex does not support the draft tariff language for Attachment B and C as written. Based on Powerex's initial review, it does not appear that these attachments reflect "boiler-plate" language from SPP's existing markets, and instead the drafts appear to include numerous additional requirements and concepts that do not appear in either the WEIS or RTO tariffs. If these provisions are from the WEIS or RTO, a blackline or table of concordance would be very helpful to assist in our further review and consideration.

In addition, Powerex believes it is important that the tariff provisions of Markets+ be fully compatible with the participation requirements of storage hydro resources, given their prevalence in the region and unique characteristics. More specifically, participation in an organized wholesale electricity market with storage hydroelectric generation resources requires a workable framework that recognizes and preserves the hydro participant's and hydro operator's decision-making autonomy over all aspects of operating the respective hydro system.

Fortunately, participants with storage hydro systems in the western region have already established workable FERC-approved frameworks (working collaboratively with CAISO, WPP and stakeholders) for participating in the Western EIM and the WRAP using supply from these resources. The key elements of these two frameworks are set forth in the Western EIM tariff, the WRAP tariff, as well as multiple participant agreements with CAISO and WPP.

Powerex believes the appropriate starting point for Attachment B and C are provisions drawn from those existing western programs. It is essential that Markets+ contain similar tariff provisions (and similar elements in each participant's agreement) that make participation fully workable for storage hydro resources, and that a gap is not created in the expectations of how storage hydro will participate in Markets+.

During the 9/15 MDWG call, some stakeholders requested a better understanding of Powerex's specific concerns with the draft language. In response to this request, Powerex is providing a summary of some key concerns by reference to particular sections of Attachment B and C.

Attachment B

3.1 Market Participant Communication

- Powerex notes that this language was already brought forward and rejected by the MDWG when proposed to be included as Section 6.9 of Attachment A. Powerex does not support these requirements and notes that this language does not appear to be "boiler plate language" as it is not included in SPP's existing tariff language for either SPP's WEIS or SPP's RTO.

3.2 Market Power Test

- Powerex supports appropriate market design elements to protect against the exercise of market power. To achieve this, Powerex generally supports a Conduct and Impact framework for market power mitigation.
- However, Powerex believes that more conceptual discussion is needed regarding the specific triggers in 3.2 that would determine when the Conduct and Impact tests will be applied. Powerex also is concerned that the provision could be misinterpreted to imply a *per se* finding that a resource "is determined to have market power," absent additional information.
- For example, Powerex would like a better understanding of the necessity of applying a BAA-level pivotal supplier test for Markets+. It is not clear to Powerex whether such a BAA-level approach has been applied in the WEIS or other multi-BAA markets that use a conduct and impact approach, or if there are specific characteristics of the Markets+ footprint that warrant this approach. To the extent a BAA-level evaluation is ultimately supported by stakeholders (and the MIP and the Board) for Markets+, Powerex believes it would require a design that does not result in automatic or frequent mitigation in BAAs with vertically integrated utilities with both supply and demand in the market (as such demand and supply is typically largely offsetting) and/or where there is no wholesale market purchasers within that BAA exposed to the exercise of market power.
- Powerex believes the specific conditions under which the Conduct and Impact tests will be triggered should also be evaluated in combination with a discussion of the proposed conduct and impact thresholds to allow participants to understand the potential frequency and magnitude of market power mitigation.

3.3 Mitigated Offer Calculation Methodology

- Powerex generally supports a Conduct and Impact framework for market power mitigation.
- However, Powerex does not support the language in Section 3.3 (that does not appear to be part of SPP's existing tariff language for WEIS or SPP's RTO) describing the requirement that all participants provide a mitigated cost offer calculation methodology that includes "accurate cost data" and "verifiable supporting documentation". This language is inconsistent with the Hydro DEB approach from the Western EIM that has been successfully applied to storage hydro resources in the West and should be the "boiler plate" starting point for Markets+.
- Importantly, this Western EIM Hydro DEB approach recognizes that no formula or model can accurately produce a hydro participant's estimate of the marginal opportunity cost of its limited supply, which may change from day to day and hour to hour. Recognizing this, the WEIM's Hydro DEB approach is considered a workable method to estimate what the opportunity cost for a storage hydro resource (or aggregate resource) *might be* in most cases under normal conditions. This helps ensure that offer prices (reflecting the hydro participant's dynamic estimates of their opportunity costs) are less likely to be above this reference level on a frequent basis, thereby reducing the occurrence of inaccurate mitigation that results in the release of water uneconomically and/or frequently (which can be highly problematic).

- Powerex notes that this Hydro DEB approach in the WEIM was the result of an extensive stakeholder process that was focused on finding a workable solution for the large storage hydro resources in the West, and that it has already been approved by FERC and in use for over four years.

3.4 Mitigation Measures for Energy Offer Curves

- While Powerex generally supports Conduct and Impact as a framework, discussion of an appropriate conduct threshold is necessary before selecting a value.
- As described above, Section 3.4 should include a dedicated approach for storage hydro using the Hydro DEB approach from WEIM.
- Section 3.4D requires a Resource's mitigated Energy Offer Curve to be the short-run marginal costs of producing energy using "the unit's heat rate or similar production efficiency ratio" and other inputs that are not relevant for hydro resources. To the extent this language is used, it should more specifically refer to the relevant resource types for which it would apply.
- Powerex does not understand the intent of Section 3.4E. The section refers to opportunity costs for "resources that are not ESRs" and includes lengthy explanation of a pricing forecast model using forecast and historical LMPs, heat rates, etc. Powerex does not support this section, as applied to hydro resources.
- Similarly, Section 3.4F is not applicable to hydro resources. To the extent this language is used, it should more specifically refer to the relevant resource types for which it would apply.
- Powerex is aware that some entities with thermal resources have had significant challenges with intra-day fuel cost volatility. Stakeholders should ensure that Section 3.4J provides adequate confidence that such resources will be able to reflect their costs in mitigated energy bids.

3.6 Mitigation Measures for Flexibility Reserve Product Offers

- Powerex believes it is premature to determine whether mitigation of flexible reserve products is necessary in Markets+. Prior to making such a determination, discussion is necessary to define the underlying bidding functionality and requirements for flexible reserves in Markets+ (including the flexibility to communicate the quantity of flexible reserves a participant is willing to make available, the application of bid price caps, etc.).

3.7 Validation of Mitigated Resource Offer

- Powerex does not support this section as currently presented, and specifically the wording that could be interpreted as allowing the MMU to potentially decide, on an ex-post basis, that a particular mitigated offer price is "unacceptable" and subject to a claw back of revenues.
- Powerex does not believe it is appropriate for the MMU to have unilateral ability to require Market Participants to submit an MMU-determined mitigated offer values indefinitely until the dispute is resolved.

- Similar to other areas, this language appears to have been significantly modified relative to what currently appears in the WEIS and SPP RTO (i.e., it is not "boiler plate language" from either market) and Powerex is concerned that it appears to suggest that a previously approved methodology for determining mitigated offer prices could be later rescinded on a retroactive basis.

3.8 Additional Mitigation Measures for Resource Offer Parameters

- Powerex does not understand the need to mitigate non-priced values and would appreciate further information about the purpose of this section, particularly for Markets+.

3.9 Market Impact Test

- While Powerex generally supports Conduct and Impact as a framework, discussion of an appropriate market impact threshold (and appropriate conduct threshold, as discussed above) is necessary before selecting a value.
- Discussion of appropriate thresholds must be consistent with developing an appropriate mitigated offer framework for hydro resources (*i.e.,* similar to WEIM Hydro DEB).

Attachment C

3.1 Staffing Resources

- Should market monitoring for Markets+ report to the MIP?

3.2 Relationships and Notifications

- Should notification of market design or policy problems include the MIP?

4.2 Market Monitoring Scope

- Powerex does not support the scope of data that appears to be go beyond typical information necessary for oversight and review of market operations.
- For example, Powerex does not understand why MMU would need to examine Markets+ participating Balancing Authority Area data, including but not limited to demand, area control error, Net Scheduled Interchange, actual total net interchange, and forecasts of operating reserves and peak demand.
- Powerex does not support a requirement to provide hydro resource cost data or other information related to dispatch decisions of individual facilities or water management activities or the operational planning of hydro systems.
- Powerex notes that the necessary data sharing elements for storage hydro resources in the West has been well established in the WRAP and Western EIM and the same approach should be applied to Markets+.

4.4 Monitoring for Potential Market Manipulation

- Powerex does not support the language in Section 4.4 as currently presented.

- Powerex notes that portions of the language in this section are antiquated; they are a restatement of a FERC market behavior rule that has since been rescinded/revoked. This creates confusion and is unnecessary.

- Powerex is concerned that the draft language includes vague or subjective terminology (*e.g.,* "misleading," "material," "artificial") and provisions that appear to presume the ability and authority of the MMU to accurately determine the quantity of "available supply."

- The draft language appears to provide no exemption for inadvertent, de minimis or other factors inconsistent with manipulation.

- Powerex recommends that section 4.4 be modified to retain only the first and last sentence, as follows: "The Market Monitor will monitor for instances of market manipulation. The Market Monitor will report any market manipulation in a timely manner."

4.6.1 Uneconomic Production

- Powerex does not support the language. Today, hydro participants and hydro operators determine how to allocate limited and uncertain water over time, and in doing so can be expected to be informed by a broad set of interrelated factors, with some inputs known with certainty, and others projected. Markets+ must support the continuation of this decision-making autonomy over water management decisions.

- Hydro operators' and hydro participants' water management activities will necessarily result in supply decisions that consider factors other than market pricing, including periods where an increased volume of water is desired to be released, resulting in actions taken to support elevated levels of generation, with offers as price-taker (*i.e.,* self-schedules) or at relatively low prices. Such operational decisions are to be expected and must not be regarded as uneconomic production.

- Powerex also notes that the Western EIM (and the CAISO markets more generally) enables resource owners to "self- schedule" all, or a portion, of their production at the participant's sole discretion to manage operational needs, and that such activity is a regular, acceptable activity throughout these markets.

4.6.4 and 4.6.4.1 Physical Withholding

- Powerex does not support the language as currently presented. Today, hydro participants and hydro operators determine how to allocate limited and uncertain water over time, and in doing so can be expected to be informed by a broad set of interrelated factors, with some inputs known with certainty, and others projected. Markets+ must support the continuation of this decision-making autonomy over water management decisions.

- Hydro operators' and hydro participants' water management activities will necessarily result in supply decisions that consider factors other than market pricing, including

periods where a limited volume of water is considered available to support additional generation, resulting in limitations in the quantity of energy offered to the market, as reflected in offers of limited volumes or at relatively higher prices. Such operational decisions are to be expected and must not be regarded as physical withholding (or as economic withholding).

8.2 Access to Data and Information

- Powerex does not support this section as currently presented. The WEIS tariff section that appears to form the basis for this language is specifically related to SPP data as market operator. This language has been greatly expanded to include all data from SPP, the BAA, and the market participant, RC and TSP.

8.3 Access to Market Participant Data and Information

- Powerex does not support this section as currently presented, and opposes the requirement to provide any data beyond what is necessary to represent the resource's generation capability and production in the market optimization software for the applicable period.
- Powerex does not support a requirement for market participants to provide data or other information related to water management or the operational planning of hydro systems, data related to resource planning, or the very broad requirement to provide "all data and information used to make decisions in the course of business operations related to market strategy".
- Powerex notes that the necessary data sharing elements for storage hydro resources in the West has been well established in the WRAP and Western EIM and the same approach should be applied to Markets+.

Section 10 Review of Market Monitor

- Powerex proposes this review be performed by the MIP and that the first review take place no later than 3 years after go-live, and at least every 5 years thereafter.

From: Jim Gonzalez <jgonzalez@spp.org>
Sent: Friday, July 21, 2023 7:29 AM
To: Eaton,Sara L (BPA) - PTMA-5
Cc: Truong,Mai N (BPA) - TSB-TPP-2; Kirby,Elizabeth A (BPA) - BT-3; Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] RE: MOO Discussion Follow-Up

Looks good to me. Thanks for taking notes!

Jim

From: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Sent: Thursday, July 20, 2023 5:48 PM
To: Jim Gonzalez <jgonzalez@spp.org>
Cc: Truong, Mai <mntruong@bpa.gov>; Kirby, Libby <eakirby@bpa.gov>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** MOO Discussion Follow-Up

CAUTION: This email originated from outside of the SPP network. Do not click links or open attachments unless you recognize or can verify the sender, or were expecting an email from the sender. The original sender of this email is sleaton@bpa.gov

Hi Jim,

Thank you again for taking the time to check-in with us on MOO – we really appreciate it!
I took a few notes and just wanted to make sure that I'm accurately reflecting the conversation/didn't misunderstand anything.
I just tried to bold a couple of the points that I think our internal SMEs have been struggling with a bit, to make sure that the phrasing is correct.

From SPP's perspective:

- **WRAP ensures market participants are capacity adequate**
  - The market will procure uncertainty products from this and other bid-in capacity to ensure sufficiency
- **MOO ensures that participants bring energy to the market, to meet their DA load forecasts/obligations**
- Prices are really what will drive entities to acquire more energy, if they're deficit, not necessarily the MOO
- The MOO is really there to encourage folks not to lean on the market – generally not a big penalty
  - If entities are persistently failing the MOO, the group can explore a penalty escalation, to prevent persistent leaning.
  - In the east, MOO is really not a big deal for participants (very different to our experience with CAISO RS test).
  - When they fail, they have a pretty good idea of the costs associated: *a penalty (load/resource weighted average of the MWs you didn't offer in and you give that money to everyone who didn't fail (it's load-weighted based on your resources LMP)*
    - *Recognizing that this might not be how we structure it for M+*
- SPP can manage awards to prevent hydro exceeding hourly/daily energy limits
  - Specifically, SPP has experience dealing with non-pricing constraints, such as fish and spring oversupply.
  - **Still need to reconcile how that would integrate with a MOO equation?**

Thanks again,
Sara and Team

Sara Eaton (she/her)
Senior Markets Policy Analyst | Market Policy and Pricing | PTMP
Bonneville Power Administration
C: (b)(6) W: 503-230-5222 | sleaton@bpa.gov

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From: Kristen Darden <kdarden@spp.org>
Sent: Sunday, July 30, 2023 9:49 PM
To: Steve White; Mantifel,Russell (BPA) - PGL-5; Jim Gonzalez
Subject: [EXTERNAL] RE: 8/9 MPEC Material - Cost Allocation Methodology

I figure it'll be between Russ or Jim, with you on for support just in case. Thank you though!

From: Steve White <swhite@spp.org>
Sent: Sunday, July 30, 2023 11:48 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>
Subject: RE: 8/9 MPEC Material - Cost Allocation Methodology

I won't be there in person, but I can present unless someone else wants to.

Thanks,

Sent from my T-Mobile 5G Device

-------- Original message --------
From: Kristen Darden <kdarden@spp.org>
Date: 7/30/23 23:44 (GMT-06:00)
To: "Mantifel, Russ" <rxmantifel@bpa.gov>, Jim Gonzalez <jgonzalez@spp.org>
Cc: Steve White <swhite@spp.org>
Subject: 8/9 MPEC Material - Cost Allocation Methodology

Hey guys –

This is the slide deck I'm going to use for MPEC materials next week. I recycled Steve's slides from 7/26 MDWG meeting. Check it out and let me know who you'd prefer present.

One more coming your way, but will prob be tomorrow. I'm about tapped out tonight.

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, February 8, 2024 6:31 AM
To: Doot,Erika A (BPA) - LP-7; Kelli Schermerhorn; Chris Nolen; Rachel Kane
Cc: Miller,Todd E (BPA) - LP-7; Mantifel,Russell (BPA) - MTM-3; Chong Tim,Marcus H (BPA) - L-7; Kirby,Elizabeth A (BPA) - MTM-3; Eaton,Sara L (BPA) - PTMA-5; Chan,Allen C (BPA) - LT-7; Meyers,Andrew P (BPA) - MTM-3; Truong,Mai N (BPA) - TSB-TPP-2
Subject: [EXTERNAL] RE: Additional BPA Comments on Draft M+ Tariff
Attachments: E Doot_BPA Comments_020824.docx

Erika –

I apologize for the delay. Thank you for sending over BPA's comments. We have responded within the attached. We did incorporate a portion of the comments. We noted within the document which comments were incorporated. We will also address these during the meeting today. Please let us know if you have any questions on our responses.

Thank you.

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Sent: Tuesday, February 6, 2024 7:08 PM
To: Kristen Darden <kdarden@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel, Russ <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby, Libby <eakirby@bpa.gov>; Eaton, Sara <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong, Mai <mntruong@bpa.gov>
Subject: **External Email** Additional BPA Comments on Draft M+ Tariff

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - eadoot@bpa.gov
and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Hi Kristen, Kelli, Chris & Rachel,

Based on Kristen's email today, I thought you would appreciate BPA sending comments on the draft tariff for MDWG discussion.

We will likely have another set or two, but I thought it would be helpful if you could start running them down.

Please let me know if you have any questions.

Thanks,
Erika

Erika Doot
Attorney-Advisor
Bonneville Power Adminstration
(503) 230-4329

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2/6/24
Additional BPA Comments on Draft SPP Tariff
Erika Doot, Todd Miller, Allen Chan, Russ Mantifel, Sara Eaton, Libby Kirby

1. Asset Owner Reserve Zone Load Ratio Share Definition

Comment [SPP 1]: @Steve W - please answer

Should the Asset Owner sum be divided by all Asset Owner sums for "the same Reserve Zone" rather than "in all Reserve Zones"?

> "The sum of an Asset Owner's Billable Metered Load, Self-Charging MSRs , and Export Interchange Transactions in a Reserve Zone divided by the sum of all Asset Owners' Billable Metered Load, Self-Charging MSRs, and Export Interchange Transactions ***in all Reserve Zones*** for a given hour."

2. Demand Bid Curve Definition

Suggest the Demand Bid Curve Definition also reference monotonically non-decreasing price/quantity pairs like the Energy Curve Definition:

> A Demand Bid specified as megawatt MW and dollars per MWh with up to ten (10) **monotonically non-~~decreasing~~ increasing** price/quantity pairs.

Comment [SPP 2]: See inline edit

3. Import Interchange Transaction Offer Definition

> A proposal by a Market Participant to provide Energy from a source external to a Markets+ Balancing Authority Area at a specified External Interface and period of time.

Comment [SPP 3]: This is the definintion from east integrated market - FERC approved language, and used consistently across the M+ tariff

Should the definition begin with "an offer" or "a commitment to sell" like in the offer definition instead of "a proposal"?'

Also, should the definition include "at a specific minimum price" like in the Offer definition?

4. Reliability Unit Commitment (RUC) Definition

> The processes performed by the Market Operator to assess Resources and Flexibility Reserve Product capacity adequacy and to communicate Market Commitments of Resources to the appropriate Market Participants~~, as necessary~~.

Comment [SPP 4]: See inline change above

Suggest update to:

> The processes performed by the Market Operator to assess Resources and Flexibility Reserve Product capacity adequacy and to communicate to Market Participants the Market Commitments of Resources.

Also, definition could be more specific, perhaps like the SPP Glossary definition, "'SPP process to assess resource and Flexible Reserve Product capacity adequacy for the Operating Day, commit and/or de-commit resources as necessary, and communicate resource commitments or de-commitments to the

SPP Public Information

appropriate Market Participants, as necessary."

5. Resource Definition

What does it mean to "reduce the withdrawal of energy from the transmission grid"?

6. State of Charge and State of Charge Forecast Definitions

Suggest update both definitions to refer to MSRs.

7. Variable Energy Resource Definition

Suggest add acronym (VER)

8. Attachment A, Section 2.1.2.1 Clearing During Capacity Shortage

(1) Suggest reference to Section 7.4 for clarification on what constitutes a "shortage."

(2) Suggest clarification of phrase "Resources' charge MWs in any hour" – perhaps refer to MSRs and "net obligation," etc.

(2)(b) Suggest clarification of "restore to the 50% Mid-Term Flex-Up Requirement" because may be interpreted as "restore [to 100%] the Mid-Term Flex-Up Requirement."

(3) Suggest discussion of whether self-scheduled demand bids should be cut *pro rata* with high priority exports, with recognition that some high priority export transactions could be meeting WRAP obligations.

9. Attachment A, Section 3.6.1 Impact of Scarcity Pricing on Locational Marginal Prices and Market Clearing Prices

Should section (2)(a)(i) and 2(b)(i) incorporate definition of FSR with "cold start" and "not on outage" qualifications for clarity?

10. Attachment A, Section 4.2.4 Variable Energy Resources

Section discusses how VERs "may register." Suggest clarify whether VERS *must* register. Suggest also clarify that VERs will be registered as non-dispatchable if they do not register as DVERs.

If all VERS must register, suggest update initial discussion with a statement such as "All VERs must register as VERs or DVERs."

Comment [SPP 5]: Demand Response

Comment [SPP 6]: Addressed in MDWG meeting dated 02/05/2024

Comment [SPP 7]: done

Comment [SPP 8]: Concerned about unintended consequences of this change. SPP is reluctant to make medium changes that might impede the timeline.

Comment [SPP 9]: Fixed in both (2)(a) & (b). THANK YOU!

Comment [SPP 10]: policy change that is not in line with the task force approved structure; could be addressed post-filing

Comment [SPP 11]: Drafting issue related to the definition of FSR – we want to limit future tariff issues if this definition or its requirements are ever changed

Comment [SPP 12]: We typically do not tell MPs how they must register a resource

SPP Public Information

11. Attachment A, Section 4.3.3 Through Interchange Transactions

Regarding draft tariff note that future discussions will be held at MDWG, would like to discuss through transactions between two non-market participants. Would a non-market participant be required to submit TSRs/e-tags for a through transaction to another non-market participant? Would a non-market participant through transaction be accounted for in the transmission carve-out alone?

Comment [SPP 13]: SEAMS protocols matter: will be drafted by Seams and reviewed by MDWG after filing

12. Attachment C, Section 4.6.4 Physical Withholding

Subsection (1) (c) states "Operating a Resource in real-time to produce an output level that is less than the Dispatch Target minus the Resource's Operating Tolerance defined in Attachment A, Section 6.4.1 and the Resource is not exempt from URD under Attachment A, Section 9.3.23"

There is no Attachment A, Section 6.4.1 suggest update to:

"... Resource's Operating Tolerance defined in Attachment A, Section 9.3.23 and the Resource is not exempt from Uninstructed Resource Deviation under Attachment A, Section 9.3.23.1."

Comment [SPP 14]: Will change

13. Section 4.6.4.1 Thresholds for Identifying Physical Withholding of Resource Capacity

Comment [SPP 15]: Addressed in revised section 4.6.4.1

Suggest update based on previous MDWG discussion to remove the double negative.

From: "A Market Participant is deemed to be physically withholding capacity if the Market Participant is not deemed to be not physically withholding pursuant to Section 4.6.4(2) and all of the following conditions exist:"

To: "Unless a Market Participant is deemed to not be physically withholding pursuant to Section 4.6.4 (2), a Market Participant will be deemed to be physically withholding capacity if all of the following conditions exist:"

SPP Public Information

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, September 12, 2023 8:35 AM
To: Mantifel,Russell (BPA) - PGL-5; Detmer, Nick
Subject: RE: [EXTERNAL] RE: Extra MDWG Meetings

Excellent – thanks, Russ.

From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Tuesday, September 12, 2023 10:30 AM
To: Kristen Darden <kdarden@spp.org>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: **External Email** [EXTERNAL] RE: Extra MDWG Meetings

CAUTION: This email originated from outside of the SPP network. Do not click links or open attachments unless you recognize or can verify the sender, or were expecting an email from the sender. The original sender of this email is rxmantifel@bpa.gov

I can make those work

Sent from Workspace ONE Boxer

On Sep 12, 2023 6:32 AM, Kristen Darden <kdarden@spp.org> wrote:
Good morning!

Russ – were you good with the proposed dates and times?

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Tuesday, September 5, 2023 5:11 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: Extra MDWG Meetings

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I can make those work

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, September 5, 2023 3:36 PM
To: Detmer, Nicholas J <nick.detmer@xcelenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: Extra MDWG Meetings

EXTERNAL - STOP & THINK before opening links and attachments.

Hey Nick and Russ –

I figured I'd send a new email string to really pull together some dates on MDWG Meetings:

- **10/4/2023 – 12:00-5:00, CPT**

- I'd like to cover Virtuals, Scarcity Pricing, and Flex language during this meeting.
- **11/1/2023 – 12:00-5:00, CPT**
  - Second round for transmission following 10/26 FTF; also first review of settlements language here.
- **11/3/2023 – 10:30-5:00, CPT**
  - This meeting we need to cover Congestion Rent and Settlements. So it'll be pretty busy this week for us.
- **11/17/2023 – 10:30-5:00, CPT**
  - I'd like to cover Settlements and this will be the drop date for Congestion Rent approval, if not approved 11/3.

Thoughts?

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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This email and any attachments are for the sole use of the intended recipient(s) and may contain confidential information. If you receive this email in error, please notify the sender, delete the original and all copies of the email and destroy any other hard copies of it.

From: Carman Ruder <cruder@spp.org>
Sent: Wednesday, July 17, 2024 9:21 AM
To: Aaron Shipley <ashipley@spp.org>; Adriane Barnes <abarnes@spp.org>; Amy Casavechia <acasavechia@spp.org>; Brad Johnston <bjohnston@spp.org>; Britney Lloyd <blloyd@spp.org>; Carrie Simpson <csimpson@spp.org>; Contractor-Kevin Morelock <contractor-kmorelock@spp.org>; Derek Wingfield <dwingfield@spp.org>; Gentry Crowson <gtcrowson@spp.org>; Jennelle Primm <jprimm@spp.org>; Jennifer Farley <jfarley@spp.org>; Jillian Janik <jjanik@spp.org>; John Gunter <jgunter@spp.org>; Jordan Foster <jfoster@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Ken Quimby <kquimby@spp.org>; Kim O'Guinn <koguinn@spp.org>; Morelock, Kevin <kmorelock@utilicast.com>; Wolfgang, Tracy <twolfgang@utilicast.com>; Taylor, Joseph <Joseph.c.taylor@xcelenergy.com>; Blair, Twyana <Twyana.Blair@aps.com>; Moore, Tyler <Tyler.moore@aps.com>; Russell, Derek <derek.russell@powerex.com>; Wiencke, Mary <mwiencke@publicgeneratingpool.com>; Breidenich, Clare <cbreidenich@aciem.us>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>; Spires, Jeff <jeff.spires@powerex.com>; Linn, Michael <mlinn@ppcpdx.org>; Hakala, Tuuli <tuuli.hakala@chelanpud.org>; Martin, Marcie <Marcie.Martin@srpnet.com>; Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>; Freitas, Art <arthur.p.freitas@xcelenergy.com>; Fredrickson,Rebecca E (BPA) - TSB-TPP-2 <refredrickson@bpa.gov>; Myers, Nick <nmyers@azcc.gov>; Gia Anguiano (ganguiano@westernenergyboard.org) <ganguiano@westernenergyboard.org>
Cc: Meghan D. Sever <msever@spp.org>; Adriane Barnes <abarnes@spp.org>; Skylar Kincaid <skincaid@spp.org>; Carrie Dixon <cdixon@spp.org>
Subject: [EXTERNAL] M+ Parking Lot Prioritization - Assignments

Chairs and Secretaries,

Thank you for your collaboration in the first wave of the SPP Markets+ parking lot prioritization efforts for the post initial tariff filing. but part of go-live section of the parking pot. Please see below for your group's assigned items and their associated target approval and implementation dates.

Please reach out to staff with any questions as you take these items to your working groups and task forces and being working on them.

Thank you!

Carman Ruder | Lead Market Design Analyst, Western Services Development | cruder@spp.org | (b) (6)
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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29330524

MDWG

SPP MARKETS+ PARKING LOT ITEMS												
										SPP		
Resolution Timeframe	ID	WG/TF Origination	Brief Description	Submission Date	Status	WG/TF Assignment	System Impacting?	Requires M+ Tariff filing?	Prioritization	Target MPEC Approval Date	Target Implementation Date
Post Initial Tariff Filing but Part of Go-Live	14	MSWG	Provide multiday market run look ahead for gas burn projections: Minimum of 5 days for market day ahead look, Tool to include MW forecast for each resource, Forecast to be available by 4:30 am PPT before day ahead.	9/28/2023	Open	MDWG	Yes	No	Low	Q3 2024	Q2 2027
	15	MDWG	SPP staff to revisit Attachment A, Section 9.2.10 (Day-Ahead Make Whole Payment Distribution Amount) and all other Settlement uplift charge types, when the market footprint is better known to allocate market-wide vs. at the BAA level.	11/17/2023	Open	MDWG	Yes	Maybe	High	Q1 2025	Q2 2027
	17	MDWG	Research Energy Offer Mitigation in Attachment B, Section 3.4, for dispatch-limited Energy storage mitigation and determine what modifications are necessary to reflect resource characteristics.	1/11/2024	Open	MDWG	No	Maybe	High	Q3 2024	Q2 2027
	24	MDWG	Attachment A, Section 6.3 Non-Participating Entity Registration - BPA would like to discuss this concept further after the filing	2/15/2024	Open	MDWG	No	No	Low	N/A	Q3 2024

MGHGTF

SPP MARKETS+ PARKING LOT ITEMS											
									SPP		
Resolution Timeframe	ID	WG/TF Origination	Brief Description	Submission Date	Status	WG/TF Assignment	System Impacting?	Requires M+ Tariff filing?	Prioritization	Target MPEC Approval Date	Target Implementation Date
Post Initial Tariff Filing but Part of Go-Live	20	MPEC	The MGHGTF, in coordination with SPP Staff, will continue work in progress to develop clear and comprehensive market design elements to support compliance with non-pricing GHG Reduction Programs through dispatch (or alternative mechanisms), tracking and reporting and will work to complete this task with sufficient time before the deadline for utility commitments for Phase II M+ funding decisions .	1/24/2024	Open	MGHGTF	Yes	No	Urgent	Q3 2024	Q2 2027

MRATF

SPP MARKETS+ PARKING LOT ITEMS											
									SPP		
Resolution Timeframe	ID	WG/TF Origination	Brief Description	Submission Date	Status	WG/TF Assignment	System Impacting?	Requires M+ Tariff filing?	Prioritization	Target MPEC Approval Date	Target Implementation Date
Post Initial Tariff Filing but Part of Go-Live	16	MRATF	WRAP binding status alignment with M+ Go-Live.	11/30/2023	Open	MRATF	No	No	High	N/A	Q2 2027

29330524

MSWG

SPP MARKETS+ PARKING LOT ITEMS

Resolution Timeframe	ID	WG/TF Origination	Brief Description	Submission Date	Status	WG/TF Assignment	System Impacting?	Requires M+ Tariff filing?	SPP Prioritization	SPP Target MPEC Approval Date	SPP Target Implementation Date
Post Initial Tariff Filing but Part of Go-Live	13	MSWG	Should CAISO be treated as 1 source/sink or be split into North/South? What flow limitations are in Market limitations model related to boundaries?	9/28/2023	Open	MSWG	No	No	Low	Q1 2025	Q2 2027
	3	MSWG	DA interchange transactions (evaluate options to increase DA interchange volumes due to limited firm/non-firm transmission availability including etag timing requirements).	9/26/2023	Open	MSWG	TBD	TBD	High	Q3 2025	Q2 2027
	19	MPEC	The MSWG will define a seams framework of key components, including evaluation of flexibility reserve to shape development of how we will handle seams issues with CAISO and RTOE post tariff filing, with an estimated completion date of the end of 2024.	1/24/2024	Open	MSWG	No	No	Urgent	N/A	Q4 2024
	21	MPEC	SPP will ensure the definition of High Priority Exports and its implementation do not undermine the balancing services that generators pay their balancing authorities for (especially those that provide hour-ahead to real-time balancing).	1/24/2024	Open	MSWG	Yes	No	High	Q3 2024	Q2 2027

MTWG

SPP MARKETS+ PARKING LOT ITEMS

Resolution Timeframe	ID	WG/TF Origination	Brief Description	Submission Date	Status	WG/TF Assignment	System Impacting?	Requires M+ Tariff filing?	SPP Prioritization	SPP Target MPEC Approval Date	SPP Target Implementation Date
Post Initial Tariff Filing but Part of Go-Live	12	MTWG	Identification of TSP OATT Changes	8/25/2023	Open	MTWG	No	No	High	N/A	Q4 2024

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, October 30, 2023 8:01 AM
To: Rachel Kane; Fina, Giuseppe (Joe); Mantifel,Russell (BPA) - MTM-3
Cc: Chris Nolen; Emon Mahony; Christine Dillard
Subject: [EXTERNAL] RE: Legal Group Response to Duty of Candor Tariff Provisions

Thank you for sending these over, Rachel. I'll get them added.

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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From: Rachel Kane <rkane@spp.org>
Sent: Friday, October 27, 2023 7:55 PM
To: Fina, Giuseppe (Joe) <gfina@snopud.com>; Mantifel, Russ <rxmantifel@bpa.gov>; Kristen Darden <kdarden@spp.org>
Cc: Chris Nolen <cnolen@spp.org>; Emon Mahony <emahony@spp.org>; Christine Dillard <cdillard@spp.org>
Subject: RE: Legal Group Response to Duty of Candor Tariff Provisions

Hey, Kristen,

It looks like Duty of Candor is set to be discussed at MDWG on 11/1. However, I do not see Legal Group's Response in the meeting materials. Would you be able to add the Response to the materials?

Rachel Hildebrand Kane | Attorney, Markets & Regulatory Policy
rkane@spp.org (b)
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Working together to responsibly and economically keep the lights on today and in the future.

From: Fina, Joe <GFina@SNOPUD.com>
Sent: Friday, October 20, 2023 4:39 PM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Kristen Darden <kdarden@spp.org>
Cc: Chris Nolen <cnolen@spp.org>; Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>; Christine Dillard <cdillard@spp.org>
Subject: **External Email** Legal Group Response to Duty of Candor Tariff Provisions

STOP! This is **NOT** an SPP email.
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Please click the "Report Phish" button if you are unsure about this email.

Russ and Kristen,

Per the MDWG's request, attached is the Legal Group's response to the proposed duty of candor provisions. Let me know when you think the MDWG will bring up the issue and I will plan to participate along with other available legal group members.

Thanks,

- Joe

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January 2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3 MTWG – ½ day Holistic Tariff Review	4 Holistic Tariff Review	5 Holistic Tariff Review	6
7	8 Holistic Tariff Review	9 Holistic Tariff Review	10 Holistic Tariff Review	11 Holistic Tariff Review MDWG – 2 hour call review GHG Tariff	12 Holistic Tariff Review	13
14	15	16 MOPC 8am – 5pm Virtual	17 MOPC 8am – 12pm Virtual	18 MTWG – ½ day	19	20
21	22	23 MWG Webex all day MPEC 8am – 5pm TSGT	24 MWG Half Day Webex MPEC 8am – 5pm TSGT	25	26	27
28	29	30	31			

LEGEND:

Markets+ Meetings

No Highlight SPP Integrated Marketplace Meetings

February 2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 MSWG – ½ day	2	3
4	5	6 Board of Directors 8-3pm Virtual	7 MTWG – ½ day	8	9	10
11	12	13 MDWG – 8am – 5pm	14 Hold morning for 2-day MDWG	15	16	17
18	19	20 MWG – 8am – 5pm	21 MWG/RTWG 8am-5pm	22 MRTF – ½ day	23	24
25	26	27 MCRTF – ½ day	28 MORWG – All Day	29 MGHGTF –All day		

LEGEND:

Markets+ Meetings

No Highlight SPP Integrated Marketplace Meetings

March 2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6 **MTWG – ½ day**	7 **MSWG – ½ day**	8	9
10	11	12 **MDWG – 8am – 5pm**	13 **Hold morning for 2-day MDWG**	14	15	16
17	18	19 **MWG 8am – 5pm Kansas**	20 **MWG ½ day? Kansas**	21 **MRTF – ½ day**	22	23
24	25	26 **MCRTF – ½ day**	27 **MORWG – All Day**	28 **MGHGTF- All day**	29	30
31						

LEGEND:

Markets+ Meetings

No Highlight **SPP Integrated Marketplace Meetings**

April 2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3 **MTWG – ½ day**	4 **MSWG - ½ day**	5	6
7	8	9 **MDWG All Day**	10 **Hold morning for 2 day MDWG**	11 **MCRTF – ½ day (out of normal cadence because of MOPC)**	12 **MRTF – ½ day (out of normal cadence because of MOPC)**	13
14	15	16 **MOPC- 8am – 5pm Denver**	17 **MOPC – 8am – 12pm Denver**	18 **MORWG- All Day**	19	20
21	22	23 **MWG – All Day Denver**	24 **MWG – ½ day Denver**	25 **MGHGTF- All Day**	26	27
28	29	30 **MPEC 8:30am – 5pm SRP**	**MPEC – 8:30am-5pm**			

LEGEND:

Markets+ Meetings

No Highlight — SPP Integrated Marketplace Meetings

May 2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 MPEC 8:30-5pm – SRP	2 MSWG – 1/2 day	3	4
5	6	7 BOD 8am – 3pm Denver	8 MTWG – ½ day	9	10	11
12	13	14 MDWG All Day	15 Hold morning for 2-day MDWG	16	17	18
19	20	21 MWG All Day	22 MWG 1/2 Day	23 MRTF – ½ day	24	25
26	27	28 MCRTF – ½ day	29 MORWG – All day	30 MGHGTF – All Day	31	

LEGEND:

Markets+ Meetings

No Highlight SPP Integrated Marketplace Meetings

June 2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5 **MTWG – ½ day**	6 **MSWG – ½ day**	7	8
9	10	11 **MDWG – All Day**	12 **Hold morning for 2-day MDWG**	13	14	15
16	17	18 **MCRTF – ½ day**	19 **MORWG – All Day**	20 **MRTF – ½ day**	21	22
23	24	25 **MWG – All Day**	26 **MWG – ½ Day**	27 **MGHGTF – All Day**	28	29
30						

LEGEND:

Markets+ Meetings

No Highlight **SPP Integrated Marketplace Meetings**

July 2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3 **MTWG – ½ day**	4	5	6
7	8	9 **MDWG – All Day**	10 **Hold morning for 2-day MDWG**	11 **MSWG – ½ day**	12	13
14	15	16 **MOPC – 8am-5pm-Tulsa**	17 **MOPC – 8am – 12pm Tulsa**	18 **MRTF – ½ day**	19	20
21	22	23 **MWG All Day**	24 **MWG ½ day**	25 **MGHGTF – All Day**	26	27
28	29	30 **MCRTF – ½ day**	31 **MORWG – All Day**			

LEGEND:

Markets+ Meetings

No Highlight **SPP Integrated Marketplace Meetings**

August 2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 MSWG – ½ day	2	3
4	5	6	7 BOD 8am – 3pm St. Louis	8 MTWG – ½ day	9	10
11	12	13 Potential MPEC – All Day (not official)	14 Potential MPEC – All Day (not official)	15 MDWG – All Day	16 Hold morning for 2-day MDWG	17
18	19	20 MWG – All Day	21 MWG – Half Day	22 MRTF – ½ day	23	24
25	26	27 MCRTF – ½ day	28 MORWG – All Day	29 MGHGTF – All Day	30	31

LEGEND:

Markets+ Meetings

No Highlight SPP Integrated Marketplace Meetings

September 2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4 **MTWG – ½ day**	5 **MSWG – ½ day**	6	7
8	9	10 **MDWG – All Day**	11 **Hold morning for 2-day MDWG**	12	13	14
15	16	17 **MCRTF – ½ day**	18 **MRTF – ½ day**	19 **MORWG – All Day**	20	21
22	23	24 **MWG – All Day**	25 **MWG – ½ day**	26 **MGHGTF – All Day**	27	28
29	30					

LEGEND:

Markets+ Meetings

No Highlight **SPP Integrated Marketplace Meetings**

October 2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2 **MTWG – ½ day**	3 **MSWG – ½ day**	4	5
6	7	8 **MDWG – All Day**	9 **Hold morning for 2-day MDWG**	10	11	12
13	14	15 **MOPC – 8am – 5pm**	16 **MOPC – 8am-12pm**	17 **MRTF – ½ day**	18	19
20	21	22 **MWG – All Day**	23 **MWG – ½ day**	24	25	26
27	28	29 **MCRTF – ½ day**	30 **MORWG – All Day**	31 **MGHGTF – All Day**		

LEGEND:

Markets+ Meetings

No Highlight **SPP Integrated Marketplace Meetings**

November 2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5 BOD – 8am – 3pm	6 MTWG – ½ day	7 MSWG – ½ day	8	9
10	11	12 Potential MPEC (not official)	13 Potential MPEC (not official)	14 MDWG – All Day	15 Hold morning for 2-day MDWG	16
17	18	19 MWG – All Day	20 MWG – 1/2 Day	21 MGHGTF – All day	22	23
24	25	26 MCRTF – ½ day MRTF – ½ day	27 MORWG – All Day	28 Thanksgiving Holiday	29	30

LEGEND:

Markets+ Meetings

No Highlight SPP Integrated Marketplace Meetings

December 2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4 **MTWG – ½ day**	5 **MSWG – ½ day**	6	7
8	9	10 **MDWG – All Day**	11 **Hold morning for 2 day MDWG**	12 **MGHGTF – All Day**	13	14
15	16	17 **MWG – All Day**	18 **MWG – ½ day**	19 **MORWG – All Day**	20	21
22	23	24	25	26	27	28
29	30	31				

LEGEND:

Markets+ Meetings

No Highlight **SPP Integrated Marketplace Meetings**

From: Kristen Darden <kdarden@spp.org>
Sent: Friday, November 3, 2023 11:25 AM
To: Mantifel,Russell (BPA) - MTM-3; Detmer, Nick
Cc: Meghan D. Sever; Carrie Simpson; Kirby,Elizabeth A (BPA) - MTM-3
Subject: RE: [EXTERNAL] Reminder: Electricity Markets rulemaking meeting on 11/8/23

Meghan/Carrie – WA Ecology rulemaking meeting during the Wednesday portion of the MPEC, 9-11 a.m., PT.. Need to ensure GHG goes 1st day so that Clare may be present. I think we will be good, but just want it on your radar.

Thanks for telling us!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Sent: Friday, November 3, 2023 12:53 PM
To: Kristen Darden <kdarden@spp.org>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: **External Email** FW: [EXTERNAL] Reminder: Electricity Markets rulemaking meeting on 11/8/23

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Please click the "Report Phish" button if you are unsure about this email.

FYI...can we make sure our agenda doesn't have a conflict for GHG with the WA Ecology meeting?

From: Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>
Sent: Friday, November 3, 2023 10:45 AM
To: Kaseweter,Alisa D (BPA) - AI-7 <alkaseweter@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] Reminder: Electricity Markets rulemaking meeting on 11/8/23

Ugh. Russ, can we pass this on to Kristen or Carrie or whoever controls the agenda for MPEC?

From: Kaseweter,Alisa D (BPA) - AI-7 <alkaseweter@bpa.gov>
Sent: Friday, November 3, 2023 9:33 AM
To: Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>
Subject: FW: [EXTERNAL] Reminder: Electricity Markets rulemaking meeting on 11/8/23

The timing on this is terrible with the MPEC. Mary will want to be on this Ecology workshop, so hopefully the GHG agenda for MPEC can be worked around it.

From: Washington Department of Ecology <waecy@public.govdelivery.com>
Sent: Friday, November 3, 2023 8:58 AM
To: Kaseweter,Alisa D (BPA) - AI-7 <alkaseweter@bpa.gov>
Subject: [EXTERNAL] Reminder: Electricity Markets rulemaking meeting on 11/8/23



Electricity Markets meeting on 11/8/2023

Thank you to those who attended our draft rule feedback meetings and submitted online comments. We are grateful for your engagement and the valuable input you shared. Due to the volume of comments we received, Ecology will need more time to process and carefully consider your feedback before an updated draft of the rule language can be shared.

In response to requests for additional participation opportunities, Ecology is hosting another meeting about the Electricity Markets rulemaking on **Wednesday, November 8, 2023, from 9 AM to 11 AM**. The central focus of the Nov. 8 meeting will be emissions leakage. We aim to have a deeper conversation about this important topic as we chart the path forward.

Register for the Nov. 8 meeting

Visit our rulemaking webpage to learn more about the rulemaking and view materials from past meetings. To receive updates about this rulemaking, please subscribe to our mailing list. If you received this message directly, you are already subscribed.

We look forward to your participation in this meeting, as your contributions have been instrumental in our progress thus far.

Gopika Patwa
Environmental Planner
gopika.patwa@ecy.wa.gov
360-338-2419

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From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, October 20, 2023 6:44 AM
To: Kristen Darden
Cc: Mantifel,Russell (BPA) - BT-3
Subject: [EXTERNAL] RE: Nov 1 MDWG and Phoenix Leadership forum

OK got it, thank you!

Jeff

From: Kristen Darden <kdarden@spp.org>
Sent: Friday, October 20, 2023 6:43 AM
To: Spires, Jeff <Jeff.Spires@powerex.com>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: RE: Nov 1 MDWG and Phoenix Leadership forum

⚠ **Caution: External Email**

Hey Jeff –

We discussed and decided to keep the 11/1 MDWG meeting.

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, October 20, 2023 8:42 AM
To: Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: Nov 1 MDWG and Phoenix Leadership forum

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Thanks Kristen,

I appreciate the response.

Jeff

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, October 16, 2023 7:14 AM
To: Spires, Jeff <Jeff.Spires@powerex.com>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: RE: Nov 1 MDWG and Phoenix Leadership forum



Hey Jeff –

Thank you for letting me know. I did not realize this. I think we may be okay to keep the 11/1 MDWG meeting, because I assume the Leadership Forum will have executive leadership in attendance, after speaking with Carrie about it. However, I will defer to Russ on his thoughts if we should look to reschedule or keep.

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Wednesday, October 11, 2023 1:47 PM
To: Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** Nov 1 MDWG and Phoenix Leadership forum

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Hi Kristen

I note we have an upcoming MDWG meeting on Nov 1, which is also the same day and time as the leadership forum in Phoenix.

I am not sure how much overlap in attendance there would be, but I assume at least some MDWG members would have been set to attend the leadership forum.

I just wanted to flag this to confirm that SPP has given that potential conflict some consideration, recognizing it may just be something we need to work around given the challenges of scheduling meetings.

Jeff

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From: Eaton,Sara L (BPA) - PTMA-5
Sent: Wednesday, November 29, 2023 5:33 PM
To: Kristen Darden
Cc: bjohnston@spp.org; Kelli Schermerhorn; Aaron Shipley; Mantifel,Russell (BPA) - MTM-3; Truong,Mai N (BPA) - TSB-TPP-2; Kirby,Elizabeth A (BPA) - MTM-3; Doot,Erika A (BPA) - LP-7; Miller,Todd E (BPA) - LP-7
Subject: Modifications to Backstop Language
Attachments: 04e-MarketsPlus_Attachment A_Scarcity Pricing_Market Priority Award_Reliability Back Stop_DRAFT_MODIFIED_BPA Edits.docx

Hi All,

BPA has a small proposed edit to language in Attachment A Section 2.2.2 (b). The purpose of the language is to provide additional clarity and certainty that it's the MP who identifies which resources are available for the backstop.
The suggested guidance was to take these proposed modifications to the MDWG on 12/1 –
Kristen we were hoping these would be small changes that we could share in the meeting materials, so folks have a chance to review prior to Friday?

Since the backstop language has been part of the discussions in RATF and MORWG, we wanted to make you all aware and confirm that if language was approved in MDWG, that this would be acceptable and wouldn't require it to filter back through the respective task force and working groups.

Thank you in advance for your time and consideration.
Best,

Sara Eaton (she/her)
Senior Markets Policy Analyst | Market Policy and Pricing | PTMP
Bonneville Power Administration
C: (b)(6) | W: 503-230-5222 | sleaton@bpa.gov

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Scarcity Pricing and Market Priority Award Tariff Language

Definitions:

High-Priority Export Interchange Transaction

An Export Interchange Transaction that is backed by committed supply.

Uncommitted Export Interchange Transaction

An Export Interchange Transaction that is not backed by committed supply.

High-Priority Import Interchange Transaction

An Import Interchange Transaction that is backed by committed supply.

Uncommitted Import Interchange Transaction

An Import Interchange Transaction that is not backed by committed supply.

Scarcity Price

The Locational Marginal Price and Market Clearing Price levels are determined through the use of Demand Curves when there are insufficient Energy or Flexibility Reserve Products.

Scarcity Pricing

The calculation of Scarcity Prices in accordance with Sections 3.2 and 3.6.1 of this Attachment A.

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2.1.2.1 Clearing During Capacity Shortage

(1) In the event of a Flexibility Reserve Product(s) shortage in any hour, the Market Operator will implement Scarcity Pricing.

(2) In the event a capacity shortage results in an inability to meet fifty percent (at least 50%) of the Mid-Term Flex Up requirement, the Self-Scheduled Demand Bids, Self-Scheduled High Priority Export Interchange Transactions, Self-Schedule Uncommitted Export Interchange Transactions, and Resources' charge MWs in any hour, the Market Operator will:

   (a) First reduce the Self-Scheduled Uncommitted Export Interchange Transactions on a pro-rata basis based on the MW amounts until such time that the Mid-Term Flex-Up requirement is restored and administratively set LMPs as described under Section 3.6.4(4);

   (b) If the reduction of all Uncommitted Export Interchanges Transaction does not restore the Mid-Term Flex-Up requirement, reduce Self-Scheduled Demand Bids, Self-Scheduled High Priority Export Interchange Transactions, and Resources' charge MWs on a pro-rata basis based on the MW amounts to match the available capacity.

(3) If a transmission constraint cannot be relieved due to a shortage of capacity in any hour, the Self-Schedule Demands Bids will clear on a pro-rata basis based upon the impact on relieving the constraint.

2.1.2.2 Clearing During Excess Generation Conditions

If the sum of Self-Scheduled Demand Bids, Self-Scheduled Uncommitted Export Interchange Transaction Bids, and Self-Scheduled High Priority Export Interchange Transaction Bids in any hour are less than the sum of the minimum outputs of the committed Resources, Self-Scheduled Uncommitted Import Interchange Transaction Bids, and Self-Scheduled High Priority Import Interchanges Transaction Bids in that hour, then the Market Operator will:

   (a) Reduce Self-Schedule Uncommitted Import Interchanges Transaction Bids pro-rata based on MW amounts;

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(b) Reduce Self-Schedule High Priority Import Interchange Transactions Bids pro-rata based on MW amounts;

(c) Relax enforcement of Resource minimum limits on a pro-rata basis to clear Resource Offers to meet Demand Bids, Uncommitted Export Interchange Transaction Bids, High Priority Export Interchange Transaction; and

(d) Implement Scarcity Pricing to the extent that the Flexibility Reserve Products requirements cannot be maintained.

2.2.2 Reliability Unit Commitment Execution

The Market Operator will employ a Simultaneous Co-optimization Methodology with the objective of committing Resources to meet the Market Operator load forecast, Uncommitted Export Interchange Transactions, High Priority Export Interchange Transactions, Instantaneous Load Capacity requirements, and Flexibility Reserve Products requirements less Uncommitted Import Interchange Transactions and High Priority Import Interchange Transactions over the study period such that commitment costs are minimized while recognizing Transmission System security constraints, Service Flow Constraints, and the Resource operating parameter constraints submitted as part of the RTBM Offers.

(1) Commitment costs are defined as Start-Up Offer, No-Load Offer, and incremental cost to operate at minimum output as defined in the submitted Energy Offer Curve.

(2) If available capacity plus Uncommitted Import Interchange Transactions plus High Priority Import Interchange Transactions is not sufficient on a system-wide basis to meet the Market Operator load forecast, Uncommitted Export Interchange Transactions, High Priority Export Interchange Transactions, the upper bound of Instantaneous Load Capacity requirement and fifty percent (50%) of the Mid-Term Flex Up requirement, the Market Operator will communicate and coordinate with Market Participants and participating BAs to sequentially:

(a) Reduce Uncommitted Export Interchange Transactions pro-rata based on MW amounts to relieve the capacity shortage; and

(b) Commit additional available Resources that were not otherwise offered to the market to relieve the capacity shortage if needed. Each Market Participant will be required to ~~make such~~ identify additional available supply, as defined in the Protocols, ~~additional supply available~~, subject to the Market Participant's contractual rights and obligations and any operational limitations as determined by the Market Participant and/or participating BA.

Comment [EL(P51]: BPA Legal: Provide certainty that the MP will decide which resources are available and what the limitation on those resources is.

(3) If there is a capacity surplus on a system-wide basis identified when the sum of (a) self-committed and reliability must-run capacity at minimum output, (b) Self-Schedule Uncommitted Import Interchange Transactions, (c) High Priority Import Interchange Transactions (d) the lower bound of Instantaneous Load Capacity requirement, and (e) the Flexibility Reserve Products requirements is more than the sum of the Market Operator load forecast, Self-Scheduled Uncommitted Export Interchange Transactions and Self-Scheduled High Priority Export Interchange Transactions the Market Operator will:

(a) Reduce Self-Schedule Uncommitted Import Interchanges Transaction Bids pro-rata based on MW amounts;

(b) Reduce Self-Schedule High Priority Import Interchange Transactions Bids pro-rata based on MW amounts; and

(c) Communicate and coordinate with participating BAs.

2.3.1.2 Real-Time Balancing Market Execution

The Market Operator will attempt to execute the RTBM every five (5) minutes for the next Dispatch Interval based on the inputs described above. In the event the Market Operator is unable to execute the RTBM or to approve a valid solution for the RTBM, the clearing from the last approved RTBM will carry forward until the approval of a new RTBM.

(1) A Simultaneous Co-optimization Methodology is employed to calculate Resource Dispatch Targets and clear Flexibility Reserve Products to meet the Market Operator load forecast and Flexibility Reserve Products requirements at minimum costs based upon

submitted Offers while recognizing Resource operating constraints, transmission constraints, and Service Flow Constraints.

(2) In certain situations, enforcing constraints may result in a solution that is not feasible at a Shadow Price less than an appropriately priced VRL. In such cases, the Market Operator will apply VRLs within the Simultaneous Co-optimization Methodology

(3) During shortage situations:

(a) If there is an actual shortage of Short-Term Flex Up and/or Mid-Term Flex Up during a Dispatch Interval, either on a system-wide or a Reserve Zone basis, Scarcity Prices will be implemented on a system-wide basis or Reserve Zone basis to set Short-Term Flex Up and/or Mid-Term Flex Up MCPs as described under Section 3.6 of this Attachment A.

(b) In the event a capacity shortage results in an inability to meet 50% of the Mid-Term Flex Up requirement, the Short-Term Load Forecast, Self-Scheduled High Priority Export Interchange Transactions, Self-Schedule Low Priority Export Interchange Transactions and Resources' charge MWs in any hour, Market Operator will:

(i) First reduce the Self-Scheduled Low Priority Export Interchange Transactions on a pro-rata basis based on the MW amounts in accordance with WECC schedule change requirements until the Mid-Term Flex-Up requirement is restored and administratively set LMPs as described under Section 3.6.4(4) of this Attachment A; and

(ii) Maintain power balance through the implementation of VRLs to reduce the Short-Term Load Forecast, Self-Scheduled High Priority Export Interchange Transactions, and Resources' charge MWs on a pro-rata basis based on the MW amounts to match the available capacity; and

(iii) Communicate the market capacity shortage condition to Markets+ Balancing Authority Areas and Markets+ Reliability Coordinators.

(4) During excess situations:

If the sum of Short-Term Load Forecast, Self-Scheduled Uncommitted Export Interchange Transaction Bids, and Self-Scheduled High Priority Export Interchange Transaction Bids in any hour are less than the sum of the minimum outputs of the

committed Resources, Self-Scheduled Uncommitted Import Interchange Transaction Bids and Self-Scheduled High Priority Import Interchanges Transaction Bids in that hour, then the Market Operator will:

(a) Reduce Self-Schedule Uncommitted Import Interchanges Transaction Bids pro-rata based on MW amounts in accordance with WECC schedule change requirements;

(b) Reduce Self-Schedule High Priority Import Interchange Transactions Bids pro-rata based on MW amounts in accordance with WECC schedule change requirements;

(c) Communicate the excess market generation situation to Markets+ Balancing Authority Areas and Markets+ Reliability Coordinators; and

(d) Implement Scarcity Pricing to the extent that the Flexibility Reserve Products requirements cannot be maintained.

3.6 Pricing during Scarcity Conditions

If capacity is insufficient to meet the Energy requirements on a system-wide basis, Energy requirements are reduced to meet available capacity and LMPs are calculated as described under Section 3.6.1.

3.6.1 Impact of Scarcity Pricing on Locational Marginal Prices and Market Clearing Prices

(1) Demand Curves are applied independently in the dispatch solution and pricing solution. The Market Operator will use Demand Curves to reflect Scarcity Prices in both the Day-Ahead Market and RTBM during times of Flexibility Reserve Products shortages, either on a system-wide and/or Reserve Zone basis.

(2) Scarcity Prices are reflected in MCPs using the following Demand Curves:

(a) Short-Term Flex Up – The Market Operator calculates and posts Short-Term Flex Up Scarcity Pricing in accordance with the following rules:

(i) The maximum Scarcity Price is calculated as the average cost per MW for all eligible Resources to recover their qualified cold Start-Up Offer, No-Load Offer, and Energy at minimum cost at their Maximum Economic Capacity Operating Limit. Eligible Resources are Resources that offer a cold start-up time of 10 minutes or less, a Minimum Run Time of 60 minutes or less, and are not on outage. The maximum Scarcity Price is equal to the cold Start-Up Offer plus the product of the Minimum Run Time and the No-Load Offer plus the Energy at minimum cost all divided by the Resource's Maximum Economic Capacity Operating Limit or Maximum Discharge Limit as applicable.

(ii) The maximum Scarcity Price will be calculated each month using the previous three months' offer data and will be limited to a maximum of $1,000/MWh. To the extent that three months of offer data is not available, the Market Operator will use the offer data available to calculate the maximum Scarcity Price.

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(iii) The Demand Curve levels for Short-Term Flex Up will be equal to:

1. Shortages up to or equal to five percent (5%) of the requirement will equal, to the nearest dollar, 1/6 of the maximum Scarcity Price.

2. Shortages greater than 5% but less than or equal to 10% of the requirement will equal, to the nearest dollar, 1/3 of the maximum Scarcity Price.

3. Shortages greater than 10% but less than or equal to 15% of the requirement will equal, to the nearest dollar, 1/2 of the maximum Scarcity Price.

4. Shortages greater than 15% but less than or equal to 25% of the requirement will equal, to the nearest dollar, 2/3 of the maximum Scarcity Price.

5. Shortages greater than 25% but less than or equal to 40% of the requirement will equal, to the nearest dollar, 5/6 of the maximum Scarcity Price.

6. Shortages greater than 40% of the requirement will equal, to the nearest dollar, the maximum Scarcity Price.

(iv) The minimum amount for the Short-Term Flex Up Demand Curve prices will be limited to $10.

(b) Short-Term Flex Down – The Market Operator calculates and posts Short-Term Flex Down Scarcity Pricing in accordance with the following rules:

(i) The maximum Scarcity Price is calculated as the average cost per MW for all eligible Resources to recover their qualified cold Start-Up Offer, No-Load Offer, and Energy at minimum cost at their Maximum Economic Capacity Operating Limit. Eligible Resources are Resources that offer a cold Start-Up Time of 10 minutes or less, a Minimum Run Time of 60 minutes or less, and are not on outage. The maximum Scarcity Price is equal to the cold Start-Up Offer plus the product of the Minimum Run

Time and the No-Load Offer plus the Energy at minimum cost all divided by the Resource's Maximum Economic Capacity Operating Limit or Maximum Discharge Limit as applicable.

(ii) The maximum Scarcity Price will be calculated each month using the previous three months' offer data and will be limited to a maximum of $1,000/MWh. To the extent that three months of offer data is not available, the Market Operator will use the offer data available to calculate the maximum Scarcity Price.

(iii) The Demand Curve levels for Short-Term Flex Down will be equal to:

1. Shortages up to or equal to 5% of the requirement will equal, to the nearest dollar, 1/6 of the maximum Scarcity Price.

2. Shortages greater than 5% but less than or equal to 10% of the requirement will equal, to the nearest dollar, 1/3 of the maximum Scarcity Price.

3. Shortages greater than 10% but less than or equal to 15% of the requirement will equal, to the nearest dollar, 1/2 of the maximum Scarcity Price.

4. Shortages greater than 15% but less than or equal to 25% of the requirement will equal, to the nearest dollar, 2/3 of the maximum Scarcity Price.

5. Shortages greater than 25% but less than or equal to 40% of the requirement will equal, to the nearest dollar, 5/6 of the maximum Scarcity Price.

6. Shortages greater than 40% of the requirement will equal, to the nearest dollar, the maximum Scarcity Price.

(iv) The minimum amount for the Short-Term Flex Down Demand Curve prices will be limited to $0.

(c) Mid-Term Flex Up – The Market Operator calculates and posts Mid-Term Flex Up Scarcity Pricing in accordance with the following rules:

(i) The maximum Scarcity Price is calculated as the average cost per MW for all eligible Resources to recover their qualified cold Start-Up Offer, No-Load Offer, and Energy at minimum cost at their Maximum Economic Capacity Operating Limit. Eligible Resources are Resources that offer a cold start-up time of 60 minutes or less and are not on outage. The maximum Scarcity Price is equal to the cold Start-Up Offer plus the product of the Minimum Run Time and the No-Load Offer plus the Energy at minimum cost all divided by the Resource's Maximum Economic Capacity Operating Limit or Maximum Discharge Limit as applicable.

(ii) The maximum Scarcity Price will be calculated each month using the previous three months' offer data and will be limited to a maximum of $1,000/MWh. To the extent that three months of offer data is not available, the Market Operator will use the offer data available to calculate the maximum Scarcity Price.

(iii) The Demand Curve levels for Mid-Term Flex Up will be equal to:

1. Shortages up to or equal to 5% of the requirement will equal, to the nearest dollar, 1/6 of the maximum Scarcity Price.

2. Shortages greater than 5% but less than or equal to 10% of the requirement will equal, to the nearest dollar, 1/3 of the maximum Scarcity Price.

3. Shortages greater than 10% but less than or equal to 15% of the requirement will equal, to the nearest dollar, 1/2 of the maximum Scarcity Price.

4. Shortages greater than 15% but less than or equal to 25% of the requirement will equal, to the nearest dollar, 2/3 of the maximum Scarcity Price.

5. Shortages greater than 25% but less than or equal to 40% of the requirement will equal, to the nearest dollar, 5/6 of the maximum Scarcity Price.

6. Shortages greater than 40% but less than or equal to 50% of the requirement will equal, to the nearest dollar, the maximum Scarcity Price.

7. Shortages greater than 50% of the requirement will equal $1,000/MWh.

(iv) The minimum amount for the Mid-Term Flex Up Demand Curve prices will be limited to $10.

(3) Scarcity Prices will be reflected in LMPs when serving an incremental MW of energy worsens the Flexibility Reserve Products capacity shortage condition.

(4) During capacity shortage conditions in either the Day-Ahead Market or RTBM:

(a) The MEC component of the LMP will be set to $1,000/MWh to the extent that Low Priority Exports have been reduced until such time that Low Priority Exports have been restored. The MCC and MLC components of LMP will continue to be calculated normally; or

(b) The MEC component of the LMP will be set to $2,000/MWh to the extent that Low Priority Exports have been reduced until such time that Low Priority Exports have been restored, if the MMU has authorized offer prices in excess of $1,000/MWh. The MCC and MLC components of LMP will continue to be calculated normally.

(5) During Flexibility Reserve Products shortage conditions on a system-wide basis and/or zonal basis, Market Clearing Prices are impacted by Demand Curves as follows:

(a) If there is a shortage of Short-Term Flex Up, the Short-Term Flex Up MCP will be set equal to the Short-Term Flex Up Demand Curve price. The Short-Term Flex Up Demand Curve price will be reflected in the LMP.

(b) If there is a shortage of Short-Term Flex Down, the Short-Term Flex Down MCP will be set equal to the Short-Term Flex Down Demand Curve price. The Short-Term Flex Down Demand Curve price will be reflected in the LMP.

(c) If there is a shortage of Mid-Term Flex Up, the Mid-Term Flex Up MCP will be set equal to the Mid-Term Flex Up Demand Curve price. The Mid-Term Flex Up Demand Curve price will be reflected in the LMP.

Appendix 1 to Attachment A
Violation Relaxation Limit Values

This Appendix 1 to Attachment A sets forth the VRL values to be used in SCOM.

Constraint Type	Description	VRL [$/MW]
(1) Resource Capacity	The minimum and maximum MW dispatchable output of a resource as indicated in a Resource Offer.	100,000
(2) Global Power Balance	Energy needed to balance resources and load.	50,000
(3) Resource Ramp	The ramp capability of a resource as indicated in the resource plan.	5,000
(4a) Operating Constraint not subject to Market-to-Market coordination	A MW limit that can be imposed on SPP related to MW flow across a market node, a manually-identified transmission constraint, a Watch List transmission constraint, a flowgate constraint, or a transmission constraint identified by SPP's real-time contingency analysis.	$750/*$1,750 when the loading is greater than 100% and less than or equal to 101% at each network constraint at each Operating Constraint.
		$1,000/*$2,000 when the loading is greater than 101% and less than or equal to 102% at each network constraint
		$1,250/*$2,250 when the loading is greater than 102% and less than or equal to 103% at each network constraint
		$1,500/*$2,500 when the loading is greater than 103% and less than or

Constraint Type	Description	VRL [$/MW]
		equal to 104% at each network constraint
		$1,750/*$2,750 when the loading is greater than 104% at each network constraint

* Applies only when MMU has authorized one or more Resource Offers in excess of $1,000.

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, January 16, 2024 9:24 AM
To: Martin, Marcie
Cc: Cenalmor, Barbara; Detmer, Nick; Mantifel,Russell (BPA) - MTM-3; Laura A Olson
Subject: [EXTERNAL] Re: **External Email** RE: New SRP Voting member for MDWG

Thank you Marcie!

Kristen Darden
Western Services Development
Southwest Power Pool
501-749-3339

On Jan 16, 2024, at 11:11 AM, Marcie L Martin <Marcie.Martin@srpnet.com> wrote:

Hi Kristen,

Laura will also be Barbara's proxy for the new January 19 meeting. Please let us know if you need something additional for that meeting.

Marcie

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, January 4, 2024 9:07 AM
To: Barbara B Cenalmor Bruquetas <Barbara.CenalmorBruquetas@srpnet.com>
Cc: Detmer, Nick <nick.detmer@xcelenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>; Laura A Olson <Laura.Olson@srpnet.com>; Marcie L Martin <Marcie.Martin@srpnet.com>
Subject: Re: **External Email** RE: New SRP Voting member for MDWG

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Thank you Nick for sending that over! Let me get together the nominations email and have Comms send out to the larger M+ stakeholder group. When I get back to my computer, I'll send over the nomination form to you, to go ahead and fill out for Laura.

I have documented Laura as your proxy for the 1/11 and 1/16 MDWG (hasn't been posted on SPP.org yet). Thanks!

Kristen Darden
Western Services Development
Southwest Power Pool
501-749-3339

On Jan 4, 2024, at 9:42 AM, Barbara B Cenalmor Bruquetas <Barbara.CenalmorBruquetas@srpnet.com> wrote:

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Ah, thank you for doing the research, Nick. In this case, I designate Laura Olson as my proxy until a time when the MPEC can discuss approval.

Kristen, let me know what you need to put together a recommendation for MPEC.

Barbara Cenalmor Bruquetas
Senior Resource Development Project Manager
SRP | Future System Assets and Strategy | PAB355
P.O. Box 52025, Phoenix, AZ 85072-2025
P: (602) 236-2322 | **M**: (b)(6) [redacted]

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From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Wednesday, January 3, 2024 3:00 PM
To: Barbara B Cenalmor Bruquetas <Barbara.CenalmorBruquetas@srpnet.com>; Kristen Darden <kdarden@spp.org>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Subject: RE: New SRP Voting member for MDWG

CAUTION: This email originated from outside the organization
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I am fine with the swap out – *my New Years Resolution is to be more attentive to details which I hope to fail at due to exhaustion by Mid-February.*

I went through the Markets + Offering and I think the MPEC would need to approve this. I think for the time being Barbara can make Laura the proxy until MPEC can confirm Laura.

2.3.4.1.1 COMPOSITION AND TERMS Unless otherwise provided in these bylaws, each working group shall have a chair to preside over meetings. The chair of all organizational groups shall be nominated by the MPEC for consideration and appointment by the MIP. The term of the chair of all working groups shall be two years. Working groups have

discretion to determine the need for a vice-chair. Should a working group establish a vice-chair position, the vice-chair shall be elected by the working group.

Following a solicitation of nominations by SPP staff, working group representatives shall be recommended by SPP staff to the MPEC for approval. The recommendation and approval of representatives shall consider the various types and expertise of Markets+ Market Participants (MMPs) and Markets+ Market Stakeholders (MMS) and their geographic locations to achieve a widespread and effective representation of MMPs and MMSs. Criteria and sector representation for serving on a working group will be determined in the group's scope. An appointment to a working group is for an individual, not a corporate entity.

From: Barbara B Cenalmor Bruquetas <Barbara.CenalmorBruquetas@srpnet.com>
Sent: Wednesday, January 3, 2024 11:01 AM
To: Kristen Darden <kdarden@spp.org>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Cc: Laura A Olson <Laura.Olson@srpnet.com>; Marcie L Martin <Marcie.Martin@srpnet.com>
Subject: New SRP Voting member for MDWG

You don't often get email from barbara.cenalmorbruquetas@srpnet.com. Learn why this is important

EXTERNAL - STOP & THINK before opening links and attachments.

Russ, Nick and Kristen,
I am moving to a different role at SRP and I propose that Laura Olson, Manager of Short-Term Trading, takes my place as the MDWG voting member. Is there anything else I need to do to make this official?

Thanks!

Barbara Cenalmor Bruquetas
Senior Resource Development Project Manager
SRP | Future System Assets and Strategy | PAB355
P.O. Box 52025, Phoenix, AZ 85072-2025
P: (602) 236-2322 | **M**: (b)(6) [redacted]

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From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, December 5, 2023 12:43 PM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] December 1st MDWG Summary of Motions, Action Items, and Future Meetings
Attachments: 12 1 MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx

Good afternoon –

The December 1st, 2023 MDWG summary of motions, action items, and future meetings document is attached for review. Please let me know if there are any modifications needed.

Thanks!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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or send a blank email to leave-125014-234284.4924ede4b09f20571c7af2310687f4ba@spplist.spp.org

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MARKETS+

SOUTHWEST POWER POOL, INC.
MARKETS+ DESIGN WORKING GROUP MEETING
12/1/2023
Net-Conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

1. **Agenda Item 2a – Attachment A: Markets+ Settlements**

   Motion: Paul Dietz (GCPUD) motioned to approve Markets+ Attachment A, Sections 9.2.1 (Day-Ahead Energy), 9.3.1 (Real-Time Energy Amount), 9.3.16 (Reliability Unit Commitment Make Whole Payment Amount), and 9.3.17 (Reliability Unit Commitment Make Whole Payment Distribution Amount), as modified during the December 1st MDWG meeting, and approve Attachment A, Sections 9.2.6 (Day-Ahead Short-Term Flex-Up Distribution Amount), 9.2.7 (Day-Ahead Short-Term Flex-Down Distribution Amount), and 9.2.8 (Day-Ahead Mid-Term Flex-Up Distribution Amount) as presented during the November 17th MDWG meeting. Dan Williams (TEA) provided the second. Motion carried with two abstentions (PGP and Powerex).

2. **Agenda Item 2b – Attachment B: Market Power Mitigation Plan - SHOC**

   Motion: Jeff Spires (Powerex) motioned to approve the Seasonal Hydroelectric Offer Curve (SHOC) as modified during the meeting. Tuuli Hakala (CCPUD) provided the second. Motion carried unanimously.

3. **Agenda Item 2g – Interchange Transactions Definitions**

   Motion: Dan Williams (TEA) motioned to approve the four updated interchange definitions and reliability backstop language as presented during the meeting, as reviewed and endorsed by the MSWG, MORWG, and MRATF. Sara Eaton (BPA) provided the second. Motion carried with two abstentions (APS and PGP)

ACTION ITEM:

Action Item: Identified Resources for Export Interchange Transactions will be further defined in the Markets+ Protocols to align with the intent to maintain high priority export reliability equivalent to and not greater than load, with ultimate supply responsibility, including resource-specific uncertainty on the export, attributed to the associated exporting entity.

FUTURE MEETINGS:

Meeting: January 11th MDWG Meeting
Date: January 11th, 2024

29330745

Location: Net-conference
Time: 11:00 a.m. – 1:00 p.m., CPT (9:00 a.m. – 11:00 a.m., PT/10:00 – 12:00 p.m., MT)

DRAFT

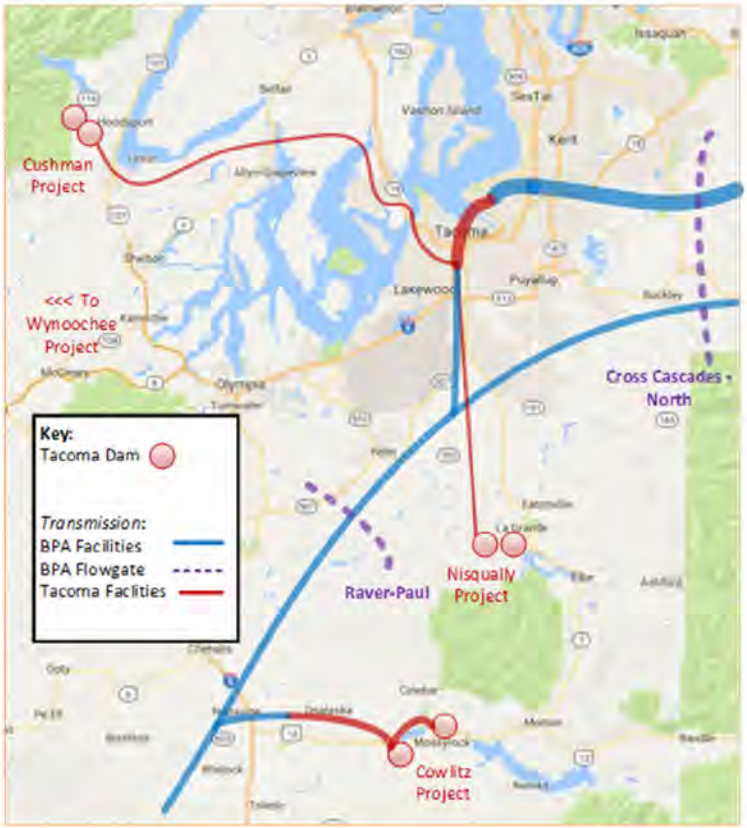
From: Applegate, Rick <rapplegate@cityoftacoma.org>
Sent: Monday, August 21, 2023 2:23 PM
To: Kristen Darden
Cc: Chris Nolen; Kelli Schermerhorn; Jim Gonzalez; Emon Mahony; Carrie Simpson; Christine Dillard; Mantifel,Russell (BPA) - PGL-5; 'Cornelius, Adam'
Subject: [EXTERNAL] RE: Markets+ Tariff - Hydro Aggregation Definition and Language

Hi Kristen,

We are almost certainly a unique case, so I apologize for dragging folks into a Tacoma specific matter, but I appreciate your willingness to explore the problem.

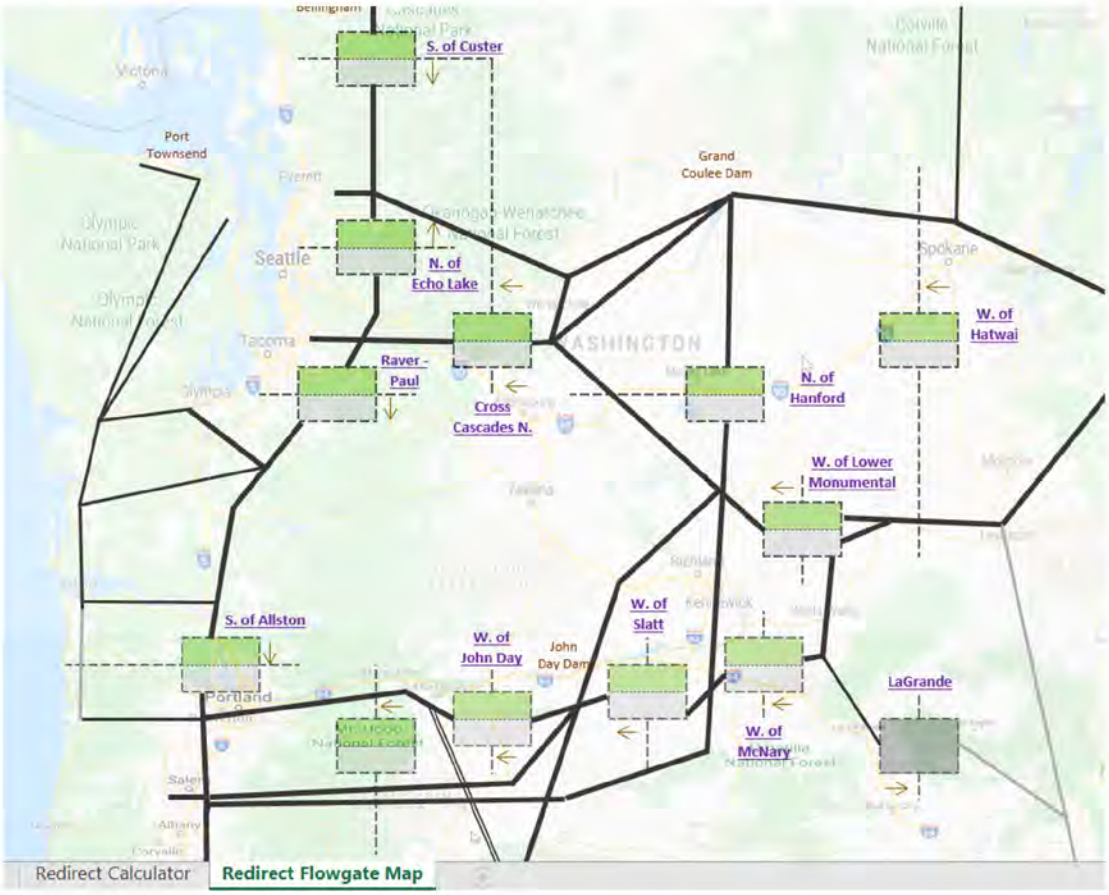
We operate 7 dams, comprising four hydroelectric projects on four different rivers. Each river flows separately into the Pacific Ocean, a product of being so close to salt water. For purpose of EIM, we only aggregate the two dams which comprise our Cushman Project, but when it comes to a day-ahead market, I think that a credible case can be made for aggregating our Cushman Project and Nisqually Project (four dams in total). The projects are roughly comparable in size, have a similar impact on transmission flowgates (they interconnect on radial transmission lines), and differ sufficiently in their configuration that an operator can, in some cases, manage around a hydrological constraint at one project by shifting generation to the other.

Below, I have tried to draw where these projects are located, and how they connect with both our transmission system and BPA's. Please note that it is a fairly crude depiction.



In proposing the modifications to the draft tariff language, my first goal was to eliminate the requirement that aggregate resources share a common hydrological basin and a common river system. Those provisions would block us from aggregating at a project level. My second goal—and there is significant risk that I mismanaged this—was to give everyone assurance that aggregation would not mess with adjacent transmission systems or impair the market's ability to manage congestion. For example, I wanted to give BPA veto authority if we tried to aggregate the Cowlitz Project with the others, which is located on the other side of a BPA flowgate. I hope this makes sense, but if not, I am happy to say more. To the extent there is better language to accomplish this second goal, I would certainly embrace it. It was not my intent to prevent any other entity from achieving aggregation.

Finally, as further background, here is a BPA graphic showing the relative location of the agency's nearby regional flowgate constraints.



Please let me know if you have any questions or concerns.

Thank you and best regards,

Rick

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, August 21, 2023 10:46 AM
To: Applegate, Rick <rapplegate@cityoftacoma.org>
Cc: Chris Nolen <cnolen@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Jim Gonzalez <jgonzalez@spp.org>;

Emon Mahony <emahony@spp.org>; Carrie Simpson <csimpson@spp.org>; Christine Dillard <cdillard@spp.org>
Subject: RE: Markets+ Tariff - Hydro Aggregation Definition and Language

Hey Rick –

I wanted to follow-up on the below modifications you proposed. Can you elaborate more on the current operations of Tacoma's hydro projects and how they are aggregated together now? We are trying to ensure that we fully understand them while working on the language.

Thank you!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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From: Kristen Darden
Sent: Friday, August 4, 2023 9:44 AM
To: Applegate, Rick <rapplegate@cityoftacoma.org>; Cornelius, Adam <accornelius@snopud.com>; Ching, Vincent <vincent.ching@pse.com>; Trolese, Laura <ltrolese@teainc.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Chris Nolen <cnolen@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>
Subject: RE: Markets+ Tariff - Hydro Aggregation Definition and Language

Thank you, Rick. We can include the proposed language for discussion during the 8/10 MDWG meeting.

From: Applegate, Rick <rapplegate@cityoftacoma.org>
Sent: Thursday, August 3, 2023 2:08 PM
To: Kristen Darden <kdarden@spp.org>; Cornelius, Adam <accornelius@snopud.com>; Ching, Vincent <vincent.ching@pse.com>; Trolese, Laura <ltrolese@teainc.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Chris Nolen <cnolen@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>
Subject: **External Email** RE: Markets+ Tariff - Hydro Aggregation Definition and Language

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Thank you Kristen for providing draft hydro aggregation language. I would like to propose the attached revisions, with changes tracked. They accomplish two things:

1. Remove the requirements that the hydro resources share a common hydrological basin and common river system.
2. Add the requirement that aggregation does not create a reliability issue as determined by any potentially affected TSPs.

Admittedly, our situation in Tacoma is probably a little unique. We operate a pair of hydro projects (four dams) that because of their close proximity to salt water do not share a common river system but for purposes of the transmission

system essentially operate in the same location. The changes that I am proposing would enable us to aggregate those resources, but only if our neighboring TSPs did not object.

Thank you and best regards,

Rick

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, July 31, 2023 7:21 AM
To: Cornelius, Adam <accornelius@snopud.com>; Ching, Vincent <vincent.ching@pse.com>; Trolese, Laura <ltrolese@teainc.org>; Applegate, Rick <rapplegate@cityoftacoma.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Chris Nolen <cnolen@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>
Subject: Markets+ Tariff - Hydro Aggregation Definition and Language

Good morning all –

I have attached the rough draft language that we have worked on internally for the definition and resource participation model for Hydro Aggregation. Please review and provide your comments and edits for review. We appreciate you standing up to volunteer to help get the ball rolling in the right direction for this.

Thank you!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O 501.482.2395 | C (b)(6)
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From: Kristen Darden <kdarden@spp.org>
Sent: Monday, August 28, 2023 11:39 AM
To: Mantifel,Russell (BPA) - PGL-5; Detmer, Nick
Cc: Jim Gonzalez
Subject: RE: **External Email** RE: [EXTERNAL] Biddable Flex product
Attachments: August 29 MDWG Motions_DRAFT.pptx

Hey Russ and Nick –

I attached a slide deck that I'm going to reference during the meeting tomorrow. It's an outline of all proposed/potential motions. I made a note on MP/MO obligations slide that it is "eligible for approval", so the group does not feel pressured to move on it if they are not ready.

Also – We are working on getting the Hydro modeling language lined out for the meeting, given feedback from multiple entities, so that is why you have not seen it in materials. If the group is not comfortable with approving that one as well since it was not posted last week, then we can hold off until the 9/20 MDWG meeting OR we could approve the language with the exception of Hydro and push hydro to the 9/20 MDWG. It's up to the you and the group, on what you are comfortable with.

Proxy:

- Caitlin Liotiris (Energy Strategies) for Scott Miller (WPTF) for the beginning of the meeting

Let me know if you have any additional questions about the meeting.

Thanks!

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From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Friday, August 25, 2023 12:53 PM
To: Kristen Darden <kdarden@spp.org>
Cc: Jim Gonzalez <jgonzalez@spp.org>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: RE: **External Email** RE: [EXTERNAL] Biddable Flex product

I think that's a good call. Thanks Kristen!

From: Kristen Darden <kdarden@spp.org>
Sent: Friday, August 25, 2023 10:30 AM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Cc: Jim Gonzalez <jgonzalez@spp.org>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: RE: **External Email** RE: [EXTERNAL] Biddable Flex product

I updated the agenda some given the discussion on MP/MO obligations and some other items. I think it makes better sense to pull it down to after the education session on it.

See what ya'll think!

From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Friday, August 25, 2023 11:27 AM
To: Kristen Darden <kdarden@spp.org>
Cc: Jim Gonzalez <jgonzalez@spp.org>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: RE: **External Email** RE: [EXTERNAL] Biddable Flex product

That's what I figured, we'll get into the meeting and see where it goes. Works for me, though some folks find it uncomfortable.

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, August 24, 2023 4:55 PM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Cc: Jim Gonzalez <jgonzalez@spp.org>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: Re: **External Email** RE: [EXTERNAL] Biddable Flex product

We have not yet, but they're pretty boilerplate. I have included them in the background materials of the past 2 meetings, but we haven't had time to actually review them.

I'm hoping that we can review it during the 8/29 call and get some movement on it, but if the group isn't ready, I can understand that and won't push it. We can try to wrap it up for a vote during the 9/20 call.

Great news on Hydro. I have a draft that we are working on that should be posted tomorrow, as well with some updates given feedback we have received.

Kristen Darden
Real-Time Markets
Southwest Power Pool
(b) (6)

On Aug 24, 2023, at 6:16 PM, Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov> wrote:

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Great. Also, did we actually go through the obligations materials last time? It might be tough to get them ready for a vote. We're finalizing the grouped hydro definition and hopefully that's ready for a vote

---

From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, August 23, 2023 9:12 AM
To: Jim Gonzalez <jgonzalez@spp.org>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Detmer,

Nick <nick.detmer@xcelenergy.com>
Subject: RE: [EXTERNAL] Biddable Flex product

That was my misunderstanding. I will redline the 8/10 MDWG minutes and have them re-posted in materials for review during the 8/29 MDWG meeting, to ensure they're accurate and let the group approve that version. Thank you both for reaching out.

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C (b)(6)
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From: Jim Gonzalez <jgonzalez@spp.org>
Sent: Wednesday, August 23, 2023 11:01 AM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Kristen Darden <kdarden@spp.org>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: RE: [EXTERNAL] Biddable Flex product

I agree that there was a desire to investigate for this phase.

From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Wednesday, August 23, 2023 10:43 AM
To: Kristen Darden <kdarden@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: **External Email** FW: [EXTERNAL] Biddable Flex product

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Hi Folks,

Several of us were talking about this earlier this week. I recollect we did want to discuss in this Phase having a biddable product.

From: Mantifel,Russell (BPA) - PGL-5
Sent: Wednesday, August 23, 2023 8:41 AM
To: Spires, Jeff <Jeff.Spires@powerex.com>
Subject: RE: [EXTERNAL] Biddable Flex product

I also thought we were discussing a biddable product, but there might be confusion. I will follow up on it.

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Wednesday, August 23, 2023 6:24 AM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Subject: [EXTERNAL] Biddable Flex product

Hi Russ,

Is this consistent with your recollection of the meeting? I don't remember agreeing to move ahead with SPP's flex reserve design "as is" and to parking lot a biddable version to phase 2. I thought this was something we need to discuss as part of Phase 1. Did I misunderstand what the consensus was?

Jeff

AGENDA ITEMS 6 AND 6A – POLICY EDUCATION SESSION: FLEXIBILITY PRODUCTS

Jim Gonzalez (SPP) provided education on Uncertainty Reserve and Ramp Capability Products that are currently active in the Integrated Marketplace, explaining Flexibility Product Reserves will be designed similar to the Ramp and Uncertainty Products. The group voiced a desire to have a discussion of a potentially fully biddable Flexibility product during the next phase of Markets+, while moving forward with the Integrated Marketplace's Uncertainty Reserve Product design for Flexibility Products, in Markets+ phase 1. Next steps will be for SPP to provide a recommendation on number and duration of flexibility products, and strategy for developing demand curves and requirement methodologies of a market with no historical performance, targeting the August 28th MDWG meeting.

Action Item: SPP staff and the MDWG will add to the parking lot for Markets+ Phase 2, follow up discussion on Flexibility Products and the potential of them being biddable, cost allocation, day-ahead to real-time deviation, and reserve zones deliverability.

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8/29 MDWG PROPOSED MOTIONS
AGENDA ITEMS: 4, 6A, 7, 8A
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AGENDA ITEM 4: CONSENT AGENDA

PROPOSED MOTION

- Motion to approve the 8/19 Joint MGHGTF and MDWG minutes as presented and the 9/10 MDWG minutes as modified.

AGENDA ITEM 6A: ATTACH. A – SEC. 4-4.2.9 RESOURCE PARTICIPATION TYPES

PROPOSED MOTION

- Motion to approve Attachment A, Sections 4 – 4.2.9 (Resource Participation Types) as presented.

AGENDA ITEM 7: FLEXIBILITY PRODUCT DESIGN

PROPOSED MOTION

- Motion to approve SPP's proposal to have the following products and their associated requirements in Markets+ at go-live:
  - Short-Term Flexibility Product Up;
  - Short-Term Flexibility Product Down; and
  - Mid-Term Flexibility Product.

Or

- Motion to approve modifying SPP's proposal.

AGENDA ITEM 8A: ATTACH. A – SEC. 6-7.15 MP & MO OBLIGATIONS *[ELIGIBLE FOR APPROVAL]*

PROPOSED MOTION

- Motion to approve Attachment A, Sections 6 – 7.15 (Market Participant Obligations and Market Operator Obligations) as presented.

AGENDA ITEM 8C: SCARCITY PRICING

- Motion to approve SPP's Scarcity Pricing proposal.
- Or
- Motion to modify SPP's Scarcity Pricing proposal.

From: Christine Dillard <cdillard@spp.org>
Sent: Wednesday, August 30, 2023 11:48 AM
To: Fina, Giuseppe (Joe); Chris Nolen; Pettit, David E; Gorlin@WAPA.GOV; Alaine Ginocchio; Jason.Kuzma@pse.com; Engelby, Ben; Charles.VonReis@chelanpud.org; Miller,Todd E (BPA) - LP-7; 'Karilee S Ramaley'; Irene Scruggs; Gilhen, Jonathan; Sabers, Cathy
Cc: Emon Mahony; Rachel Kane; Joseph Ghormley; Kristen Darden; Carrie Simpson; Mantifel,Russell (BPA) - PGL-5; Michael Riley
Subject: [EXTERNAL] RE: Markets+ Legal Group Meeting 8.31.23
Attachments: Common Service Provisions Force Majeure and Indemnification--SPP Edits 8-30-23.docx

Hi all,
Attached, please find the most recent draft of the Force Majeure and Indemnification section of the Common Service Provisions that has been posted to sharepoint.

Thank you,

Christine Dillard | Attorney, Markets & Regulatory Policy
cdillard@spp.org (b)(6) (c)

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-----Original Appointment-----
From: Fina, Giuseppe (Joe) <gfina@snopud.com>
Sent: Monday, May 15, 2023 1:07 PM
To: Fina, Giuseppe (Joe); Fina, Giuseppe (Joe); Chris Nolen; Pettit, David E; Gorlin@WAPA.GOV; Alaine Ginocchio; Jason.Kuzma@pse.com; Engelby, Ben; Charles.VonReis@chelanpud.org; Todd Miller; 'Karilee S Ramaley'; Irene Scruggs; Gilhen, Jonathan; Sabers, Cathy; Christine Dillard
Cc: Emon Mahony; Rachel Kane; Joseph Ghormley; Kristen Darden; Carrie Simpson; Mantifel, Russ; Michael Riley
Subject: **External Email** Markets+ Legal Group Meeting
When: Thursday, August 31, 2023 2:00 PM-4:00 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

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4 Force Majeure and Indemnification

4.1 Force Majeure

An event of Force Majeure means any act of God, labor disturbance, act of the public enemy, war, insurrection, terrorism, cyber ~~security threat or~~ attack, riot, fire, storm or flood, pandemic, explosion, breakage or accident to machinery or equipment, any curtailment, order, regulation or restriction imposed by governmental, military, or lawfully established civilian authorities. A Force Majeure event does not include an act of negligence or intentional wrongdoing by the party claiming Force Majeure. A party must use its best efforts to mitigate the effects of such Force Majeure and to resume full performance of its obligations under the Tariff. A party that has experienced a Force Majeure event must notify the other party as soon as practicable and identify the Force Majeure event and the obligations affected by the event. Neither the Market Operator ~~SPP, the Joint Dispatch Transmission Service Provider(s)~~ nor the Market Participant(s) will be considered in default as to any obligation under this Tariff if prevented from fulfilling the obligation due to an event of Force Majeure, except that no party will~~shall~~ be relieved of the performance of any financial obligations.

~~However, a party whose performance under this Tariff is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations under this Tariff to the extent not hindered by such event of Force Majeure.~~

Comment [JWG1]: Is threat too broad a concept? Does "cyberattack" cover the intent

Comment [FJ2]: Double-check need for reference.

Comment [RK3]: SPP is hesitant to include "pandemic" because there are circumstances when, say, a resource may have limited employees due to sickness, etc. SPP needs these resources online and operating regardless.

Comment [FJ4]: SPP to refine what constitutes "pandemic"

Comment [GJ5]: By the party claiming Force Majeure?

Comment [RK6]: Agree

Comment [GJ7]: Not in definition section of Tariff

Comment [RK8]: Agree. Market Operator and Market Participant cover it.

Comment [CR9]: Does using "to the extent not hindered" here as an exception to "reasonable efforts" negate the expectation set by the first part of the sentence to make "reasonable efforts" when "hindered"?

Comment [FJ10]: Language removed. Will confirm at next meeting.

4.2 Liability

(a) SPP shall not be liable, whether based on contract, indemnification, warranty, tort, strict liability or otherwise, to any Market Participant, third party, or other person, for ~~money~~ any damages or other compensation whatsoever, including, without limitation, direct, incidental, consequential, punitive, special, exemplary, or indirect damages ~~to any Market Participants~~ for any actions or omissions by SPP ~~or Joint Dispatch Transmission Service Provider~~ in performing its obligations as Market Operator under this Tariff or any ~~Service Agreement~~agreement ~~t~~hereunder, including, but not limited to, any act or omission that results in an interruption, deficiency or imperfection of service, except to the extent such act or omission by SPP is found to result from its gross negligence or intentional wrongdoing, in which case SPP will only be liable for direct damages.

~~(b) A Joint Dispatch Transmission Service Provider shall not be liable for money damages or other compensation to any Joint Dispatch Transmission Service Customer or Users for actions or omissions by such Joint Dispatch Transmission Service Provider or SPP in performing its obligations under this Tariff or any Service Agreement thereunder, except to the extent such act or omission by such Joint Dispatch Transmission Service Provider is found to result from its gross negligence or intentional wrongdoing.~~

(b~~c~~) A ~~Joint Dispatch Transmission Service Customer or Users~~Market Participant, third party, or other person may not seek to enforce any claims under this Tariff or any agreements entered into hereunder against the directors, members, managers, shareholders, officers, employees or agents of ~~SPP or a Joint Dispatch Transmission Service Provider or Affiliate~~SPP ~~of either~~, who shall have no personal liability for~~of~~ obligations of SPP solely by reason of their status as directors, members, managers, shareholders, officers, employees or agents of ~~the~~ SPP ~~or a Joint Dispatch Transmission Service Provider or Affiliate of either~~. ~~Notwithstanding the foregoing, a Joint Dispatch Transmission Service Customer or Users shall be liable to the SPP for all amounts owed for the full term of any Service Agreement under the Tariff.~~

(c~~d~~) ~~In no event shall SPP, a Joint Dispatch Transmission Service Provider or any Joint Dispatch Transmission Service Customer or Users [or Market+ Participants] be liable for any incidental, consequential, punitive, special, exemplary or indirect damages, attorney's fees and costs, loss of revenues or profits, arising out of, or connected in any way with the its performance or non-performance under this Tariff or any Service Agreement thereunder, e~~xcept to the extent included in any rate payable pursuant to the Tariff.

In the event that SPP is required to pay any money damages, compensation, or attorney's fees and costs to a Market Participant, third party, or other person, for any actions or omissions by SPP in performing its obligations as Market Operator under this Tariff or any agreement hereunder, including, but not limited to, any act or omission that results in an interruption, deficiency or imperfection of service, SPP shall be allowed to recover any such amounts pursuant to the procedures in Schedule 1 of this Tariff. Nothing in this section shall limit in any way the foregoing limitations of liability.

Comment [FJ11]: SPP staff to review proper names used in this section.

Comment [GJ12]: Not defined in definition section

Comment [RK13]: Not needed in the context of Markets+.

Comment [FJ14]: Cathy/SPP to review last sentence.

Comment [CD15]: No longer needed because previous draft contemplated relationship between transmission customers/users and TSPs.

Comment [GJ16]: General question – is an exception wise here "except to the extent included in any rate payable pursuant to the Tariff"?

Comment [FJ17]: SPP to review

Comment [CD18]: Revised (a) to encompass this paragraph

Comment [FJ19]: Need to revisit this reference.

Comment [GJ20]: Should this apply even if unsuccessful in an arbitration / legal proceeding? Indemnification obligations?

Comment [FJ21]: SPP to review

Comment [RK22]: Any attorneys' fees or costs owed by SPP would be uplifted to Market Participants. So, let's leave as is.

4.3 Indemnification

The ~~Joint Dispatch Transmission Service Customer~~Market Participants shall at all times indemnify, defend, and save SPP, and any of its agents, consultants, directors, officers, or employees, ~~and Joint Dispatch Transmission Service Provider(s)~~ harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person, or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from SPP's ~~or Joint Dispatch Transmission Service Provider(s')~~ performance of obligations under this Tariff as Market Operator ~~on behalf of the Joint Dispatch Transmission Service Customer~~, except in cases of gross negligence or intentional wrongdoing by SPP ~~or a Joint Dispatch Transmission Service Provider~~.

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Comment [FJ23]: Need to reflect Markets+ Joint Dispatch equivalent if any. SPP to provide more context around this.

~~If SPP engages in gross negligence or intentional wrongdoing, but the Joint Dispatch Transmission Service Provider(s) does (do) not, that will not affect the indemnification of the Joint Dispatch Transmission Service Provider(s) and vice-versa.~~

Comment [GJ24]: Shouldn't SPP indemnify in this scenario?

Comment [FJ25]: SPP to review.

Comment [RK26]: Agree, deleted this sentence.

~~**4.4 Further Limitation of Liability**~~

~~Neither the Joint Dispatch Transmission Service Provider nor SPP shall be liable for damages arising out of services provided under this Tariff including, but not limited to any act or omission that results in an interruption, deficiency or imperfection of service, occurring as a result of conditions or circumstances beyond the control of the Joint D"ispatch Transmission Service Provider or SPP, as applicable, or resulting from electric system design common to the domestic electric utility industry or electric system operation practices or conditions common to domestic electric utility industry. Joint Dispatch Transmission Service Providers shall not be liable for acts or omissions done in compliance or good faith attempts to comply with directives of SPP.~~

Comment [GJ27]: This seems quite vague. What is intended to be captured by this that is not included above? Generally what does this section 4.4 catch that isn't covered in other parts of Section 4?

Comment [FJ28]: SPP to review.

Comment [RK29]: This sentence is not applicable in Markets+. JDTSPs do not exist in Markets+.

4.5 Limitation on Claims

Except as otherwise specified in Sections 7.1 or 7.3 of Attachment A to this Tariff, or as may be required to comply with the requirements of this Tariff or applicable Commission directives, no claim seeking an adjustment in the billing for any service, transaction, or charge under the Tariff may be asserted if more than ~~two years~~one (1) year has elapsed since ~~the first date upon which the billing for that week or month occurred~~the Operating Day at issue. SPP shall make no adjustment to billing with respect to any service, transaction, or charge under this Tariff if more than ~~two years~~one (1) year has elapsed since ~~the first date upon which the billing for that week or month occurred~~the Operating Day at issue, ~~unless a claim seeking such adjustment had been received by SPP prior to the end of the two-year~~ period.

Comment [CD30]: Confirm reference is still accurate when reviewing with rest of tariff.

Formatted: Justified

Comment [CR31]: Does this prevent participants from having time to review and seek adjustment of a bill that SPP adjusts on the last possible day?

Comment [FJ32]: See Integrated Marketplace Protocols.

Comment [FJ33]: SPP to update

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Monday, February 12, 2024 7:42 AM
To: Cook,Joel D (BPA) - K-7; Mantifel,Russell (BPA) - MTM-3; Dibble,Rachel L (BPA) - PT-5; Phil Haines (PSE); Ron Roberts; Ray Johnson; Laura Trolese (ltrolese@teainc.org); 'Hakala, Tuuli'; Bradshaw, Mike; Brian.Cole@aps.com; Kent.Walter@aps.com; Kiley Moore; David Rubin; Ryan.Atkins@nvenergy.com; Josh Robertson; Agnes Lut; Jessica.Zahnow@pse.com
Cc: Spires, Jeff; Aitken, Meredith
Subject: [EXTERNAL] WRAP - Markets+ Coordination Concept
Attachments: Markets+ WRAP coordination proposal v3.docx

Follow Up Flag: Follow up
Flag Status: Completed

Good morning,

Please see attached concept paper that some of us have been discussing.
It is the first item on the agenda for today's Markets+ BAA call.

Regards,

Mark Holman
Managing Director | Powerex Corp.
1300 - 666 Burrard Street | Vancouver, BC | V6C 2X8
Direct (b)(6) | Fax 604.891.5045 | Cell (b)(6)

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Principles For Storage Hydro Participation In Markets+

General Concept:

Participation in an organized wholesale electricity market with storage hydroelectric generation resources requires a workable framework that recognizes and preserves the hydro participant's and hydro operator's decision-making autonomy over all aspects of operating the respective hydro system.

A workable participation framework must recognize, among other things, that:

- Operational planning and operational decisions are impacted by a range of non-electricity constraints, requirements, and objectives, including but not limited to:
    - Safety;
    - Flood control;
    - Irrigation;
    - Navigation; and
    - Environmental requirements and objectives.
- Hydro system operators may also be parties to, or otherwise bound by, domestic or international treaties, inter-utility agreements, and other legal, regulatory or contractual obligations.
- Decisions regarding the operation of a storage hydro system are informed by numerous factors, many of which are continuously evolving and difficult to forecast, and involve a significant degree of subjective judgment based on experience. This includes the complexity associated with the interdependence of hydro facilities, where the operation of one facility on a storage hydro system impacts the quantity and timing of water inflows at downstream facilities.
- Decisions regarding the operation of a storage hydro system must take into consideration not only expected mean conditions, but the range of potential conditions that may develop over time. It may often be that decisions are driven by the low-probability/high-consequence potential outcomes which, by definition, may often lead to decisions that may appear sub-optimal after-the-fact.

Ensuring Markets+ Tariff And Business Practices Are Workable For Storage Hydro:

Participants with storage hydro systems in the western region have established workable frameworks (working collaboratively with CAISO, WPP and stakeholders) for participating in the Western EIM and the WRAP using supply from these resources. The key elements of these two frameworks are set forth in Western EIM tariff, the WRAP tariff, as well as multiple participant agreements with CAISO and WPP. Key statements from these two tariffs, from relevant

participant and data sharing agreements, and from the transmittal letters associated with the approved FERC filings are attached to this document.

It is essential that Markets+ adopt similar tariff provisions (and similar elements in each participant agreement) that make participation fully workable for storage hydro resources, and that a gap is not created in the expectations of how storage hydro will participate in Markets+. This document is intended to set forth key principles and proposed tariff language to achieve this outcome, covering the topics of:

1. Aggregation Of Hydro Resources
2. Autonomy Over Dispatch Of Hydro Resources
3. Autonomy Over Water Management
4. Must Offer Obligation
5. Market Power Mitigation (Price)
6. Limitations On Required Data Sharing

Aggregation Of Hydro Resources

- The market model must permit, enable, and represent, operators' aggregation of multiple hydro facilities in order to retain hydro operators' autonomy to determine the dispatch of individual facilities (below) and to manage water.
- Development of an appropriate hydro aggregation framework is already well underway.

Suggested language: *See language being developed in MDWG*

Autonomy Over Dispatch Of Hydro Resources

- Today, hydro operators have full autonomy to determine the dispatch of individual hydro facilities within their system.
- Markets+ must support continuation of that autonomy.

Suggested language: "Hydro operators and hydro participants shall have full autonomy over the operation of hydro resources each interval. Market schedules and dispatches and Market Operator instructions shall refrain from directing the physical dispatch of specific facilities within the hydro system, and shall not otherwise interfere with operational decisions of the hydro operator."

Autonomy Over Water Management

- Today, hydro participants and hydro operators determine how to allocate limited and uncertain water over time, and in doing so can be expected to be informed by a broad set of interrelated factors, with some inputs known with certainty, and others projected.
- Markets+ must support the continuation of this decision-making autonomy over water management decisions, without requiring specification, quantification, or explanation of

the array of factors supporting those decisions, and without any general requirement that hydro operators or hydro participants specify, quantify, or explain such decisions to the Market Operator or Market Monitor.

- Markets+ must recognize that hydro operators' and hydro participants' water management activities will necessarily result in supply decisions that consider factors other than market pricing, including periods where:
    - An ***increased*** volume of water is desired to be released, resulting in actions taken to support elevated levels of generation, with offers as price-taker or at relatively low prices. Such operational decisions are to be expected and must not be regarded as uneconomic production.
    - A ***limited*** volume of water is considered available to support additional generation, resulting in limitations in the quantity of energy offered to the market, as reflected in offers of limited volumes or at relatively higher prices. Such operational decisions are to be expected and must not be regarded as physical withholding or economic withholding.
- No rules or requirements shall be adopted that interfere with the autonomy of a hydro operator or hydro participant to limit the use of water in certain periods, or to require the release of water in certain periods.

Suggested language: "Hydro operators and hydro participants shall have full autonomy to undertake water management decisions and activities to fulfill their responsibilities to make the best use of limited and uncertain water supplies in their hydro system. Markets+, the Market Operator, and the Market Monitor shall not interfere with or require justification for water management decisions. A market participants' decision to either limit energy offer quantities to conserve water and/or to submit offer prices that reflect water management activity shall not be considered physical withholding, economic withholding, or uneconomic production, or otherwise constitute a Tariff violation."

Must Offer Quantity Obligation

- Hydro operators have historically entered into legally binding offer/supply obligations voluntarily and under arrangements that maintain the autonomy of their water management decisions.
- Markets+ must recognize hydro operator autonomy over water management decisions by ensuring that hydro participants have the ability to meet a must-offer quantity requirement by submitting offers from any resource or group of aggregated resources.
- It is expected that rare circumstances may arise in which a hydro participant will be unable to meet a must-offer quantity requirement for reasons related to the unique nature of hydro resources, such as water management challenges.
    - Such operational scenarios, while rare, are expected given the nature of hydro system management, and cannot be deemed to be a violation of the Markets+ tariff.
    - Consequences must be financial charges (analogous to consequences for WRAP participants that are not Markets+ participants).

Suggested language: "The Market Operator will compare the aggregate quantity of supply offered by each Market Participant to the minimum offer quantity requirement, without regard to the specific resources from which the Market Participant submits supply offers. To the extent the aggregate quantity of supply offers is less than the minimum offer quantity for that Market Participant, the Market Participant may be subject to financial charges as provided under [XXREFERENCE]. Any such shortfall in the aggregate quantity of supply offers shall not be a violation of this Tariff."

Market Power Mitigation (Price)

- While organized markets generally include the ability to override participants' offer price under certain circumstances, in order to protect against the exercise of market power, overriding offer prices submitted by a hydro participant can result in a higher quantity being scheduled or dispatched in the market, interfering with water management decisions and/or creating operational challenges.
- No formula can accurately produce a hydro participant's estimate of the marginal opportunity cost of its limited supply from day to day or hour to hour.
- What is needed is a workable method to determine what that opportunity cost *might* be under normal conditions, such that offer prices reflecting the hydro participant's estimate of their opportunity cost are less likely to occur above this level on a frequent basis, thereby reducing the occurrence of inaccurate mitigation that results in the release of water uneconomically.
- This concept has been successfully implemented in the CAISO's Hydro Default Energy Bid formula, which is the maximum of:
    - 1.4 times the maximum of:
        - On-peak day-ahead index price at the default hub;

        - On-peak balance of month index price at the default hub; and
        - On-peak prompt month index price at the default hub.
    - 1.1 times the maximum of:
        - On-peak day-ahead, balance-of-month, and prompt month index prices at additional geographic hub locations; and
        - On-peak monthly index price for all future months up to the maximum storage horizon at all relevant locations.
    - 1.1 times the heat rate for a natural gas generating unit (as published by EIA) times the natural gas price for the relevant fuel region.
- May wish to consider some limited modifications for use in Markets+ Conduct and Impact framework?:
    - Eliminate additional geographic locations?
    - Consider revising adders/multipliers described above from 1.4/1.1/1.1 to 1.3/1.1/1.1, given that conduct-and-impact tests also apply a 10% adder in the conduct thresholds or alternatively keep the adders at 1.4/1.1/1.1 and specify that the conduct adder of 10% will not be applied to storage hydro resources using this formula?

Suggested language: [Use language from CAISO Western EIM tariff, adjusted for one or both acceptable modifications described above]

Limitations On Required Data Sharing

- Given the autonomy of hydro operators to address on a continuous ongoing basis the multiple inputs and requirements that impact water management decisions, the appropriate level of data sharing for hydro resources should be similar to data shared for other generation resources, such as thermal resources.
    - *e.g.,* Pmin, Pmax, current status (available or outage), current output, current capacity set asides for contingency reserves, regulating reserves.
- Data sharing requirements must not extend to information related to projected water conditions or water management decisions and activities.
    - *e.g.*, current and forecast inflows, min/max/current discharges, reservoir levels, environmental and non-power constraints … etc.
- An appropriate scope of data sharing has been achieved and approved by FERC in the context of WRAP:
    - A key set of discrete data elements applicable to hydro resources are set forth in tariff (16.2.5.5)
    - Additional participant-specific provisions are included in individual participation agreements. “WPP does not require, and will not seek or be permitted to access … [n]on-public forecasts or analyses of generation resources located in the BC Hydro BAA, including, but not limited to, water in-flows or discharge information, snowpack, reservoir or storage levels, or other related data inputs.” (Powerex WRAP Participation Agreement)

  - Expansion of data requirements should only be by mutual agreement; cannot be expanded by amendment of Tariff. (Powerex WRAP Participation Agreement)
- Similar limitations have also been found acceptable by FERC in the Western EIM:
  - Data sharing obligation limited to what is "necessary to support … EIM participation[.]" (BC Hydro Data Sharing Agreement)
  - "CAISO does not require, and will not seek or be permitted access to … non-public forecasts or analyses of generation resources, including, but not limited to, water in-flows or discharge information, snowpack, reservoir or storage levels, or other related data inputs" (BC Hydro Data Sharing Agreement)
- It is important that the Markets+ Tariff has durable data sharing requirements and protections for storage hydro operators consistent with those previously accepted by FERC in the context of WRAP and WEIM.

Suggested language: "Market Participants shall not be required to share data on hydro resources beyond what is necessary to represent the resource's generation capability in the market optimization software for the applicable period. Market Participants shall not be required to provide data or other information that relates to or reflects water management or the operational planning of hydro systems. The data sharing requirements shall be set forth in the participation agreements of each Market Participant with hydro resources, which shall not be modified without mutual agreement."

References

CAISO Tr Ltr on Hydro DEB.

[pg. 32]

The proposed hydro DEB acknowledges that hydroelectric resource costs are inherently difficult to calculate precisely. Because the many factors affect the amount of water hydroelectric resources have available to support energy sales to the CAISO market can vary day-to-day, and even intra-day, hydroelectric resource opportunity costs can be highly subjective. This makes it impractical to calculate a specific hydroelectric resource's opportunity cost with a high degree of precision, even using a negotiated default energy bid. Consequently, the CAISO proposes a standard hydro default energy bid that approximates a hydroelectric resource's opportunity costs. This approach does not attempt to precisely model each resource's operation or costs; rather, it is based on the typical operation of a typical hydroelectric resource.

CAISO Tr Ltr on BC Hydro Data Sharing Agreement

Specifically, the use of any data shared pursuant to the Agreement is limited to enabling Powerex to independently engage in EIM activity as a Canadian EIM entity using residual capability of the BC Hydro system; any other use of the data shared pursuant to the Agreement is prohibited.

…

BC Hydro will work with the CAISO and Powerex to assess the BC model and will provide updates to and recommend modifications to the BC model. BC Hydro will also provide the following: real-time telemetry measurements associated with the BC model; equipment outage information; load forecasts; and information regarding contingency or operational disturbances within British Columbia. In all categories, the data shared is limited to the specifics set forth in Schedule C of the Agreement.

…

Article 6 of the Agreement establishes the limits on BC Hydro data that will be shared pursuant to the terms of the Agreement and governs the confidentiality of the data shared by BC Hydro. The Parties agree that BC Hydro's data sharing obligations will not exceed those elements that the Parties have mutually agreed and specified in Schedule C of the Agreement, as necessary to support Powerex's EIM participation. The Agreement further specifies that it does not obligate BC Hydro to share inputs or underlying calculations to the data BC Hydro agrees to share or BC Hydro customer information or non-public forecasts or analyses of generation resources or load beyond what the Parties have specifically agreed is necessary to support Powerex's EIM participation. In all cases the data required to be shared is limited to that specified in the Agreement, including Schedule C

WRAP Tariff:

16.2.5.5 For Storage Hydro Qualifying Resources, the Participant will calculate a QCC based on a methodology detailed in the Business Practice Manuals that: (i) considers each resource's actual generation output, residual generating capability, water in storage, reservoir levels, and flow or project constraints over the previous ten-year historical period; (ii) determines the project's QCC by assessing the historical generation during CCHs on any given day and ability to increase generation during CCHs on the same day, subject to useable water in storage, inflows/outflows, and expected project operating parameters/constraints and limitations; (iii) incorporates forced outage rates; and (iv) determines QCC as average contribution to the CCH for each Winter Season and Summer Season over the previous ten years. If ten years of historic data is not available for the Storage Hydro Qualifying Resource, the Participant may alternatively employ data on the same metrics from a demonstrably comparable facility or apply another method that provides reasonable confidence in the reliability of the predicted values, as more fully set forth in the Business Practice Manuals. The Participant's QCC calculation shall be subject to review and validation by WPP. In connection with such review, the Participant shall provide WPP with the following information necessary to calculate a QCC for Storage Hydro Qualifying Resources: (i.a) historic reservoir elevation levels; (ii.a) historic plant generation; (iii.a) elevation versus capacity curves; (iv.a) any minimum or maximum reservoir level constraints; (v.a) forced outage rates; (vi.a) volume of water versus reservoir elevation storage tables; and (vii.a) turbine discharge versus generation efficiency curve.

Powerex WRAP Participation Agreement:

2.8 Except as explicitly set forth in this Agreement or in the WRAP Tariff on the date of execution of this Agreement, WPP does not require, and will not seek or be permitted access to:

I. Non-public customer information within the Province of British Columbia;
II. Non-public forecasts or analyses of generation resources located in the BC Hydro BAA, including, but not limited to, water in-flows or discharge information, snowpack, reservoir or storage levels, or other related data inputs.

To the extent WPP revises the Tariff in a manner that would require access to non-public forecasts or analyses of the type referenced above, such revision shall be inapplicable to Powerex absent Powerex's express written agreement granting WPP such access.

Powerex WEIM Participation Agreement:

[Transmittal Letter from CAISO] Article 6 of the Agreement establishes the limits on BC Hydro data that will be shared pursuant to the terms of the Agreement and governs the

confidentiality of the data shared by BC Hydro. The Parties agree that BC Hydro's data sharing obligations will not exceed those elements that the Parties have mutually agreed and specified in Schedule C of the Agreement, as necessary to support Powerex's EIM participation. The Agreement further specifies that it does not obligate BC Hydro to share inputs or underlying calculations to the data BC Hydro agrees to share or BC Hydro customer information or non-public forecasts or analyses of generation resources or load beyond what the Parties have specifically agreed is necessary to support Powerex's EIM participation. In all cases the data required to be shared is limited to that specified in the Agreement, including Schedule C.

BPA WEIM Implementation Agreement:

14 (b) Voluntary Market Participation

Bonneville's EIM participation will include voluntary market entry and exit, voluntary bid and offer volumes and pricing, voluntarily making transmission available for EIM Transfers and the ability to voluntarily forego engaging in EIM Transfers in one or more specified operating intervals consistent with the ISO tariff and the Bonneville Tariff.

CAISO Hydro Default Energy Bid Tariff

39.7.1.7 Hydro Default Energy Bid
Scheduling Coordinators may request a Hydro Default Energy Bid for a hydroelectric resource with storage capability located in the CAISO Balancing Authority Area or any EIM Entity Balancing Authority Area.

39.7.1.7.1 Computation
For each Trading Day, the CAISO will calculate the Hydro Default Energy Bid as the maximum of the (a) gas floor, (b) short-term component, and (c) long-term/geographic component, which are all calculated as specified below.

39.7.1.7.1.1 Gas Floor
The CAISO will calculate the gas floor as the most recent average heat rate for a typical gas turbine generator obtained from the Energy Information Administration, multiplied by the gas price for the fuel region applicable to the location of the hydroelectric resource, multiplied by 1.1.

39.7.1.7.1.2 Short-Term Component
The CAISO will calculate the short-term component as 1.4 multiplied by the maximum of:

(a) the day-ahead peak price at the applicable electric pricing hub;
(b) the on-peak balance of the month on peak futures price for the current month at the applicable electric pricing hub; and
(c) the on-peak monthly index on peak futures price at the applicable electric pricing hub for one (1) month after the current month.

39.7.1.7.1.3 Long-Term/Geographic Component
A Scheduling Coordinator may request that the long-term/geographic component be calculated based on multiple electric pricing hubs in addition to the default electric pricing hub consistent with Section

39.7.1.7.2.1. The CAISO will calculate the long-term/geographic component as 1.1 multiplied by the maximum of:

(a) the day-ahead on-peak price at the applicable electric pricing hub(s);
(b) the on-peak balance of the month futures prices for the current month at the applicable electric pricing hub(s); and
(c) the on-peak monthly index futures price at the applicable electric pricing hub(s) for all future months up to the maximum storage horizon after the current month.

From: Carrie Simpson <csimpson@spp.org>
Sent: Wednesday, October 4, 2023 3:43 PM
To: Kristen Darden; Kirby,Elizabeth A (BPA) - BT-3
Cc: Mantifel,Russell (BPA) - BT-3
Subject: [EXTERNAL] RE: **External Email** BPA/SPP Face to face?

10/25 is the RC and MORWG meeting, I think. That

Some of us will be in Phoenix on November 1st for a M+ leadership forum. That location could be an option on the 2nd? Or some of us could hang around after the 26th to meet on the 27th? The 27th is trickier because it is a Friday.

From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, October 4, 2023 2:49 PM
To: Kirby, Libby <eakirby@bpa.gov>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Carrie Simpson <csimpson@spp.org>
Subject: Re: **External Email** BPA/SPP Face to face?

Hey Libby!

Yes we could try to make that work. Would you be available the Wednesday before, 10/25?

Kristen Darden
Real-Time Markets
Southwest Power Pool
(b) (6) [redacted]

On Oct 4, 2023, at 1:44 PM, Kirby,Elizabeth A (BPA) - BT-3 <eakirby@bpa.gov> wrote:

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - eakirby@bpa.gov and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Hey Kristen,

We've been tossing around the idea of meeting with some SPP folks in person to work through some BPA questions. We're wondering about what timing for y'all looks like after the 10/26 phoenix meeting and before/after the November MPEC in phoenix. I know there are a lot of potential add on meetings flying around, so wanted to get a sense of whether that's possible or if we should try to find an alternative time to set something up.

Thanks,

Libby Kirby | Electrical Engineer
Bonneville Power Administration | BTO – Market Initiatives
Desk: (503) 230-4286 | Mobile: (b)(6) [redacted]

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From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, November 29, 2023 9:28 AM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] November 28th MDWG Summary of Motions, Action Items, and Future Meetings
Attachments: 11 28 MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx

Hello MDWG stakeholders and participants –

Attached are the summary of motions, action items, and future meetings from a very successful meeting. Please review and let me know if you have any edits.

***Reminder:** MDWG will have an additional meeting this **Friday, 12/1/2023, 11:00 a.m. – 4:00 p.m., CPT (10:00 a.m. – 3:00 p.m., MT/9:00 a.m. – 2:00 p.m., PT)**. You will receive an email when the registration goes live.

Thank you!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C (b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

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SPP Southwest Power Pool

MARKETS+

SOUTHWEST POWER POOL, INC.
MARKETS+ DESIGN WORKING GROUP MEETING
11/28/2023
Net-Conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

1. **Agenda Item 3a – 11/17/2023 MDWG Minutes**

   Motion: Scott Miller (WPTF) motioned to approve the consent agenda as presented. Adam Cornelius (SCPUD) provided the second. Motion carried unanimously.

2. **Agenda Item 4a – Attachment A: Partial Year Market Transmission Use Rate Update**

   Motion: Sibyl Geiselman (PGP) motioned to approve Attachment A, Appendix 2, Section 3 (Annual Formula Rate Implementation Protocols: Intra-Rate Year Update). Scott Miller (WPTF) provided the second. Motion carried unanimously.

3. **Agenda Item 4c – Attachment A, Sec. 6.2, 6.8, 6.9: Real Offer Parameters**

   Motion: Adam Cornelius (SCPUD) motioned to approve Attachment A, Sections 6.2 (Asset Registration), 6.8 (Outage Scheduling and Reporting), and 6.9 (Registration Information, Resource Offers, and Outages) as presented. Dan Williams (TEA) provided the second. Motion carried unanimously.

4. **Agenda Item 4d – Attachment A: Resource Adequacy – Must Offer Obligation**

   Motion: Dan Williams (TEA) motioned to approve the Must-Offer Obligation market design as outlined in Attachment A, Sections 5-5.1.2 (Must-Offer Requirement) as modified during the meeting, recognizing that the MORWG's approval is dependent on approval of an acceptable reliability backstop solution. Paul Dietz (GCPUD) provided the second.

   Motion: Sibyl Geiselman (PGP) motioned to table the previous motion to approve the Must-Offer Obligation market design as outlined in Attachment A, Sections 5-5.1.2 (Must-Offer Requirement) as modified during the meeting, until Agenda Item 4e (Attachment A: Scarcity Pricing, Market Award Priority, and Reliability Back-Stop Solution) has been discussed. Rick Applegate (TAC) provided the second. Motion carried with two abstentions (BPA and TEA).

   Motion: Dan Williams (TEA) motioned to approve the Must-Offer Obligation market design as outlined in Attachment A, Sections 5-5.1.2 (Must-Offer Requirement) as modified during the meeting, recognizing that the MORWG's approval is dependent on approval of an acceptable reliability backstop solution. Paul Dietz (GCPUD) provided the second. Motion carried with one abstention (NVE).

5. **Agenda Item 4e – Attachment A: Scarcity Pricing, Market Award Priority, and Reliability Back-Stop Solution**

   Motion: Dan Williams (TEA) motioned to approve Attachment A, Sections 2.1.2.1, 2.1.2.2, 2.2.2, 2.3.1.2, 3.6, and 3.6.1 as modified during the meeting, except for the four interchange transactions definitions: 1) High-Priority Export Interchange Transaction, 2) Uncommitted Export Interchange Transaction, 3) High-Priority Import Interchange Transaction, and 4) Uncommitted Import Interchange Transaction. Paul Dietz (GCPUD) provided the second. Motion carried with two oppositions (BPA and NVE) and one abstention (PGP).

6. **Agenda Item 4I – Section I: Common Service Provisions**

   Motion: Russ Mantifel (BPA) motioned to approve Section I (Common Service Provisions). Paul Dietz (GCPUD) provided the second. Motion carried unanimously.

7. **Agenda Item 4J – Attachment A, Addendum 1: Load Responsible Entity Attestation**

   Motion: Russ Mantifel (BPA) motioned to approve Attachment A, Addendum 1 (Load Responsible Entity Attestation). Nick Detmer (Xcel) provided the second. Motion carried unanimously.

8. **Agenda Items 5b, 5c, and 5f – Attachments B (Market Participant Agreement), C (Meter Agent Agreement), F (Allocation of Costs Associated with Penalties):**

   Motion: Russ Mantifel (BPA) motioned to approve Attachments B (Market Participant Agreement), C (Meter Agent Agreement), and F (Allocation of Costs Associated with Penalties). Adam Cornelius (SCPUD) provided the second. Motion carried with one abstention (NVE).

9. **Agenda Item 5d – Attachment H (Credit Policy)**

   Motion: Tuuli Hakala (CCPUD) motioned to approve Attachment H (Credit Policy) as modified during the meeting. Paul Dietz (GCPUD) provided the second. Motion carried unanimously.

ACTION ITEM:

Action Item: SPP staff will include in the Markets+ Protocols how Resource participation types Outage and Not Available will be defined in consideration with tariff language regarding outage accuracy, discretionary operations of Resources, and Western Resource Adequacy Program (WRAP) Unforced Capacity (UCAP).

FUTURE MEETINGS:

Meeting: December 1st MDWG Meeting
Date: December 1st, 2023
Location: Net-conference

Time: 11:00 a.m. – 4:00 p.m., CPT / 9:00 a.m. – 2:00 p.m., PDT / 10:00 a.m. – 3:00 p.m., MT

Meeting: January 11th MDWG Meeting
Date: January 11th, 2024
Location: Net-conference
Time: 11:00 a.m. – 1:00 p.m., CPT (9:00 a.m. – 11:00 a.m., PT/10:00 – 12:00 p.m., MT)

DRAFT

From: Christine Dillard <cdillard@spp.org>
Sent: Tuesday, September 12, 2023 6:10 AM
To: Fina, Giuseppe (Joe); Pettit, David E; Gorlin@WAPA.GOV; Alaine Ginocchio; Jason.Kuzma@pse.com; Engelby, Ben; Charles.VonReis@chelanpud.org; Miller,Todd E (BPA) - LP-7; 'Karilee S Ramaley'; Irene Scruggs; Gilhen, Jonathan; Sabers, Cathy; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7; Lee Engel; Davis,Thomas E (BPA) - LT-7; Kallstrom, Jeffrey; Starnes, Heather
Cc: Emon Mahony; Rachel Kane; Joseph Ghormley; Kristen Darden; Carrie Simpson; Mantifel,Russell (BPA) - PGL-5; Michael Riley; Chris Nolen
Subject: [EXTERNAL] RE: Markets+ Legal Group Meeting
Attachments: ATTACHMENT H_with_VIRTUAL_language_CLEAN_9.12.23.docx; ATTACHMENT H_with_VIRTUAL_language_redline_9.12.23.docx

Hi all,
Attached, please find a redlined version of the Credit Policy and a clean version of that redline, both posted to sharepoint.

Thanks,

Christine Dillard | Attorney, Markets & Regulatory Policy
cdillard@spp.org | (b)(6) (c)

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Working together to responsibly and economically keep the lights on today and in the future.

From: Fina, Joe <GFina@SNOPUD.com>
Sent: Monday, September 11, 2023 11:29 AM
To: Chris Nolen <cnolen@spp.org>; Pettit, David E <David.E.Pettit@xcelenergy.com>; Gorlin@WAPA.GOV; Alaine Ginocchio <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; Todd Miller <temiller@bpa.gov>; 'Karilee S Ramaley' <Karilee.Ramaley@srpnet.com>; Irene Scruggs <iscruggs@ppcpdx.org>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; Lee Engel <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>
Cc: Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Michael Riley <michael.b.riley@spp.org>; Christine Dillard <cdillard@spp.org>
Subject: **External Email** Markets+ Legal Group Meeting

CAUTION: This email originated from outside of the SPP network. Do not click links or open attachments unless you recognize or can verify the sender, or were expecting an email from the sender. The original sender of this email is GFina@SNOPUD.com

All,

We will be meeting tomorrow from 12:30-2p.m. pacific to discuss the credit policy. Here is link to the policy on the SharePoint: ATTACHMENT H Credit Policy.docx. Feel free to forward to others in your organizations that may be interested.

Joe

This email and any attachments are for the sole use of the intended recipient(s) and may contain confidential information. If you receive this email in error, please notify the sender, delete the original and all copies of the email and destroy any other hard copies of it.

ATTACHMENT H
Credit Policy

ARTICLE ONE

General Provisions

1.1 Policy Statement. In furtherance of competition and the orderly administration of the Tariff, Southwest Power Pool ("SPP") shall administer, implement and enforce this Credit Policy. This Credit Policy is intended to encourage the maximum participation of large and small participants in all market sectors while minimizing the likelihood of losses due to default and to establish eligibility requirements for market participation.

1.2 Applicability of Credit Policy and Overview.

1.2.1 This Credit Policy is applicable to each Credit Customer. It applies to each Credit Customer regardless of whether SPP previously extended credit to, or established a Total Credit Limit for, the Credit Customer. .

1.2.2 As a condition to taking any service subject to this Credit Policy, SPP must determine that the Credit Customer satisfies SPP's credit requirements and minimum criteria for market participation under this Credit Policy and the terms and conditions for an extension of credit. SPP's determination is a Credit Assessment. The Credit Assessment is based upon quantitative and qualitative credit scoring under the formulae and procedures set forth in this Credit Policy. This Credit Policy provides for initial and ongoing Credit Assessments. In order to facilitate continuous evaluation of credit, it requires the submission of Credit Information to SPP periodically and, additionally, upon the occurrence of certain events. Based upon the ongoing Credit Assessment, SPP is authorized, at any time, to revise a Credit Customer's Total Credit Limit and the terms and conditions for the extension of credit.

1.2.3 SPP shall conduct initial and ongoing Credit Assessments for each Credit Customer, based, as applicable, upon the Credit Application, Credit Information, and Credit Ratings. Credit Information includes: (a) the information contained in and submitted with the Credit Customer's duly executed Credit Application; and (b) updated and additional information the Credit Customer is required to submit from time to time under this Credit Policy. Credit Information and Credit Ratings, if any, shall be sufficient to enable SPP to determine under this Credit Policy whether to approve an extension of credit, and the amount, terms, and conditions thereof, including the extent and nature of any Guaranty or Financial Security.

1.2.4 Based upon its Credit Assessment, SPP will: (a) determine the Credit Customer's Total Potential Exposure; (b) determine the amount of credit the Credit Customer requires; (c) determine whether to grant, and the amount of, any Unsecured Credit Allowance; (d) evaluate any Guaranty the Credit Customer offers to provide, including a Credit Assessment for the proposed Guarantor; (e) determine the amount of any required Financial Security; and (f) determine if the Credit Customer meets the minimum criteria for market participation under Sections

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3.1.1.8 and 3.1.1.9. Based on these determinations, which shall include consideration of the Credit Customer's ability to fulfill SPP's requirements to obtain credit, SPP will set the Total Credit Limit for the Credit Customer.

1.2.5 To facilitate the Credit Assessment, each Credit Customer shall submit a duly executed Credit Application in the form attached as Appendix "A," and the Credit Information required under this Credit Policy. If SPP determines that an extension of credit to a Credit Customer must be supported by Financial Security, the Credit Customer shall, upon SPP's request, duly execute the Credit and Security Agreement in the form attached as Appendix "B," without variation. Any Irrevocable Letter of Credit shall be substantially in the form attached as Appendix "C," any Guaranty shall be substantially in the form attached as Appendix "D," and any Surety Bond shall be substantially in the form attached as Appendix "F." Any variations in the forms of Irrevocable Letter of Credit, Guaranty, or Surety Bond must be approved by SPP, and may not materially modify or impair SPP's rights under such form, in SPP's sole discretion.

1.3 Components of Credit Policy. This Credit Policy includes the following elements:

1.3.1 Requirements for the establishment and maintenance of credit applicable to Credit Customers.

1.3.2 The basis for establishing a Total Credit Limit for a Credit Customer in order to extend credit, but diminish the possibility of failure of payment under the Tariff and Agreements.

1.3.3 Forms of Guaranty and Financial Security acceptable to SPP, to be provided if SPP does not approve an Unsecured Credit Allowance sufficient to cover the Credit Customer's Total Potential Exposure.

1.3.4 Requirements to facilitate ongoing Credit Assessments.

1.3.5 Specification of Defaults under this Credit Policy and remedies.

1.3.6 Minimum criteria for market participation.

1.4 Fairness, Objectivity, and Non-Discrimination. SPP will seek and receive information and explanation from a Credit Customer as appropriate to help ensure that the Credit Assessment is fair and thorough. SPP will base each Credit Assessment upon SPP's evaluation of the Credit Information, Credit Ratings, and other pertinent indicators of financial strength identified under this Credit Policy. SPP shall make each Credit Assessment objectively and without undue discrimination in favor of or against any market sector. Whenever this Credit Policy permits SPP to exercise discretion in the implementation of the provisions of this Credit Policy, SPP shall exercise that discretion in a fair and impartial manner that treats all Credit Customers in a non-discriminatory manner.

1.5 Construction and Interpretation.

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1.5.1 The word "including" shall be understood to mean "including without limitation." The singular form of a word shall be understood to include the plural form, and vice versa, as appropriate to implement the applicable term or condition.

1.5.2 Except as otherwise stated, the words "Section" and "Article" refer to sections and articles of this Credit Policy. A Section reference includes all subsections and subparts of the Section.

1.5.3 All references to amounts of cash, cash deposits, and to monies paid, provided, due or otherwise, shall be construed to refer to United States dollars.

1.6 **Disputes.** Any disputes arising under this Credit Policy will be subject to the dispute resolution procedures set forth in Section 12 of the Tariff.

ARTICLE TWO

Definitions

Comment [KLD1]: Go through and add in definition from subsections below where applicable

2.1 Definitions. The following definitions apply in this Credit Policy. Capitalized terms used herein and not defined herein shall be given the meaning assigned to them under the Tariff.

Affiliate
A business concern, organization, or individual is an affiliate of another business concern, organization, or individual, including a Credit Customer, that directly or indirectly: (a) has the power to control or is controlled by it; or (b) is under common control of a third party. Elements of control include interlocking management or ownership, shared facilities and equipment, and common use of employees.

Affiliated Credit Customers
Credit Customers that are Affiliates.

Agreements
The Tariff, including this Credit Policy, any and all agreements entered into by the Credit Customer under, pursuant to or in connection with the Tariff and/or this Credit Policy, and any and all other Agreements to which SPP and the Credit Customer are parties.

Cash Deposit
Cash collateral provided to SPP to secure a Credit Customer's performance under the Tariff, this Credit Policy, and/or any other Agreements, and any other cash to which the Credit Customer has title or rights in the possession of SPP (cash SPP has applied to payment of an obligation under the Tariff or Agreements is not cash to which a Credit Customer has title or rights).

Composite Credit Score or Credit Score
This term shall have the meaning given in Section 4.2.

Comment [KLD2]: May add specificity

Credit and Security Agreement
A legal document, outlining certain terms pursuant to which a security interest in certain collateral is granted to SPP, in the form incorporated herein as Appendix "B".

Credit Application
The completed, executed, and submitted Credit Application in the form attached as Appendix "A" hereto, together with the Credit Information required under this Credit Policy.

Credit Assessment
This term shall have the meaning given in Article Three.

Credit Contact
This term shall have the meaning given in Section 9.1.

Credit Customer
Any person who takes or seeks to take service under the Tariff.

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Credit Information
This term shall have the meaning given in Section 1.2.3.

Credit Ratings
Rating assigned by a Rating Agency based on an obligor's creditworthiness to pay financial obligations.

Default or Event of Default
Any default under Article Eight or otherwise under this Credit Policy.

Estimated Virtual Exposure ("EVE")
This term shall have the meaning given in Section 4A.2.

Financial Security
A Cash Deposit, Irrevocable Letter of Credit, Surety Bond, or Federal Power Marketing Agency Letter in amount and in forms as described in Article Seven of this Credit Policy, provided by a Credit Customer to SPP as security.

Financial Statements
This term shall have the meaning given in Section 3.1.1.1.

Guarantor
An entity that guarantees the obligation of another entity under a Guaranty.

Guaranty
A legal document used by an Affiliate of a Credit Customer pursuant to Article Six to guarantee the obligations of such Credit Customer for the benefit of SPP.

Irrevocable Letter of Credit
An irrevocable standby letter of credit, with SPP as beneficiary, substantially in the form attached as Appendix "C" to this Credit Policy and acceptable to SPP.

Large Company Credit Customers or Large Company
This term shall have the meaning given in Section 4.2.1.

Market Exposure
This term has the meaning given in Section 5.2.1.

Material
The lesser of (i) the materiality standard established by the certified public accounting firm performing the Credit Customer's annual audit, (ii) an amount that equals or exceeds five percent (5%) of the Credit Customer's Tangible Net Worth using the last audited financial statements, calculated in accordance with generally acceptable accounting principles; and (iii) a change, event, proceeding, or other occurrence, that results (or if adversely determined could result) in a change of five percent (5%) or more in the Credit Customer's Tangible Net Worth

compared to the Tangible Net Worth of the Credit Customer using the last audited financial statements, calculated in accordance with generally acceptable accounting principles.

Material Adverse Change
This term shall have the meaning given in Section 3.2.7.

Not-For Profit Credit Customers or Not-For-Profit
This term shall have the meaning given in Section 4.2.3.

Peak Market Activity Day
The day in which a Credit Customer's calculated charges owed to SPP are the greatest, over a specified period.

Potential Exposure Window
The number of days of credit exposure for a Credit Customer equal to the sum of days of service that have been invoiced but not paid, days of service that have been calculated but not invoiced, days of service in the cure period, and days before service can be terminated.

Qualitative Score
This term has the meanings applicable under Article Four.

Quantitative Score
This term has the meanings applicable under Article Four.

Rating Agency
Any "Nationally Recognized Statistical Rating Organization" as defined by the US Securities and Exchange Commission.

SEC
The Securities and Exchange Commission.

Small Company Credit Customers or Small Company
This term shall have the meaning given in Section 4.2.2.

Surety Bond
A surety bond, with SPP as beneficiary, substantially in the form attached as Appendix "F" to this Credit Policy and acceptable to SPP.

Tangible Net Worth
This term shall have the meaning given in Section 4.3.

Total Credit Limit
This term shall have the meaning given in Section 4.5.

Total Potential Exposure or TPE

SPP's estimate of the Credit Customer's current or anticipated transaction activity and resulting obligations for all services under the Tariff or otherwise.

Total Potential Exposure Violation
This term shall have the meaning given in Section 5.4.1.

Unsecured Credit Allowance
This term shall have the meaning given in Section 4.3.

Virtual Energy Bid,
This term shall have the meaning given in Attachment of the Tariff.

Virtual Energy Offer
This term shall have the meaning given in Attachment of the Tariff.

Comment [JB3]: Will need correct attachment/tag here

Comment [JB4]: Will need correct attachment/tag here

ARTICLE THREE

Credit Assessment

3.1 Minimum Criteria for Market Participation and Initial Credit Assessment.

3.1.1 Credit Application and Credit Information. A Credit Customer must submit a completed and duly executed Credit Application. The Credit Application shall be renewed and updated for each successive year and shall be submitted to SPP no later than April 30 of each year. A completed Credit Application includes submission of the Credit Application form (Appendix "A"), all information required under Section 3.1.1, and additional information that SPP may request. The Credit Customer must submit the following information with its Credit Application.

3.1.1.1 Audited Financial Statements and Related Information. All annual Financial Statements submitted must be audited. Financial Statements are the following.

a. If the Credit Customer is subject to SEC reporting requirements, Financial Statements are:

i. Annual Reports on Form 10-K for the three fiscal years most recently ended, together with any amendments thereto;

ii. Quarterly Reports on Form 10-Q for each completed fiscal quarter of the then current fiscal year, together with any amendments thereto; and

iii. Form 8-K reports, if any, filed after the most recent Form 10-K.

b. If the Credit Customer is not subject to SEC reporting requirements, Financial Statements are:

i. For each of the three fiscal years most recently ended, the Report of Independent Accountants (for each of the three fiscal years most recently ended);

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and audited financial statements, including balance sheet, income statement, statement of cash flow, and statement of stockholder's equity;

ii. For each completed fiscal quarter of the then current fiscal year; financial statements as described in (i) above. Unaudited quarterly financial statements are acceptable.

iii. Notes to financial statements; and

iv. Management's discussion and analysis, if any.

c. The Credit Customer may submit Financial Statements by informing SPP, in writing, where the Financial Statements can be retrieved through the internet. Successful retrieval by SPP will satisfy the Financial Statements submission requirements of this Section. If SPP is not satisfied with the retrieval through the internet, it may require the Credit Customer to submit Financial Statements in hard copy form.

d. In the event any parts of the Financial Statements required under this Section are inapplicable to the Credit Customer, SPP may specify alternate requirements. SPP may request additional Financial Statements and related information at its sole discretion.

e. For Not-For-Profit Credit Customers, some of the above financial submittals may not be applicable, and alternate requirements may be specified by SPP.

f. In the credit evaluation of Not-For-Profit Credit Customers, SPP may request additional information as part of the overall financial review process and will consider other relevant factors in determining financial strength and creditworthiness.

3.1.1.2 **References.** The Credit Customer must provide at least one bank reference and at least three references from entities that have significant commercial relationships with the Credit Customer.

3.1.1.3 **Loss Contingencies.** The Credit Customer must fully and accurately identify and describe each of the following, or state that there are no such matters applicable to the Credit Customer:

Comment [KLD5]: Reference Information Sharing Docket

a. known pending or, to the Credit Customer's knowledge, threatened, court actions, arbitration proceeding, investigations, commitments, claims, contingencies, or existing or potential liabilities that are or would be Material if determined adversely to the Credit Customer;

b. ongoing investigations by the SEC, the FERC, or of any other governing, regulatory, or standards body that is Material or would be Material if determined adversely to the Credit Customer;

c. prior bankruptcy declarations or petitions, voluntary or involuntary, by or against the Credit Customer, its predecessors, subsidiaries or Affiliates; and

d. Material defalcations or fraud by or involving the Credit Customer, its predecessors, subsidiaries or Affiliates, or any of their respective assets.

3.1.1.4 **Affiliates.** The Credit Customer must identify all Affiliates that are Credit Customers.

3.1.1.5 **Total Potential Exposure Information.** The Credit Customer shall provide an estimate of its current or anticipated transaction activity for all services under the Tariff or otherwise over the succeeding twelve (12) months sufficient to permit SPP to determine the Credit Customer's Total Potential Exposure.

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3.1.1.6 **Attestation Minimum Criteria for Market Participation and of Risk Management Capabilities.** Each applying Market Participant shall submit to SPP a notarized statement signed by an authorized officer in the form attached as "Appendix E" to this Attachment H, attesting that:

a. The officer has signature authority to make the statement;
b. Employees or agents transacting in markets and services provided pursuant to the Tariff on behalf of the applying Market Participant have received, or will receive, applicable training with regard to their participation under this Tariff as a condition of being authorized to transact on behalf of the Market Participant;
c. The applying Market Participant will maintain current written risk management policies and procedures that address those risks that could materially affect the applying Market Participant's ability to pay its SPP invoices when due;
d. The applying Market Participant has available appropriate personnel resources, operating procedures, and technical abilities to promptly and effectively respond to SPP communications and directions related to, but not limited to, settlements, billing, credit requirements and other financial matters;
e. The applying Market Participant will maintain the minimum capitalization or alternate capitalization requirements set forth in Section 3.1.1.8 of this Attachment H; and
f. Certifying that the Market Participant meets the minimum criteria for market participation set forth in Section 3.1.1.8.

Such attestation shall be renewed and updated for each successive year of market participation, and shall be submitted to SPP no later than April 30 of each year.

The applying Market Participant shall be declined participation in Markets+ if: (i) the risk management capabilities of the applying Market Participant are deemed insufficient by SPP, (ii) SPP determines that the applying Market Participant does not meet the minimum criteria for market participation, (iii) the attestation is deemed insufficient by SPP to determine the risk management capabilities of the applying Market Participant, or (iv) the attestation is deemed insufficient by SPP to determine whether the applying Market Participant meets the minimum criteria for market participation. An applying Market Participant will have two (2) Business Days from receipt of notice from SPP that its attestation

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was deemed insufficient to cure any deficiency identified by SPP prior to being declined participation in Markets+.

3.1.1.7 **Additional Information.** At any time and from time to time, SPP may request such additional information as SPP determines is necessary and appropriate for the Credit Assessment and the Credit Customer shall timely provide such additional information. At any time, the Credit Customer may provide SPP with additional information that the Credit Customer considers relevant to the Credit Assessment.

3.1.1.8 **Minimum Criteria for Market Participation.**

3.1.1.8.1 **Minimum Eligibility Requirements**

In order to be eligible to transact in Markets+, each Market Participant must demonstrate to SPP that it qualifies as one of the following:

a. An "appropriate person," as defined under Section 4(c)(3)(A) through (J) of the Commodity Exchange Act (7 U.S.C. § 6(c)(3)(A) through (J)). A Market Participant may qualify as an "appropriate person" by providing either: (i) an unlimited Corporate Guaranty in a form acceptable to SPP as described in Article 6 of this Attachment H and Appendix D of this Attachment H from an entity that demonstrates to SPP that it has in excess of $1 million of total net worth or in excess of $5 million of total assets per Market Participant for which that guarantor has issued an unlimited Corporate Guaranty, or (ii) an Irrevocable Letter of Credit or Surety Bond in an amount of $5 million or greater that the Market Participant acknowledges is separate from, and cannot be applied to meet, its credit requirements under this Attachment H.

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b. An "eligible contract participant," as defined in Section 1a(18) of the Commodity Exchange Act (7 U.S.C. § 1a(18)) and in the Commodity Futures Trading Commission's regulation 1.3(m) (17 C.F.R. § 1.3(m))

c. A person or entity that is in the business of: (1) generating, transmitting or distributing electric energy or (2) providing electric services that are necessary to support the reliable operation of the transmission system (78 Fed. Reg. 19880, page 19914).

For purposes of meeting the minimum criteria for market participation under this Credit Policy, SPP shall accept annual audited Financial Statements prepared according to either United States Generally Accepted Accounting Principles (US GAAP) or International Financial Reporting Standards (IFRS).

If a Market Participant is unable to meet the minimum eligibility requirements for market participation set forth in this Section 3.1.1.8.1, the Market Participant shall immediately notify SPP and immediately cease conducting transactions in Markets+. When SPP receives such notification from a Market Participant or determines that a Market Participant does not meet the minimum eligibility requirements set forth in this Section 3.1.1.8.1, SPP shall immediately terminate that Market Participant's transaction rights in Markets+.

In the event that a Market Participant is no longer able to demonstrate that it meets the minimum eligibility requirements set forth in this Section 3.1.1.8.1, and possesses, obtains, or has rights to possess or obtain any open or forward position in Markets+, SPP may take any action it deems necessary with respect to such open or forward positions. Such action may include but is not limited to, liquidation, transfer, assignment, or sale. The Market Participant will be entitled to any

positive market value of such positions, net of any obligations due to SPP, notwithstanding its ineligibility to participate in Markets+. Nothing in this paragraph shall restrict SPP's ability to enforce SPP's rights to pursue and collect any amounts Market Participants may owe to SPP.

3.1.1.8.2 Minimum Capitalization Requirements

Each Market Participant that meets the minimum eligibility requirements in Section 3.1.1.8.1 shall also, at a minimum, possess:

a. A Tangible Net Worth of one million dollars ($1,000,000) as shown in the most recent fiscal year end audited financial statements as described in Section 3.1.1.1; or
b. Ten million dollars ($10,000,000) in assets as shown in the most recent fiscal year end audited financial statement as described in Section 3.1.1.1; or
c. A Credit Rating of, or equivalent to, BBB-; or
d. A Guaranty as described in Article Six of this Attachment H, and approved by SPP, through which the audited financials or Credit Rating of the Guarantor is used to meet at least one of the alternatives specified in (a) through (c) above; or
e. In the event a Market Participant cannot meet at least one of the alternatives specified in (a) through (d) above, the Market Participant shall, at a minimum, deposit with SPP two hundred thousand dollars ($200,000) in Financial Security to be segregated and unavailable to secure any market activity. Pursuant to election of this alternative, if the anticipated activity at time of application or actual market activity as determined in Article Five, of the Market Participant exceeds one hundred thousand dollars ($100,000) in Market Exposure, the Market Participant shall provide SPP twice the amount of Financial Security that would otherwise be required of the Market Participant pursuant to Section 4.4.

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If the applying Market Participant is unable to meet the applicable minimum capitalization requirements in this Section 3.1.1.8.2, the applying Market Participant shall be declined participation in Markets+.
Failure at any time of a Market Participant to continue to satisfy these minimum capitalization requirements in this Section 3.1.1.8.2 shall be deemed a Material Adverse Change pursuant to Section 3.2.7.

3.1.1.9 Minimum Criteria and Risk Management Verification Process

Through a periodic compliance verification process, SPP shall review and verify Market Participants' eligibility for market participation based upon SPP's minimum criteria for market participation, risk management policies, practices, and procedures pertaining to the Market Participants' activities in Markets+. Such review shall include verification that:

1. The risk management framework is documented in a risk policy addressing market, credit, and liquidity risks;
2. The Market Participant maintains an organizational structure with clearly defined roles and responsibilities that clearly segregates trading and risk management functions;
3. There is clarity of authority specifying the types of transactions into which traders are allowed to enter;
4. The Market Participant has requirements that traders have adequate training or expertise relative to their authority in the systems and Markets+ in which they transact;
5. As appropriate, risk limits are in place to control risk exposures;
6. Reporting is in place to ensure that risks and exceptions are adequately communicated throughout the organization;
7. Processes are in place for qualified independent review of trading activities; and
8. As appropriate, there is periodic valuation or mark-to-market of risk positions.
9. The Market Participant meets the minimum participation criteria, including capitalization requirements, set forth in Section 3.1.1.8.

SPP may select Market Participants for review on a random basis and/or based on identified risk factors such as, but not limited to, the SPP markets in which the Market Participant is transacting, the magnitude of the Market Participant's transactions, or the volume

of the Market Participant's open positions. Those Market Participants notified by SPP that they have been selected for review shall, upon fourteen (14) Calendar Days notice, provide a copy of their current governing risk control policies, procedures, and controls applicable to their SPP market activities and shall also provide such further information or documentation pertaining to the Market Participants' activities in Markets+ as SPP requests.

Each selected Market Participant's continued eligibility to participate in Markets+ is conditioned upon SPP notifying the Market Participant of successful completion of SPP's verification. If SPP notifies the Market Participant in writing that it could not verify the Market Participant's continued eligibility to participate, SPP shall allow such Market Participant fourteen (14) Calendar Days to provide sufficient evidence for verification prior to declaring the Market Participant as ineligible to continue to participate in Markets+. The declaration of ineligibility shall be in writing with an explanation of why SPP could not complete the verification. SPP may retain outside expertise to perform the review and verification function described in this section. SPP and any third party it may retain will treat as confidential the documentation provided by a Market Participant under this section, consistent with the applicable provisions of the Tariff.

3.1.2 Rating Agency Information. In the initial Credit Assessment and in subsequent and ongoing assessments, SPP will consider Rating Agency reports applicable to the Credit Customer. This review will be focused on the Credit Customer's unsecured, senior long-term debt ratings. If these ratings are not available, SPP will consider issuer ratings.

3.1.3 Power Supply Agent Disclosure Requirements. A Not-For-Profit Credit Customer may request that its suggested Unsecured Credit Allowance calculation reflect as equity the outstanding balance of revenue bonds issued by the Not-For-Profit Credit Customer when such revenue bonds are issued solely in support of the Not-For-Profit Credit Customer's role as power supply agent for not-for-profit electric distribution utilities. In support of such request, the Not-For-Profit Credit Customer must provide SPP with the following information:

(a) Management representation letter stating:

(i) Principal amount, in dollars, of revenue bonds outstanding;

(ii) Prior to default and after default, debt service on the revenue bonds is payable only after operating expenses are paid;

(iii) Amounts payable to SPP under this Tariff are operating expenses for purposes of the revenue bonds; and

(iv) The trustee for the revenue bonds has a valid and binding security interest in the revenues or net revenues from the power supply contracts to secure payment of the revenue bonds and the Not-For-Profit Customer has not granted any lien thereon prior to the lien of the bond resolution.

(b) Opinion of counsel stating:

(i) The power supply contracts are binding obligations of the Not-For-Profit Credit Customer enforceable in accordance with their terms;

(ii) The trustee of the revenue bonds has a valid and binding security interest in, or assignment and pledge of, the revenues or net revenues from the power supply contracts to secure payment of the revenue bonds;

(iii) The resolution or other document creating the security interest or pledge and providing for the priority of payment is enforceable in accordance with its terms;

(iv) Prior to default and after default, debt service on the revenue bonds is payable only after operating expenses are paid; and

(v) All amounts payable to SPP arising from transactions under this Tariff are operating expenses for purposes of the revenue bonds.

(c) All Rating Agency ratings on revenue bond(s).

The opinion of counsel referenced above shall be provided to SPP together with copies of the most recent written opinions of counsel, if any, for each member of the Not-For-Profit Credit Customer that relate to the enforceability of the power supply contract(s).

3.1.4 Guaranties. If the Credit Customer proposes a Guaranty to establish, contribute to, or maintain an Unsecured Credit Allowance, Credit Information required under Section 3.1.1 must be submitted with respect to both the Credit Customer and the proposed Guarantor.

3.2. Annual and Other Ongoing Credit Assessments.

3.2.1 Purpose of Annual and Other Ongoing Credit Assessments. At least once annually, SPP will review and update its Credit Assessment for each Credit Customer. This will include a review of the Credit Customer's creditworthiness and consideration of revisions of the Credit Customer's (a) Unsecured Credit Allowance; (b) Financial Security requirements; and (c) Total Credit Limit. In its sole discretion, SPP may conduct additional reviews and updates, including reviews in response to new facts or occurrences that may bear upon the Credit Customer's creditworthiness. Unless otherwise stated, all annual information required under Section 3.2 shall be provided to SPP no later than 120 Calendar Days after the end of the Credit Customer's fiscal year.

3.2.2 Procedures for Posting Additional Financial Security or Taking Other Corrective Measures. In the event a Credit Customer experiences a Material Adverse Change, SPP may invoke its right to require the Credit Customer to post additional Financial Security, cease one or more transactions, or take other measures to restore confidence in the Credit Customer's ability to transact safely. In addition, based upon the annual or other Credit Assessment, SPP may, at any time, revise any (a) Unsecured Credit Allowance; (b) Financial Security requirements; and (c) Total Credit Limit, applicable to the Credit Customer. If SPP has upwardly revised the required amount of Financial Security, the Credit Customer will have two (2) Business Days from receipt of the notice from SPP to provide the required Financial Security, in an amount and form acceptable to SPP. Failure to provide additional required Financial Security shall be a Default under this Credit Policy and a default under the Tariff.

3.2.3 Rating Agency Information. The Credit Customer will give notice to SPP of any changes to its Credit Ratings within five (5) Business Days of the announcement of the change.

3.2.4 Financial Statements. On an annual basis, and except as otherwise stated with respect to quarterly reports, each Credit Customer must provide SPP with updated Financial Statements within ten (10) Business Days after they become available, and in no event later than 120 Calendar Days after the end of the Credit Customer's fiscal year. Quarterly reports must be provided quarterly, within ten (10) Business Days after they become available. Financial Statements may be submitted in the manner provided under Section 3.1.1.1.

3.2.5 Power Supply Agent Disclosure Requirements. A Not-For-Profit Credit Customer that initially qualified to have its suggested Unsecured Credit Allowance calculation reflect as equity the outstanding balance of revenue bonds issued by the Not-For-Profit Credit Customer, and is requesting to continue to have its suggested Unsecured Credit Allowance calculation reflect as equity the outstanding balance of revenue bonds issued by the Not-For-Profit Credit Customer when such revenue bonds are issued solely in support of the Not-For-Profit Credit Customer's role as power supply agent for not-for-profit electric distribution utilities, must at all times comply with the following information reporting requirements:

(a) The Not-For-Profit Credit Customer must advise SPP of the principal amount of revenue bonds outstanding on an annual basis;

(b) The Not-For-Profit Credit Customer must advise SPP within ten (10) Business Days if the principal amount of the revenue bonds outstanding is reduced by more than twenty percent (20%) from the amount last certified by the Not-For-Profit Credit Customer;

(c) The Not-For-Profit Credit Customer must advise SPP immediately if the security interest of the trustee is released or the Not-For-Profit Credit Customer grants any lien prior to the lien of the bond resolution; and

(d) The Not-For-Profit Credit Customer must advise SPP within ten (10) Business Days of any downgrade of any of the Not-For-Profit Credit Customer's revenue bond ratings issued by a Rating Agency.

3.2.6 Other Credit Information. On an annual basis, each Credit Customer must provide SPP with the information specified in Section 3.1.1.3 (Loss Contingencies), 3.1.1.4 (Affiliates), 3.1.1.6 (Additional Information).

3.2.7 Material Adverse Changes. Each Credit Customer must give SPP notice of any Material Adverse Change in its financial condition (and, as applicable, the financial condition of its Guarantor) within two (2) Business Days of the occurrence of the Material Adverse Change. If a Credit Customer or Guarantor files a Form 10-K, Form 10-Q, or Form 8-K with the SEC, notice of such filing, timely delivered to SPP in accordance herewith, will suffice on the condition that such notice states that the filing addresses a Material Adverse Change.

A Material Adverse Change in financial condition includes any Material change in operations or financial condition that a reasonable examiner of creditworthiness would deem material to decisions concerning the extension of credit, including but not limited to, any of the following ("Material Adverse Change"):

a. A downgrade of any debt rating or issuer rating, or change in the outlook of any Credit Rating, including debt rating or issuer rating;

b. Any placement on a credit watch with negative implication by a Rating Agency;

c. The filing of a lawsuit or initiation of an arbitration, investigation or other proceeding (including regulatory proceeding) which if decided adversely could have a Material effect on any current or future financial results or financial condition;

d. The merger, acquisition or any other form of business combination involving the credit customer.

e. Any adverse changes in financial condition which, individually, or in the aggregate, are Material;

f. Any adverse changes, events or occurrences which, individually or in the aggregate, could affect the ability of the Credit Customer to pay its debts as they become due or could have a Material adverse effect on any current or future financial results or financial condition;

g. Discovery or disclosure of conflict of interest issues;

h. Resignation or removal of a key officer or director;

i. Any action requiring the filing of a Form 8-K;

j. Any report of a quarterly or annual loss or a decline in earnings of ten (10) percent or greater compared to the prior period;

k. Any restatement of prior financial statements; and

l. Failure of a Market Participant to continue to satisfy the minimum capitalization criteria for market participation specified in Section 3.1.1.8.2.

3.2.7.1 Notification of a Material Adverse Change by SPP to a Credit Customer. Upon the occurrence of a Material Adverse Change and prior to SPP compelling a Credit Customer to post additional

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Financial Security, cease one or more transactions, or take other measures to restore confidence in the Credit Customer's ability to transact business safely as a result of any Material Adverse Change, SPP shall provide, when feasible, reasonable advance notice in writing, by fax, electronic mail, hand delivery, reputable overnight courier, or first-class mail, to the Credit Contact designated by the Credit Customer pursuant to Section 9.1 of this Credit Policy. If delivery to the Credit Contact fails, then SPP may effect delivery to any officer, executive, or manager of the Credit Customer. Such notice shall identify the reasoning behind the invocation of the Material Adverse Change clause and be signed by an authorized representative of SPP.

3.2.8 Affiliates. Each Credit Customer must identify all Affiliates that are Credit Customers.

3.2.9 Additional Information. At any time and from time to time, SPP may request such additional information as SPP determines is necessary and appropriate for the Credit Assessment and the Credit Customer shall timely provide such additional information. At any time, the Credit Customer may provide SPP with additional information that the Credit Customer considers relevant to the Credit Assessment.

3.2.10 Guaranties. If the Credit Customer relies upon a Guaranty to maintain an Unsecured Credit Allowance, Credit Information required under Section 3.2 must be submitted with respect to both the Credit Customer and the Guarantor.

3.2.11 Alternate Requirements. For Not-For-Profit Credit Customers, some of the above financial submittals may not be applicable, and alternate requirements may be specified by SPP.

3.2.12 In the credit evaluation of Not-For-Profit Credit Customers, SPP may request additional information as part of the overall financial review process and will consider other relevant factors in determining financial strength and creditworthiness.

3.3 SPP Rights to Use Other Information. Notwithstanding any provision of this Credit Policy, SPP shall have the right to utilize, in a Credit Assessment, any information of which it is aware concerning the Credit Customer.

3.4 Positive Material Change in Financial Condition of the Credit Customer. If there is a positive Material change in the financial condition of the Credit Customer, a significant reduction in the Total Potential Exposure of the Credit Customer, or any other change that the Credit Customer believes may warrant an increase in the Credit Customer's Unsecured Credit Allowance and/or a reduction in the Financial Security required of the Credit Customer, the Credit Customer may make a written request to SPP to update the Credit Assessment and include or refer to any supporting information. SPP may request any Credit Information described in Section 3.2 to evaluate the merit of the Credit Customer's request.

ARTICLE FOUR

Creditworthiness and Total Credit Limit

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4.1 Creditworthiness Overview. SPP will establish a Total Potential Exposure for each Credit Customer based on the Credit Customer's estimated cumulative financial obligation arising under the Tariff or otherwise to SPP as provided in Article 5. The Total Potential Exposure is the amount that the Credit Customer must support with credit. The credit will consist of a combination of the Unsecured Credit Allowance and Financial Security, or either of them. SPP will determine the Credit Customer's Unsecured Credit Allowance based upon the Composite Credit Score. The Composite Credit Score, as defined herein, is a determination of financial strength and creditworthiness, based upon the Credit Assessment. Where Credit Customers are Affiliates of each other, an aggregate Unsecured Credit Allowance will be established for the Affiliates, as provided below. If the Credit Customer's Unsecured Credit Allowance is less than its Total Potential Exposure, the Credit Customer will be required either to establish additional credit in the amount of the difference by posting Financial Security or to decrease its Total Potential Exposure. A Credit Customer's total credit with SPP under the Markets+ Tariff, consisting of the Unsecured Credit Allowance and any Financial Security, is the Credit Customer's Total Credit Limit. A Credit Customer may provide additional Financial Security at any time to increase or maintain its Total Credit Limit, for example, in order to increase its Total Potential Exposure or to compensate for a reduction in its Unsecured Credit Allowance.

4.1.1 Unsecured Credit Allowance during the Initial Three-Years of Markets+. During the initial three-years of Markets+, granting of an Unsecured Credit Allowance will be suspended.

4.2 Composite Credit Score. The "Composite Credit Score" is the numerical result of SPP's scoring process based upon various quantitative and qualitative predictors of creditworthiness as set forth in this Section. The results are scaled from one (1) to six (6) with one (1) being the strongest score and six (6) being the weakest. Key factors in the scoring process include financial ratios, years in business, and Credit Ratings. SPP will apply all measures used to determine Composite Credit Scores in a consistent manner. The respective models SPP will use to determine the Composite Credit Score for Large Company Credit Customers, Small Company Credit Customers, and Not-For-Profit Credit Customers are set forth in this Section.

4.2.1 Large Company Credit Scoring. The Large Company Credit Customer model will be utilized for Credit Customers with net fixed assets equal to or in excess of $250 million ("Large Company Credit Customers" or "Large Company"). The Large Company Credit Score will be comprised of a Quantitative Score and a Qualitative Score. Each score is then weighted as shown below to build a Composite Credit Score.

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Large Company Analysis	Weight
Quantitative Score	70%
Qualitative Score	30%

4.2.1.1 **Quantitative Score.** The Quantitative Score is based on the financial ratios below. These measures will be calculated for each Large-Company Credit Customer and compared with benchmarks to assign a score of one (1) to six (6) for each measure. A score of one (1) indicates that the Credit Customer has a strong financial health with regard to the measure, while a score of six (6) indicates poor financial health with regard to the measure. The following measures are used:

a. Current Ratio—Current Assets/Current Liabilities

b. EBIT Interest Coverage—(Interest Expense + Income Taxes + Net Income) / Interest Expense

c. Total Debt to Total Capitalization ("TD/TC")—(Long Term Debt + Current Portion + Other Short Term Borrowings) / (Total Debt + Preferred Equity + Common Equity)

d. Funds from Operations ("FFO") to Total Debt—(Cash from Operating Activities - Changes in Operating Assets and Liabilities) / (Long Term Debt + Current Portion + Other Short Term Borrowings)

The measures are then assessed as follows to calculate the total Quantitative Score:

Scale	Current	EBIT Interest	TD/TC	FFO to Total Debt
1	>1.34	>4.99	<.30	>.350
2	1.15 – 1.34	3.50 – 4.99	.30 - .39	.271 - .350
3	1.00 – 1.14	2.50 – 3.49	.40 - .49	.181 - .270
4	0.85 – 0.99	2.00 – 2.49	.50 - .59	.120 - .180
5	0.70 – 0.84	1.25 – 1.99	.60 - .69	.070 - .119
6	<0.70	<1.25	>.69	<.070

The measures are weighted as follows:

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Large Company Financial Ratios	**Weight**
Current Ratio	10%
EBIT Interest Coverage	25%
Total Debt to Total Capitalization	25%
FFO to Total Debt	40%
	100%

If one or more ratios cannot be calculated due to insufficient data to calculate the ratio, the weight that would have been assigned to that ratio or ratios will be allocated equally among the remaining ratios.

4.2.1.2 **Qualitative Score.** The Qualitative Score, also on a scale of one (1) to six (6), will assess non-financial measure information about a Credit Customer's creditworthiness. A score of one (1) indicates that the Credit Customer has strong qualitative measures, while a score of six (6) indicates poor qualitative measures. The qualitative analysis will take into account a variety of information, but at a minimum will include the assessment of the following characteristics:

-Management
-Regional / Commodity Diversity
-Physical Liquidity
-Financial Liquidity
-Quality of Equity
-Volatility of Earnings
-Regulation/Rates
-Senior Unsecured Debt Rating
-SPP Payment Record
-Risk Procedures

4.2.1.3 **Composite Credit Score.** The Composite Credit Score is the weighted average of the Quantitative Score and the Qualitative Score. To illustrate, assume the following:

Large Company Qualitative Score = 4.0

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Large Company Financial Measures:

	Value	Score	Weight
Current Ratio	.82	5	10%
EBIT Interest Coverage	2.08	4	25%
Total Debt to Total Capitalization	.63	5	25%
FFO to Total Debt	.17	4	40%

Large Company Quantitative Score =
(5 x 10%) + (4 x 25%) + (5 x 25%) + (4 x 40%) = 4.35

Large Company Credit Score = (4.35 x 70%) + (4 x 30%) = 4.25

4.2.2 Small Company Credit Scoring. The Small Company model will be utilized for Credit Customers with net fixed assets less than $250 million ("Small Company Credit Customers" or "Small Company"). The Small Company Composite Credit Score will be comprised of a Quantitative Score and a Qualitative Score. Each score is then weighted as shown below to build a Composite Credit Score.

Small Company Analysis	Weight
Quantitative Score	70%
Qualitative Score	30%

4.2.2.1 Quantitative Score. The Quantitative Score is based on the financial ratios below. These measures will be calculated for each Small Company Credit Customer and compared with benchmarks to assign a score of one (1) to six (6) for each measure. A score of one (1) indicates that the Credit Customer has a strong financial health with regard to the measure, while a score of six (6) indicates poor financial health with regard to the measure. The following measures are used:

a. Current Ratio—Current Assets/Current Liabilities

b. EBIT Interest Coverage—(Interest Expense + Income Taxes + Net Income) / Interest Expense

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c. Total Liabilities to Total Net Worth ("TL/TNW")—(Total Liabilities) / (Total Equity-Intangibles-Treasury Stock)

d. Funds from Operations ("FFO") to Total Debt—(Cash from Operating Activities - Changes in Operating Assets and Liabilities) / (Long Term Debt + Current Portion + Other Short Term Borrowings)

e. Return on Assets ("ROA")—Net Income / Total Assets

The values are then assessed as follows to calculate the total Quantitative Score:

Scale	Current	EBIT Interest	TL/TNW	FFO to Total Debt	ROA
1	>2.50	>4.99	<0.40	>.350	>.120
2	1.75 – 2.50	3.50 – 4.99	0.40 - 0.70	.271-.350	.100 - .120
3	1.40 – 1.74	2.50 – 3.49	0.71 – 1.49	.181 - .270	.075 - .099
4	1.15 – 1.39	2.00 – 2.49	1.50 – 2.25	.120 - .18	.045 - .074
5	1.00 – 1.14	1.25 – 1.99	2.26 – 4.00	.070 - .119	.015 - .044
6	<1.00	<1.25	>4.00	<.070	<.015

The measures are weighted as follows:

Small Company Financial Ratios	Weight
Current Ratio	25%
EBIT Interest Coverage	10%
Total Liabilities / Total Net Worth	25%
FFO to Total Debt	15%
ROA	25%
	100%

If one or more ratios cannot be calculated due to insufficient data to calculate the ratio, the weight that would have been assigned to that ratio or ratios will be allocated equally among the remaining ratios.

4.2.2.2 **Qualitative Score.** The Qualitative Score, also on a scale of one (1) to six (6), will assess non-financial measure information about a Credit Customer's creditworthiness. A score of one (1) indicates that the Credit Customer has strong qualitative measures, while a score of six (6) indicates poor qualitative

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measures. The qualitative analysis will take into account a variety of information, but at a minimum will include the assessment of the following characteristics:

-Management
-Regional / Commodity Diversity
-Physical Liquidity
-Financial Liquidity
-Quality of Equity
-Volatility of Earnings
-Regulation/Rates
-Peer Comparison using SIC codes
-Senior Unsecured Debt Rating
-SPP Payment Record

4.2.2.3 **Composite Credit Score.** The Composite Credit Score is the weighted average of the Quantitative Score and the Qualitative Score. To illustrate, assume the following:

Small Company Qualitative Score = 4

Small Company Financial Measures:

	Value	**Score**	**Weight**
Current Ratio	1.10	5	25%
EBIT Interest Coverage	1855.00	1	10%
Total Liabilities / Total Net Worth	2.47	5	25%
FFO to Total Debt	0.03	6	15%
ROA	0.02	5	25%

Small Company Quantitative Score =
(5 x 25%) + (1 x 10%) + (5 x 25%) + (6 x 15%) + (5 x 25%) = 4.75

Small Company Credit Score =
(4.75 x 70%) + (4 x 30%) = 4.53

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4.2.3 **Not-For-Profit Credit Scoring.** The Not-For-Profit model will be utilized for Credit Customers who are not structured to generate profits for investors ("Not-For-Profit Credit Customers" or "Not-For-Profit"), including electric cooperatives, municipalities, and government agencies. The Not-For-Profit Composite Credit Score will be comprised of a Quantitative Score and a Qualitative Score. The lower of the Composite Credit Score calculated using two alternative weights for the Quantitative Score and the Qualitative Score as shown below shall be used in determining the allocation of the Not-For-Profit Credit Customer's Unsecured Credit Allowance.

Not For Profit Credit Customer Analysis	Weight	
	Alternative 1	Alternative 2
Quantitative Score	40%	50%
Qualitative Score	60%	50%

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4.2.3.1 **Quantitative Score.** The Quantitative Score is based on the financial ratios below. These measures will be calculated for each Not-For-Profit Credit Customer and compared with benchmarks to assign a score of one (1) to six (6) for each measure. A score of one (1) indicates that the Credit Customer has a strong financial health with regard to the measure, while a score of six (6) indicates poor financial health with regard to the measure. The following measures, or their substantive equivalents for not-for-profit entities, are used:

a. Current Ratio ("CR")—Current Assets / Current Liabilities

b. Debt Service Coverage ("DSC")—(Operating Income + Interest Expense + Depreciation + Interest Income + Cash Portion of Capital Credits - Onetime Charges)/(Interest Expense + Debt Amortization)

c. Times Interest Earned Ratio ("TIER")—(Interest Expense + Patronage Capital or Margins or Changes in Net Assets) / (Interest Expense)

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d. Total Debt to Total Capitalization ("TD/TC")—(Long Term Debt + Current Portion + Other Short Term Borrowings) / (Total Debt + Preferred Equity + Common Equity). Members' Equity could also be called Net Assets or Patronage Capital.

The values are then assessed as follows to calculate the total Quantitative Score:

Not-For-Profit Credit Customer Model Ratio Scales

Scale	CR	DSC	TIER	TD/TC
1	>1.34	>1.99	>2.00	<.50
2	1.15 – 1.34	1.50 – 1.99	1.50 – 2.00	.51 - .74
3	1.00 – 1.14	1.00 – 1.49	1.00 – 1.49	.75 - .85
4	0.85 – 0.99	0.80 – 0.99	0.80 – 0.99	.86 - .93
5	0.70 – 0.84	0.60 – 0.79	0.50 – 0.79	.94 - .99
6	<0.70	<0.60	<0.50	>.99

The measures are weighted as follows:

Not-For-Profit Credit Customer Financial Ratios	Weight
Current Ratio	15%
Debt Service Coverage	35%
Times Interest Earned Ratio	20%
Total Debt / Total Capitalization	30%
	100%

If one or more ratios cannot be calculated due to insufficient data to calculate the ratio, the weight that would have been assigned to that ratio or ratios will be allocated equally among the remaining ratios.

4.2.3.2 **Qualitative Score.** The Qualitative Score, also on a scale of one (1) to six (6), will assess non-financial measure information about a Credit Customer's creditworthiness. A score of one (1) indicates that the Credit Customer has strong qualitative measures, while a score of six (6) indicates poor qualitative measures. The qualitative analysis will take into account a variety of information, but at a minimum will include the assessment of the following characteristics:

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-Regulation/Rates
-Terms of wholesale power contracts
-Customer count served
-Power supply portfolio (e.g., contracts, assets, etc)
-Management
-Ability to access short-term capital
-Senior Unsecured Debt Rating
-SPP Payment Record

4.2.3.3 **Composite Credit Score**. The Composite Credit Score is the weighted average of the Quantitative Score and the Qualitative Score. To illustrate, assume the following:
Not-For-Profit Qualitative Score = 2

Not-For-Profit Financial Measures:

	Value	Score	Weight
Current Ratio	1.42	1	15%
Debt Service Coverage	1.17	3	35%
Times Interest Earned Ratio	0.73	5	20%
Total Debt / Total Capitalization	1.50	6	30%

Not-For-Profit Quantitative Score =
(1 x 15%) + (3 x 35%) + (5 x 20%) + (6 x 30%) = 4.00

Not-For-Profit Credit Score =
(4.00 x 40%) + (2.0 x 60%) = 2.80 using Alternative 1, or;

(4.00 x 50%) + (2.0 x 50%) = 3.00 using Alternative 2.

The lower Composite Credit Score resulting from utilizing the two alternatives is 2.80, so it will be the Composite Credit Score used in allocating this Not-For-Profit Credit Customer's Unsecured Credit Allowance as described in Section 4.3 below.

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4.3 Unsecured Credit Allowance.

The Composite Credit Score is converted into an "Unsecured Credit Allowance," which is a percentage of Tangible Net Worth. (Tangible Net Worth = Total Equity – Intangibles – Treasury Stock). The Composite Credit Score is a numeric value on a scale of one (1) to six (6) with one (1) indicating stronger creditworthiness and six (6) indicating weaker creditworthiness. The conversion into an Unsecured Credit Allowance is based on the percentage values stated in Table 1.

Table 1

Composite Credit Score	% Tangible Net Worth Small Company Model	% Tangible Net Worth Large Company Model	% Tangible Net Worth Not For Profit Model
1.00 - 1.99	5.00%	5.00%	7.500%
2.00 - 2.99	3.00%	3.00%	4.500%
3.00 - 3.59	2.00%	2.00%	3.000%
3.60 - 4.39	0.75%	0.75%	1.125%
4.40 - 4.99	0.25%	0.25%	0.375%
5.00 - 6.00	0%	0%	0.000%

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To illustrate, a Large Company Credit Customer with a Composite Credit Score of 4.36 and Tangible Net Worth of $501,468,000 would have a suggested Unsecured Credit Allowance calculated as follows:

Unsecured Credit Allowance = Table 1 Percentage x Tangible Net Worth

= 0.75% x $501,468,000

= $3,761,010

4.3.1 Revenue Bond Adjustment to Tangible Net Worth Value for Power Supply Agents. For Not-For-Profit Credit Customers that issue revenue bonds solely in support of their role as power supply agent for not-for-profit electric distribution utilities and meet: (a) the disclosure requirements in: (i) Section 3.1.3 of this Credit Policy and (ii) Section 3.2.5 of this Credit Policy; and (b) have a revenue bond rating or revenue bond ratings equal to or better than Baa1 issued by Moody's Investor Services or BBB+ issued by Standard & Poor's, the calculation of the suggested

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Unsecured Credit Allowance shall be based on an adjusted value for Tangible Net Worth. The adjusted value for Tangible Net Worth shall include the outstanding balance of revenue bonds as of the date of the calculation.

To illustrate, if the Not-For-Profit Credit Customer met all of the disclosure requirements for power supply agents, had a Tangible Net Worth of $2,000,000, and had $8,000,000 principal amount of revenue bonds outstanding, the adjusted Tangible Net Worth to be used in computing the suggested Unsecured Credit Allowance would be $10,000,000 (the sum of the adjusted Tangible Net Worth and the principal amount of revenue bonds outstanding as of the date of the calculation).

4.3.2 Maximum and Minimum Unsecured Credit Allowances. Notwithstanding the calculation under Section 4.3:

4.3.2.1 No Credit Customer shall have an Unsecured Credit Allowance in excess of $50 million; and

4.3.2.2 On the condition that a Not-For-Profit provides all required Credit Information and executes all documents required under this Credit Policy, and subject to the Default provisions of this Credit Policy, a Not-For-Profit Credit Customer shall have a minimum Unsecured Credit Allowance in the amount of $250 thousand.

4.3.3 Guaranty. In the event that the Credit Customer has a Guaranty, the Unsecured Credit Allowance will be based on the Credit Assessments of the Credit Customer and the Guarantor.

4.3.4 Unsecured Credit Allowance for Affiliates.

4.3.4.1 **Determination of Creditworthiness of Combined Affiliates.** If two or more Credit Customers are Affiliates, and each is granted an Unsecured Credit Allowance and a corresponding Total Credit Limit, SPP will consider the overall creditworthiness of the Affiliated Credit Customers when determining the Unsecured Credit Allowances in order not to grant more unsecured credit than the overall group of affiliated entities could support. SPP will work with Affiliated Credit Customers to allocate the total Unsecured Credit Allowance among the Affiliates while assuring that no individual Credit Customer, nor common guarantor, exceeds the Unsecured Credit Allowance appropriate for its credit strength. A $50 million maximum Unsecured Credit Allowance shall apply to all Affiliates as though the Affiliates are a single Credit Customer.

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Example: Credit Customers A and B each have a $10.0 million Guaranty from their common parent, a holding company with an Unsecured Credit Allowance calculation of $12.0 million. SPP may limit the Unsecured Credit Allowance for each Credit Customer to $6.0 million, so the total Unsecured Credit Allowance does not exceed the corporate total of $12.0 million.

4.3.4.2 **Guaranty.** If the Guaranty is applicable to Affiliates (i.e., more than one Credit Customer), then the Unsecured Credit Allowance of the Guarantor shall be allocated among such Affiliates and the applicable allocation shall be utilized in determining each Affiliated Credit Customer's Unsecured Credit Allowance.

4.3.5 **Continuous Right to Modify.** SPP has the right at any time to modify any Unsecured Credit Allowance and/or require additional Financial Security as may be reasonably necessary to support the Credit Customer's ability to pay for any market services SPP may provide. If the modification results in a reduction or revocation of Unsecured Credit Allowance and the reduction or revocation results in the need to provide Financial Security, then the rights and duties of SPP and the Credit Customer shall be as set forth in Section 3.2.2.

4.4 **Financial Security Requirement.** If a Credit Customer (i) is denied an Unsecured Credit Allowance, or (ii) is granted an Unsecured Credit Allowance that is below its Total Potential Exposure calculated pursuant to Article 5, then the Credit Customer may submit Financial Security to cover or exceed the difference in the amount of the Unsecured Credit Allowance granted to the Credit Customer and the amount of its Total Potential Exposure. A Credit Customer electing to satisfy the alternative criteria for market participation specified in Section 3.1.1.8.2(e) and whose anticipated or actual market activity, as determined in Article Five, exceeds One Hundred Thousand Dollars ($100,000) in Market Exposure shall provide Financial Security that is twice the amount calculated to satisfy its Financial Security Requirement pursuant to this Section 4.4. Any Credit Customer may provide Financial Security in lieu of or in addition to the Unsecured Credit Allowance it was granted. Upon the Credit Customer's request, SPP shall provide a written explanation of how it determined the amount of required Financial Security for that Credit Customer.

4.5 **Total Credit Limit.** The "Total Credit Limit" is the amount of any Unsecured Credit Allowance approved by SPP for the Credit Customer, plus the amount of any Financial Security the Credit Customer has provided to SPP. SPP shall determine the Total Credit Limit for each Credit Customer. Upon the Credit Customer's request, SPP shall provide a written explanation of how it determined the Unsecured Credit Allowance and the amount of required Financial Security for that Credit Customer. SPP will respond to the Credit Customer's request within five (5) Business Days.

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ARTICLE FOUR A

Virtual Energy Bids and Virtual Energy Offers

4A.1 Overview.

4A.1.1 Virtual Energy Bids and Virtual Energy Offers create potential exposure of non-payment, and therefore, have a credit requirement. SPP does not require the Credit Customer to segregate, allocate, or reserve a portion of its Total Credit Limit to support its Virtual Energy Bids and Virtual Energy Offers in the Day-Ahead Market. However, SPP analyzes the Credit Customer's Virtual Energy Bids and Virtual Energy Offers to determine if the Credit Customer has credit available to support its Virtual Energy Bids and Virtual Energy Offers at the time the Bids or Offers are submitted. Only the Virtual Energy Bids and Virtual Energy Offers that the Credit Customer has credit available to support will be credit approved for the Day-Ahead Market.

4A.1.2 In its analysis, SPP will calculate the Estimated Virtual Exposure ("EVE") based on the Credit Customer's Virtual Energy Bids and Virtual Energy Offers. Using the EVE, SPP will determine if the Credit Customer has available credit to support its Virtual Energy Bids and Virtual Energy Offers. After the close of the Day-Ahead Market for an Operating Day, the credit requirement associated with the Credit Customer's cleared Virtual Energy Bids and Virtual Energy Offers will be adjusted to reflect the actual megawatts that cleared.

4A.1.3 The total EVE for a Credit Customer includes both (i) the calculation of EVE for Virtual Energy Bids and Virtual Energy Offers prior to the close of the Day-Ahead Market; and (ii) the EVE calculations post Day-Ahead Market clearing updated to reflect the actual cleared Virtual Energy Bids and Virtual Energy Offers.

4A.1.4 This Article addresses the calculation of the EVE and the credit requirements associated with the submission of Virtual Energy Bids and Virtual Energy Offers in the Day-Ahead Market and the Virtual Energy Bids and Virtual Energy Offers that clear in the Day-Ahead Market.

4A.2 Calculation of Estimated Virtual Exposure (EVE) Prior to the Close of the Day-Ahead Market for an Operating Day. When a Virtual Energy Bid or Virtual Energy Offer is submitted, SPP will calculate the EVE using reference prices for the Virtual Energy Bid or Virtual Energy Offer and the maximum megawatts submitted. If multiple Virtual Energy Bids and Virtual Energy Offers are submitted in a single submission, the EVE will be calculated for the single submission as a whole. If a Virtual Energy Bid or Virtual Energy Offer contains multiple hours, all of the hours will be included in the EVE calculation.

The EVE is calculated for the submittal of Virtual Energy Bids and Virtual Energy Offers. In the event that both a Virtual Energy Bid and Virtual Energy Offer are submitted in the same submission for the same node and same operating hour, the one with the higher dollar value will be used in the EVE calculation for that submission.

4A.2.1 For a given Virtual Energy Bid the Virtual Energy Bid EVE is the sum of (i) the product of the Virtual Energy Bid reference price for the Settlement Location of the Virtual Energy Bid times the maximum megawatt value of the submitted Bid curve plus (ii) the virtual transaction fee. For a given Virtual Energy Offer the Virtual Energy Offer EVE is the sum of (i) the product of the Virtual Energy Offer reference price for the Settlement Location of the Virtual Energy Offer times the maximum megawatt value of the submitted Offer curve plus (ii) the virtual transaction fee.

4A.2.1.1 If a Market Participant submits both a Virtual Energy Bid and a Virtual Energy Offer at the same location for the same hour, only the Virtual Energy Bid or Virtual Energy Offer with the greater EVE is included in the calculation of the EVE for the submission.

4A.2.1.2 The EVE for a single submission of Virtual Energy Bids and Virtual Energy Offers is equal to the sum of the hourly Virtual Energy Bid EVEs for each Virtual Energy Bid in the submission and the sum of the hourly Virtual Energy Offer EVEs in the submission, with the adjustment described in 4A.2.1.1 if both a Virtual Energy Bid and Virtual Energy Offer are received for the same location and hour. If Credit Customer cancels a Virtual Energy Bid or Virtual Energy Offer prior to the close of the Day-Ahead Market for the Operating Day for which it is submitted, the EVE associated with the canceled portion of the submission is removed from the calculation of the EVE for the submission.

4A.2.1.3 The Virtual Energy Bid reference price is based on the difference between the Day-Ahead Locational Marginal Prices and the Real-Time Locational Marginal Prices in the prior year, at each node. The Virtual Energy Bid reference price for a given day is the 97th percentile hourly difference from the same quarter in the previous year. For virtual transactions occurring in the first quarter of 2022, the calculation of the Virtual Energy Bid reference price will not include the hourly differences from the operating hours in February 12, 2021 through February 19, 2021.

4A.2.1.4 The Virtual Energy Offer reference price is based on the difference between the Real-Time Locational Marginal Price and the Day-Ahead Locational Marginal Price in the prior year, at each node. The Virtual Energy Offer reference price for a given day is the 97th percentile hourly difference from the same quarter in the previous year. For virtual transactions occurring in the first quarter of 2022, the

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calculation of the Virtual Energy Offer reference price will not include the hourly differences from the operating hours in February 12, 2021 through February 19, 2021.

4A.2.1.5 Calculation of Virtual Energy Bid and Virtual Energy Offer Reference Prices During the Initial Six-Months of the Virtual Market in Markets +. During the initial six-months of the virtual market within Markets +, prior to the accumulation of complete Real-Time and Day-Ahead Locational Marginal Price data sufficient to calculate the Virtual Energy Bid and Virtual Energy Offer references prices pursuant to sections 4A.2.1.3 and 4A.2.1.4, SPP shall use data representative of the expected Day-Ahead and Real-Time Market results based on the Real-Time and Day-Ahead Locational Marginal Prices settled during the initial five-months of Markets + operations or other available information.

Comment [JB6]: Best estimate of approach at this time.

4A.2.1.6 Calculation of Virtual Energy Bid and Virtual Energy Offer Reference Prices for New Settlement Locations. When a new Settlement Location is created and until actual Virtual Energy Bid and Virtual Energy Offer reference prices can be calculated pursuant to section 4A.2.1.3 and 4A.2.1.4 for that Settlement Location, SPP will use the system average virtual reference price. The system average virtual reference price for a given quarter is the mean of all of the Virtual Energy Bid and Virtual Energy Offer reference prices for that quarter.

4A.3 Determination of Credit Approved Virtual Energy Bids and Virtual Energy Offers.

4A.3.1 If the EVE for a submission of Virtual Energy Bids and Virtual Energy Offers is less than the Credit Customer's available credit, which is equal to the Credit Customer's Total Credit Limit less its Total Potential Exposure, then the submission is credit approved. Credit approved Virtual Energy Bids and Virtual Energy Offers, unless withdrawn will be included in the Day-Ahead Market.

4A.3.2 If the EVE for a submission of Virtual Energy Bids and Virtual Energy Offers is greater than the Credit Customer's available credit, which is equal to the Credit Customer's Total Credit Limit less its Total Potential Exposure, then the submission will be rejected. Rejected Virtual Energy Bids and Virtual Energy Offers will not be included in the Day-Ahead Market and will not affect the Total Potential Exposure calculation.

4A.3.3 Modifications to Virtual Energy Bids and Virtual Energy Offers prior to the close of the Day-Ahead Market for the Operating Day for which they were submitted will be evaluated using the same procedures. Modifications are

evaluated based on their net credit impact. The EVE for the modified Virtual Energy Bids and Virtual Energy Offers submission will be revised to incorporate the modifications to the submission.

4A.3.3 The EVE for credit approved Virtual Energy Bids and Virtual Energy Offers submissions that have not yet settled or cleared in the Day-Ahead Market is included in the Total Potential Exposure calculation as set forth in Article 5. Therefore, the determination of whether a Virtual Energy Bid and Virtual Energy Offer submission is credit approved will take into account the credit requirements for previously determined credit approved Virtual Energy Bids and Virtual Energy Offers.

4A.3.4 If a Credit Customer cancels a credit approved Virtual Energy Bid or Virtual Energy Offer submission prior to the close of the Day-Ahead Market for the Operating Day for which it is submitted, that Virtual Energy Bid or Virtual Energy Offer will no longer have a credit requirement associated with it and its EVE will be zero.

4A.4 Updated EVE Calculations Post Day-Ahead Market Clearing. After clearing of the Day-Ahead Market for an Operating Day, the EVEs for credit approved Virtual Energy Bids and Virtual Energy Offers shall be updated to replace the maximum megawatts with the actual megawatts that cleared. If there are Virtual Energy Bids and Virtual Energy Offers that cleared at the same location, the megawatt amounts will be netted in the updated EVE calculation.

ARTICLE FIVE

Calculation of Total Potential Exposure

5.1 Overview. The Total Potential Exposure is a calculated value applied to assure that the Credit Customer engages in activities within its Total Credit Limit. The Total Potential Exposure is based on the Credit Customer's estimated cumulative financial obligation under the Tariff or otherwise to SPP. Potential Exposure to non-payment is calculated separately for each applicable category of service and then summed together to obtain the amount of Total Potential Exposure. This Article addresses the calculation and use of the value for Total Potential Exposure.

5.2 Calculation of Total Potential Exposure for a Credit Customer. A Credit Customer's Total Potential Exposure shall be the sum of the potential exposure to non-payment for market transactions billed pursuant to the Tariff.

5.2.1 Market Exposure ("ME"). Potential exposure to non-payment associated with market transactions in Markets+ is calculated under the following formula:

ME = IMSC + CMSC + MEMERT + MEMEDA + EVE

IMSC = Invoiced Market Settlement Charges (all Real-Time Balancing Market and Day-Ahead Market, including virtual transaction activity–, charges or credits that have been invoiced but not yet paid).

CMSC = Calculated Market Settlement Charges (all Real-Time Balancing Market and Day-Ahead Market, including virtual transactions, daily settlement activity, including charges or credits, that has been calculated but not yet invoiced).

MEMERT = Maximum Estimated Market Exposure for Real-Time Balancing Market activity shall be the greater of:

(a) The average of the last three hundred sixty five (365) days of daily Real Time Balancing Market settlement activity (or if settlement activity occurred for a lesser period, the average settlement activity during such lesser period), or

(b) The average of the last seven (7) days of daily Real-Time Balancing Market settlement activity (or if settlement activity occurred for a lesser period, the average settlement activity during such lesser period).

Once the greater value is determined that value is multiplied by the number of days remaining in the Potential Exposure Window. Inasmuch as the Potential Exposure Window refers to "days before service can be terminated," the time period for purposes of calculating the MEMERT does not include additional time for service termination.

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MEMEDA = Maximum Estimated Market Exposure for Day-Ahead Market activity shall be the greater of:

(a) The average of the last three hundred sixty five (365) days of most recently calculated Settlement Statements for Day-Ahead Market activity (or if settlement activity occurred for a lesser period, the average settlement activity during such lesser period), or

(b) The average of the seven (7) most recent Operating Days for which SPP has calculated either (i) updated estimated Day-Ahead Market activity results calculated four days after the Operating Day; or (ii) initial Settlement Statements for Day Ahead Market activity (or if updated estimated activity results or settlement activity occurred for a lesser period, the average updated estimated activity and settlement activity resulting during such lesser period). The initial Settlement Statements are created at the end of the 7th calendar day following the Operating Day. As initial Settlement Statements become available such statements will be used instead of the updated estimated activity results calculated four days after the Operating Day.

For the time period prior to commencement of the Day-Ahead Market for which there are no calculated initial Settlement Statements for Day-Ahead Market activity for use in the determination of the MEMEDA for a Credit Customer, SPP shall use data representative of the expected Day-Ahead Market activity for the Credit Customer based on simulations of the Day-Ahead Market or other available information.

Once the greater value is determined that value is multiplied by the number of days remaining in the Potential Exposure Window. Inasmuch as the Potential Exposure Window refers to "days before service can be terminated," the time period for purposes of calculating the MEMEDA does not include additional time for service termination.

EVE = Estimated Virtual Exposure, calculated pursuant to Article 4A (for all credit approved Virtual Energy Bids and Virtual Energy Offers prior to the close of the Day-Ahead Market for an Operating Day or Days that have not yet been settled and cleared Virtual Energy Bids and Virtual Energy Offers)

5.2.2 Total Potential Exposure Calculation. A Credit Customer's Total Potential Exposure ("TPE") shall be the sum of the potential exposure to non-payment for market transactions billed pursuant to the Tariff.

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5.3 Total Potential Exposure Violations.

5.3.1 Transaction Limits. At all times, the Credit Customer shall maintain its Total Potential Exposure to a value equal to or less than its Total Credit Limit. A "Total Potential Exposure Violation" occurs when a Credit Customer's Total Potential Exposure equals or exceeds its Total Credit Limit SPP will regularly monitor each Credit Customer's use of services and associated financial obligations. If a Credit Customer's Total Potential Exposure equals or exceeds ninety percent (90%) of its Total Credit Limit, SPP shall promptly give notice to the Credit Customer. Failure by SPP to give this notice shall not relieve the Credit Customer of its duties under this Section.

5.3.2 Cure of Total Potential Exposure Violation. A Credit Customer shall cure a Total Potential Exposure Violation by: (i) payment to SPP of invoiced amounts to reduce the Credit Customer's Total Potential Exposure, and/or (ii) provision of Financial Security in an amount sufficient to increase the Credit Customer's Total Credit Limit, such that after making such payments of invoiced amounts and/or providing such Financial Security, the Credit Customer's Total Potential Exposure will not exceed its Total Credit Limit. The Credit Customer shall have two (2) Business Days from receipt of notice from SPP to cure the violation. SPP, in its sole discretion, may determine to treat any amount tendered under (i) as an increase of Financial Security under (ii) and not as a payment to SPP.

5.3.3 Failure to Cure Total Potential Exposure Violation. A failure to cure a Total Potential Exposure Violation as required under Section 5.3.2 is a Default. In the event of such a Default, SPP has all rights under section 7 of the Tariff or section 10.5 of Attachment AE and all other rights and remedies in accordance with applicable law. Without prejudice to other remedies, a Credit Customer that fails timely to cure a Total Potential Exposure Violation shall be suspended from requesting any future services, including all market services SPP may provide, unless and until the Credit Customer's Total Potential Exposure Violation is cured.

5.4. Excess Financial Security. In the event a Credit Customer has provided additional Financial Security under Section 5.3.2 to address a Total Potential Exposure Violation, and the Credit Customer's outstanding invoiced amounts subsequently return to levels preceding that violation such that the total amount of Financial Security exceeds the amount required under this Credit Policy, the Credit Customer may request return of the excess Financial Security and SPP shall comply with the request within two (2) Business Days; provided, that if SPP determines to review the Credit Assessment for the Credit Customer due to the violation, it shall not be required to respond to the request, including return of any excess Financial Security, until two (2) Business Days after completing the new Credit Assessment.

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ARTICLE SIX

Guaranties

6.1 Guaranty. A Guaranty approved by SPP transfers to the Credit Customer a portion of the Guarantor's creditworthiness and thereby increases the Credit Customer's Total Credit Limit. Unlike an Irrevocable Letter of Credit or Surety Bond, a Guaranty is not Financial Security. A Guaranty that is backed by Financial Security will have the same impact upon the Total Credit Limit as Financial Security. A Guaranty that is not backed by Financial Security is unsecured and will be considered unsecured credit in the determination of the Unsecured Credit Allowance.

6.2 Approval Process. SPP will determine whether to approve a Guaranty based upon the creditworthiness of the proposed Guarantor as though it were a Credit Customer under this Credit Policy. All Credit Information required under this Credit Policy with respect to a Credit Customer must be submitted initially for the proposed Guarantor and regularly thereafter. SPP will evaluate the Credit Information and determine any Unsecured Credit Allowance and the Total Credit Limit for the Credit Customer beneficiary of the proposed Guaranty. SPP shall have the right to revise the Unsecured Credit Allowance and Total Credit Limit from time to time based upon continued assessment of the Credit Information of the Guarantor.

6.3 Requirements for Guaranty. A Credit Customer can utilize a Guaranty if all of the following conditions are satisfied:

6.3.1 Guarantor's Satisfaction of Financial Standards under this Credit Policy. A Guarantor is subject to the same financial review procedures as a Credit Customer. A Guarantor will be eligible to provide a Guaranty to the extent, if any, of the Guarantor's creditworthiness under this Credit Policy.

6.3.2 The Form and Substance of the Guaranty Acceptable to SPP. Appendix "D" of this Credit Policy is a form of Guaranty. The Guaranty must:

6.3.2.1 Be duly authorized by the Guarantor and signed by an officer of the Guarantor

6.3.2.2 State an effective period, or provide for automatic renewal or other basis for periodicity subject to cancellation on no less than sixty (60) Calendar Days notice and provided that in all events the Guaranty is effective for all obligations of the Credit Customer undertaken prior to cancellation.

6.3.2.3 Include certification of the corporate secretary that the execution, delivery, and performance of the Guaranty have been duly authorized;

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6.3.2.4 Certify that the Corporate Guaranty is not in violation of other undertakings or requirements applicable to the Guarantor, and enforceable against the Guarantor in accordance with its terms;

6.3.2.5 Obligate the Guarantor to submit Credit Information on an ongoing basis as required under this Credit Policy;

6.3.2.6 Incorporate default provisions, including default provisions referred to in Section 6.3.4;

6.3.2.7 Secure, in combination with other forms of Financial Security, all obligations of the Credit Customer under or in connection with this Tariff and/or other Agreements; and

6.3.2.8 Be supported by adequate consideration and be otherwise binding as a matter of law.

6.3.2.9 Include as an attachment thereto the resolution(s) of the board of directors or other governing body of the Guarantor authorizing the Corporate Guaranty.

6.3.3 Default. Any breach of the Guaranty by the Guarantor or the requirements of the Guarantor under this Credit Policy shall be deemed a Default of this Credit Policy and a default under the Tariff by the Guarantor and the Affiliates whose obligations are supported by the Guaranty. The following also shall be a Default of this Credit Policy and a default under the Tariff: (i) the Guaranty expires or terminates (other than in accordance with its terms or upon the written consent of SPP); (ii) the Guarantor disaffirms, disclaims, repudiates, rejects or challenges the validity of all or any part of the Guaranty; or (iii) the Guaranty or any material provision of the Guaranty ceases to be in full force and effect (other than in accordance with its terms or upon the written consent of SPP).

6.4 Guaranty for Affiliates. A single Guaranty may support the Total Credit Limits of Affiliates. With respect to such a Guaranty, the sum value of the Unsecured Credit Allowance of all such Affiliates and the Guarantor shall not exceed the lesser of:

(i) the approved Unsecured Credit Allowance for the Guarantor based on SPP's financial review of Guarantor; or

(ii) $50 million.

If a Guaranty is utilized to establish an Unsecured Credit Allowance for a Credit Customer, the value of the Guaranty shall be no greater than the lesser of:

(i) The credit limit imposed in the Guaranty; or

(ii) The portion of the Unsecured Credit Allowance calculated for the Guarantor that is allocated to such Credit Customer in SPP's sole

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discretion; provided that the Unsecured Credit Allowance calculated for the Guarantor may not exceed $50 million; or

(iii) $50 million.

6.5 Guarantees for Not for Profit Credit Customers. SPP shall allow other guaranties for Not for Profit Credit Customers so long as any guaranties for such customer satisfy the requirements of Section 6.3. The form in Appendix D shall be used (subject to modifications to reflect the not for profit nature of the customer and the structure of the guaranty). An example of a permissible guaranty would be individual cities guaranteeing the payments by a municipal energy entity.

6.6 Costs. The Credit Customer shall bear all costs of obtaining and maintaining the Guaranty.

6.7 Withdrawal. A Credit Customer or the Guarantor may request the withdrawal of the Guaranty by written request to SPP. A Guaranty may be withdrawn and/or terminated only upon SPP's written approval. SPP will not approve withdrawal or termination of a Guaranty unless and until:

(i) alternate Financial Security acceptable to SPP has been provided; or

(ii) all financial obligations of a Credit Customer under the Agreements have been irrevocably satisfied in full, all Service Agreements have been terminated, and the Credit Customer is no longer a Credit Customer.

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ARTICLE SEVEN

Financial Security

7.1 Acceptable Forms of Financial Security. Financial Security may be a Cash Deposit, an Irrevocable Letter of Credit, a Surety Bond or, for a Credit Customer that is a Federal Power Marketing Agency, a letter as specified in Section 7.1.4 of this Article. These forms of Financial Security may be submitted separately or in combination to equal the full amount of any required or provided Financial Security. In addition, SPP requires the execution of a Credit and Security Agreement (with respect to Cash Deposit, Irrevocable Letter of Credit, and/or Surety Bond).

7.1.2 Cash Deposits. A Cash Deposit will be Financial Security in accordance with this Section.

7.1.2.1 Deposit and Related Agreements. The initial Cash Deposit must be accompanied by execution and delivery of a Credit and Security Agreement in the form attached to this Credit Policy as Appendix "B." Under the Credit and Security Agreement, the Credit Customer shall grant to SPP a first priority security interest in and to any and all Cash Deposits, cash collateral, and deposit accounts held or controlled by SPP then existing or thereafter opened, and any and all proceeds of such collateral, including, without limitation, the cash and interest deposited therein. This security interest secures the prompt payment when due of any and all obligations of the Credit Customer under or in connection with the Tariff, and/or any and all other Agreements. SPP may amend the Credit and Security Agreement from time to time, either for general applicability or on an individual basis. The Credit Customer will accept such amendment and, upon request, execute an amendatory document.

7.1.2.2 Segregated Account. The Cash Deposit will be placed in a segregated, interest bearing account in SPP's name and held within the sole control of SPP solely to secure the payment of the Credit Customer's obligations to SPP and subject to the terms and conditions of the Credit and Security Agreement. All interest earned will accrue to the benefit of the Credit Customer, will be added to the segregated account, and will be deemed additional Cash Deposit; provided, that all such accrued and unpaid interest that has not been applied to satisfy the Credit Customer's obligations will be released and paid to the Credit Customer quarterly, and further provided, that SPP shall not be obligated to pay any interest to the Credit Customer or release any amount from the segregated account during any uncured Default. Interest will be calculated per Section 7.3 of the Tariff.

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7.1.2.3 **Use of Cash Deposit.** In the event a Credit Customer fails to make a payment timely to SPP, SPP may apply the Cash Deposit as necessary to satisfy the deficit. In such event, within three (3) Business Days, the Credit Customer must replenish the Cash Deposit in an amount equal to SPP's draw or in such other amount as SPP may require under this Credit Policy and failure to replenish shall be a Default under this Credit Policy. SPP's application of the Cash Deposit hereunder shall not cure the Default due to the Credit Customer's failure to make timely payment until and unless the Cash Deposit is timely replenished or other Financial Security is provided under Section 7.1.2.4.

7.1.2.4 **Replacement of Cash Deposit.** A Credit Customer may replace any part of a Cash Deposit with other Financial Security acceptable to SPP under this Credit Policy.

7.1.3 Irrevocable Letter of Credit. An Irrevocable Letter of Credit will be Financial Security in accordance with this Section.

7.1.3.1 **Form, Requirements, and Related Agreement.** Appendix "C" of this Credit Policy is an acceptable form of an Irrevocable Letter of Credit. SPP may amend the form of Irrevocable Letter of Credit from time to time, either for general applicability or on a case-by-case basis, and the Credit Customer will accept such amendment and, upon request, execute an amendatory document. SPP may accept an Irrevocable Letter of Credit, in its sole discretion, in revised form. Upon the Credit Customer's request, SPP shall provide a written explanation of why SPP did not accept that Credit Customer's proposed variation to the form of Irrevocable Letter of Credit set forth in Appendix "C" of this Credit Policy. The Credit Customer must execute the Credit and Security Agreement with respect to the Irrevocable Letter of Credit. Under the Credit and Security Agreement, the Credit Customer grants SPP a first priority security interest in and to any and all proceeds of any and all Irrevocable Letters of Credit then existing or thereafter issued with SPP as Beneficiary and the Credit Customer as Account Party under the Irrevocable Letter of Credit, including, without limitation, the cash issued upon a draw thereon. This security interest secures the prompt payment when due of any and all obligations of the Credit Customer to SPP, provided that the grant of a security interest shall not diminish SPP's rights to apply draws on the Irrevocable Letter of Credit to pay any and all amounts due. SPP may amend the Credit and Security Agreement from time to time, either for general applicability or on an

individual basis. The Credit Customer will accept such amendment and, upon request, execute an amendatory document.

7.1.3.2 **Ratings of Issuing Financial Institution.** At the time of issuance and at all times the Irrevocable Letter of Credit is outstanding, the issuer must be a financial institution organized under the laws of the United States or any state of the United States or the District of Columbia or a branch or agency of a foreign commercial bank located in the United States, with a minimum corporate debt rating of an "A-" by S&P, "A3" by Moody's, "A-" by Fitch or an equivalent short-term debt rating by any of these agencies. SPP may accept an Irrevocable Letter of Credit from a financial institution that does not meet the debt rating requirements, provided that the Irrevocable Letter of Credit has a confirmation of third-party support (as governed by the Uniform Customs and Practice for Documentary Credits – International Chamber of Commerce Publication No. 500, Effective January 1, 1994 "UCP500" as stated in Article 9 Section B), in a form acceptable to SPP, from a financial institution that does meet or exceed the debt rating requirements stated in this Section. If after the Irrevocable Letter of Credit has been issued, the rating for the corporate debt of the financial institution is less than "A-" by S&P, "A3" by Moody's or "A-" by Fitch, SPP may give the Credit Customer notice to submit substitute Financial Security no later than three (3) Business Days after the notice.

7.1.3.3 **Costs.** The applicable Credit Customer shall bear all costs of providing and maintaining the Irrevocable Letter of Credit.

7.1.3.4 **Substitution of Irrevocable Letter of Credit.** The Credit Customer may replace an Irrevocable Letter of Credit with a substitute Irrevocable Letter of Credit or other Financial Security in form and amount acceptable to SPP. SPP will return the initial Irrevocable Letter of Credit upon receipt of an effective and acceptable substitute.

7.1.3.5 **Term and Renewal.** The Irrevocable Letter of Credit must automatically renew unless the issuing financial institution provides a notice to SPP at least ninety (90) days prior to its expiration date stating its decision not to renew the Irrevocable Letter of Credit. If the Irrevocable Letter of Credit is not renewed, at least ninety (90) days prior to its stated expiration date (a "Non-Renewal Event"), the Credit Customer must submit substitute Financial Security acceptable to SPP, in SPP's sole discretion, no later than eighty-seven (87) Calendar Days prior to the stated expiration date.

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7.1.3.6 **Use of Irrevocable Letter of Credit.** In the event a Credit Customer fails to make any timely payment to SPP, SPP may draw upon the Irrevocable Letter of Credit as necessary to satisfy any and all amounts due from the Credit Customer pursuant to the Agreements. In such event, within three (3) Business Days, the Credit Customer must replenish the Irrevocable Letter of Credit or provide SPP with other Financial Security in an amount equal to the draw or in such other amount as SPP may require under this Credit Policy, and failure to satisfy this requirement shall be a Default under this Credit Policy. In the event of such failure to make timely payment, and in addition to any other remedies available to SPP, SPP may draw down the entire Irrevocable Letter of Credit and hold the proceeds in an unsegregated account and apply such proceeds to amounts owed by the Credit Customer to SPP pursuant to the Agreements. The foregoing sentence notwithstanding, upon the Credit Customer's written notice of request, SPP will treat as a Cash Deposit the proceeds of a draw over and above amounts currently due and unpaid and transfer same to a segregated account in accordance with such treatment, provided that the Credit Customer has executed a Credit and Security Agreement.

7.1.4 **Federal Power Marketing Agency Letter.** A form of letter as described in this Section will be Financial Security for a Federal Power Marketing Agency as that type of entity is defined in Article Two of this Attachment H.

Credit Customers that are Federal Power Marketing Agencies may provide Financial Security in the form of a letter, executed by an officer of the Federal Power Marketing Agency, that: (1) attests that the Federal Power Marketing Agency is lawfully authorized to participate in Markets+ and that any debt the Federal Power Marketing Agency incurs due to its participation in Markets+ is a debt of the United States; (2) identifies the current year's appropriations for the Federal Power Marketing Agency from the United States Congress; and (3) verifies that the amount of the current year's appropriations for the Federal Power Marketing Agency from the United States Congress meets or exceeds the amount required to satisfy the credit requirements set forth in this Credit Policy.

Comment [KLD7]: Follow-up: only allowed for TCRs in the IM. Allowing for all in M+.

7.1.5 **Surety Bond.** A Surety Bond will be Financial Security in accordance with this Section.

7.1.5.1 **Form, Requirements, and Related Agreement.** Appendix "F" of this Credit Policy is an acceptable form of a Surety Bond. SPP

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may amend the form of Surety Bond from time to time, either for general applicability or on a case-by-case basis, and the Credit Customer will accept such amendment and, upon request, execute an amendatory document. SPP may accept a Surety Bond, in its sole discretion, in revised form. Upon the Credit Customer's request, SPP shall provide a written explanation of why SPP did not accept that Credit Customer's proposed variation to the form of Surety Bond set forth in Appendix "F" of this Credit Policy. The Credit Customer must execute the Credit and Security Agreement with respect to the Surety Bond. Under the Credit and Security Agreement, the Credit Customer grants SPP a first priority security interest in and to any and all proceeds of any and all Surety Bond then existing or thereafter issued with SPP as beneficiary and the Credit Customer as principal under the Surety Bond, including, without limitation, the cash issued upon a draw thereon. This security interest secures the prompt payment when due of any and all obligations of the Credit Customer to SPP, provided that the grant of a security interest shall not diminish SPP's rights to apply draws on the Surety Bond to pay any and all amounts due. SPP may amend the Credit and Security Agreement from time to time, either for general applicability or on an individual basis. The Credit Customer will accept such amendment and, upon request, execute an amendatory document.

7.1.5.2 **Ratings of Issuing Surety.** At the time of issuance and at all times the Surety Bond is outstanding, the issuer must be a U.S. Treasury-listed surety with a certificate of authority from the insurance commissioner in each state in which the issuer conducts surety business, with a minimum financial strength rating of an "A" by A.M. Best. If after the Surety Bond has been issued, the financial strength rating of the surety is less than "A" by A.M. Best, SPP may give the Credit Customer notice to submit substitute Financial Security no later than three (3) Business Days after the notice.

7.1.5.3 **Costs.** The applicable Credit Customer shall bear all costs of providing and maintaining the Surety Bond.

7.1.5.4 **Substitution of Surety Bond.** The Credit Customer may replace a Surety Bond with a substitute Surety Bond or other Financial Security in form and amount acceptable to SPP. SPP will return the initial Surety Bond upon receipt of an effective and acceptable substitute.

7.1.5.5 **Term and Renewal.** The surety may terminate the Surety Bond upon ninety (90) Calendar Days written notice to SPP; *provided,*

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however, that: (i) the surety's liability hereunder shall survive such termination and remain in full force and effect as to obligations incurred by Credit Customer during the term of the Surety Bond; and (ii) in the event that Credit Customer fails to provide an acceptable form of replacement Financial Security to SPP at least eighty seven (87) Calendar Days prior to the termination of the Surety Bond, the surety shall, upon demand, without any notice other than such demand, and without any further action by SPP deliver a Cash Deposit to SPP not later than the next Business Day in the amount of the full remaining value of the Surety Bond as Financial Security for Credit Customer's obligations to SPP.

7.1.5.6 **Limits on Use of Surety Bonds.**

a) To be eligible to provide Surety Bonds on behalf of a Credit Customer the applicable surety must have a Tangible Net Worth of $1 billion or greater.

b) In no case shall SPP accept Surety Bonds with an aggregate value greater than $10 million dollars ($10,000,000) issued by any individual surety on behalf of an individual Credit Customer.

c) SPP shall not accept surety bonds with an aggregate value greater than $50 million dollars ($50,000,000) issued by any individual surety.

7.1.5.7 **Use of Surety Bond.** In the event a Credit Customer fails to make any timely payment to SPP, SPP may draw upon the Surety Bond as necessary to satisfy any and all amounts due from the Credit Customer pursuant to the Agreements. In such event, within three (3) Business Days, the Credit Customer must replenish the Surety Bond or provide SPP with other Financial Security in an amount equal to the draw or in such other amount as SPP may require under this Credit Policy, and failure to satisfy this requirement shall be a Default under this Credit Policy. In the event of such failure to make timely payment, and in addition to any other remedies available to SPP, SPP may draw down the entire Surety Bond and hold the proceeds in an unsegregated account and apply such proceeds to amounts owed by the Credit Customer to SPP pursuant to the Agreements. The foregoing sentence notwithstanding, upon the Credit Customer's written notice of request, SPP will treat as a Cash Deposit the proceeds of a draw over and above amounts currently due and unpaid and transfer same to a segregated account in accordance with such treatment, provided that the Credit Customer has executed a Credit and Security Agreement.

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7.2 Financial Security Defaults. In addition to the breaches with respect to Financial Security identified in Section 7.1.2.3 (failure to replenish Cash Deposit), 7.1.3.6 (failure to replenish Irrevocable Letter of Credit), and 7.1.5.7 (failure to replenish a Surety Bond), any failure by an issuer of an Irrevocable Letter of Credit, or Surety Bond, or any breach of a Credit and Security Agreement shall be a Default under this Credit Policy and a default under the Tariff. A Default under this Credit Policy and a default under the Tariff shall also occur if: (i) the Financial Security expires or terminates (other than in accordance with its terms or upon the written consent of SPP); (ii) the person issuing the Financial Security disaffirms, disclaims, repudiates or rejects or challenges the validity of all or any part of the Financial Security; or (iii) the Financial Security or any material provision of the Financial Security ceases to be in full force and effect (other than in accordance with its terms or upon the written consent of SPP).

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ARTICLE EIGHT

Default and Remedies

8.1 Default. Any of the following shall constitute an "Event of Default" under this Credit Policy by a Credit Customer:

8.1.1 Failure to post any required Financial Security required under this Credit Policy in the time period specified;

8.1.2 Failure to pay in full any amount payable under the Tariff, unless cured in accordance with Section 8.3 of this Credit Policy;

8.1.3 A Credit Customer's involvement in financial difficulties as evidenced by: (i) its commencement of a voluntary case under Title 11 of the United States Code as from time to time in effect, or by its authorizing, by appropriate proceedings of its board of directors, general partners or other governing body, the commencement of such a voluntary case; (ii) its filing an answer or other pleading admitting or failing to deny the material allegations of a petition filed against it commencing an involuntary case under said Title 11, or seeking, consenting to or acquiescing in the relief therein provided, or by its failing to controvert timely the material allegations of any such petition; (iii) the entry of an order for relief in any involuntary case commenced under said Title 11; (iv) its seeking relief as a debtor under any applicable law, other than said Title 11, of any jurisdiction relating to the liquidation or reorganization of debtors or to modification or alteration of the rights of creditors, or by its consenting to or acquiescing in such relief; (v) the entry of an order by a court of competent jurisdiction (a) finding it to be bankrupt or insolvent, (b) ordering or approving its liquidation, reorganization or any modification or alteration of the rights of its creditors, or (c) assuming custody of, or appointing a receiver or other custodian for all or a substantial part of its property, and such entry or order shall not be vacated or stayed within ninety (90) Calendar Days; (vi) the filing of a petition under Title 11 which shall not be vacated within ninety (90) Calendar Days; or (vii) its making an assignment for the benefit of, or entering into a composition with, its creditors, or appointing or consenting to the appointment of a receiver or other custodian for all or a substantial part of its property.

8.1.4 Commission of any other Default specified under this Credit Policy, including Defaults specified in Sections 3.2.2, 5.3.3, 6.3.4, 7.1.2.3., 7.1.3.6, 7.1.5.7, and 7.2.

8.1.5 Except with respect to an event described in Sections 8.1.1 through 8.1.5, the failure to provide any of the Credit Information required under this Credit Policy in the time periods specified, and the failure to observe or perform any of the material terms or conditions or provisions set forth in this Agreement, and such failure is not cured within two (2) Business Days after notice thereof from SPP. If such failure is a failure to provide any of the Credit Information required under

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this Credit Policy in the time periods specified, and the failure cannot reasonably be cured within such period, and if the Credit Customer has commenced and is diligently pursuing such cure and provides SPP with adequate assurance of due performance to protect SPP against loss arising from the failure to perform, the Credit Customer may request in writing stating the reasons for the delay and obtain an additional five (5) Business Days if the Credit Customer is a Large Company or a Small Company and ten (10) Business Days if the Credit Customer is a Not-For-Profit after the written notice of Default, as shall be necessary for the Credit Customer to cure the failure with all due diligence.

8.2 Notice of Financial Difficulties. Immediately upon the occurrence of an Event of Default as set forth in Section 8.1.4, the Credit Customer shall provide notice to SPP and a copy of any pleadings, orders, petitions, agreements or other document initiating or filed in connection with such Event of Default.

8.3 Remedies for Default. Upon the first occurrence of a customer default as described in Section 7.4 of the Tariff or an Event of Default (except as defined in Section 8.1.4 of this Credit Policy) within a twelve month period, SPP will take no action to suspend any Unsecured Credit Allowance as long as the default is remedied within the specified cure period. Should the first occurrence not be remedied within the specified cure period SPP will suspend any Unsecured Credit Allowance for ninety (90) Calendar Days. Upon the second customer default or Event of Default within a twelve (12) month period, SPP will suspend any Unsecured Credit Allowance for ninety (90) Calendar Days. The suspension will occur even if one or both occurrences were remedied within the specified cure period. SPP may, except to the extent such remedy is limited in this Credit Policy, exercise any rights or remedies it may have at law or in equity, including but not limited to bringing suit or otherwise initiating proceedings for monetary damages, injunctive relief, specific performance, and relief available under the Federal Power Act. If the Event of Default has not been cured by the Credit Customer within two (2) Business Days or as otherwise outlined under Section 8.1.6 after the Credit Customer's receipt of notice thereof, or, in the case of failure to pay in full amounts payable under Section 7 of the Tariff, within two (2) Business Days after the Credit Customer's receipt of notice thereof, except as may be precluded under applicable law, SPP may terminate all of the Credit Customer's rights under this Credit Policy. Such termination shall not affect any liability of the Credit Customer incurred before and existing as of such termination. In addition, and without prejudice to any other remedies, SPP reserves all rights to terminate service in accordance with the Tariff and applicable law.

Upon the first occurrence of an Event of Default as defined in Section 8.1.4 of this Credit Policy, SPP will immediately suspend the Credit Customer's Unsecured Credit Allowance and may, at SPP's sole discretion, terminate all of the Credit Customer's rights under this Credit Policy and/or terminate service in accordance with the Tariff and applicable law. Any such termination shall not affect any liability that the Credit Customer incurred prior to and as of such termination. Upon the first occurrence of an Event of Default as defined in Section 8.1.4 of this Credit Policy, SPP also may order the Credit Customer to post additional collateral, cease one or more market transactions, or take other measures to protect SPP and other Market Participants from the Credit Customer's Default.

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ARTICLE NINE

Notice

9.1 Designation of Credit Contact. Each Credit Customer shall in writing designate a management level official as the person responsible for the Credit Customer's credit-related matters under this Credit Policy ("Credit Contact"), which designation may be changed from time to time in writing, together with contact information including fax, e-mail, and courier delivery address. SPP will seek to effect delivery of notices under the Credit Policy to the Credit Contact in the first instance; however, if delivery to the Credit Contact fails, then SPP may effect delivery to any officer, executive, or manager of the Credit Customer.

9.2 Notices to SPP. Any notice or request made by SPP shall be given in writing, by fax, email, hand delivery, reputable overnight courier, or first-class mail, to the Credit Customer's Credit Contact. Notice to SPP shall be addressed to:

Southwest Power Pool, Inc.
Credit and Risk Management Department
201 Worthen Drive
Little Rock, AR 72223-4936

Appendix "A" Credit Application Form

Credit Customer Identification

1.1 Name of the Company as identified in its certificate of formation / incorporation

_____

1.2 Date of formation / incorporation of the Company

_____

1.3 Registration / file number with the applicable Secretary of State's Office

_____

1.4 Please indicate all unique Company identifiers.

Company Ticker Symbol	
Market Cap	
Federal Tax ID Number	
NERC Acronym	
SIC Code	
DUNS Number	

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1.5 Address of the registered office of the Company

Country	
Address	
Post Code	
City	
Phone	
Website	

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1.6 Address of the trading office(s) of the Company

Country	
Address	
Post Code	
City	
Phone	
Website	

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1.7 Please list any Affiliates, including subsidiary companies of which your Company owns greater than 10%, that participate in Markets+ or any Independent System Operator or Regional Transmission Operator (ISO/RTO) markets.

Affiliates	Markets+ / ISO / RTO

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1.8 What is the main business of your Company (as stated in the Company's certificate of incorporation, limited liability company agreement, partnership agreement or other applicable corporate governing documents)?

_____

1.9 Please include a copy of your Company's Articles of Incorporation, Articles of Organization or similar documents.

Board, Shareholder, and Management Information

2.1 Please list board members (if applicable).

Full Name	Business Mailing Address

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2.2 Please list any legal representatives (executive officers such as CEO, CFO, CRO, etc.) authorized to sign an agreement with SPP on behalf of the Company.

Full name	Authorized to sign?	Business Mailing Address	Tenure with Company
	☐ alone ☐ jointly		
	☐ alone ☐ jointly		
	☐ alone ☐ jointly		

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2.3 Please state your Company's shareholders/owners and indicate their respective share or ownership percentage (>10%).

Full name	Percentage	Business Mailing Address

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2.4 Please provide the following information for each individual, if any, who, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, owns 25% or more of the equity interests of the Company.

Full name	Business Mailing Address

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2.5 Please list the persons responsible, respectively, for payment of invoices, compliance, credit, trading activity and questions about this form.

Full name	Business Mailing Address	Contact details (business e-mail address and business phone number)
Payments:		
Compliance:		
Credit:		
Trading:		
Questions about responses on this form:		

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SPP Market Participation

3.1 Please indicate which of SPP's products your Company transacts or intends to transact and include an estimate of the annual volumes by product (in MWh).

Real-Time Energy	
Day-Ahead Energy	
Virtual Energy	

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3.2 Please list forms of credit your Company intends to utilize to support trading exposure.

Cash (See Section 7.1.2 and Appendix B)	
Irrevocable Letter of Credit (See Section 7.1.3 and Appendices B and C)	List Bank Counterparty
Corporate Guarantee (See Section 3.1.3, Article Six, and Appendix D)	List Potential Guarantor
Surety Bond (See Section 7.1.5 and Appendices B and F)	List Issuing Surety

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3.3 List your Company's financial auditors and their addresses.

_____

3.4 Please provide audited financial statements for the Company for the last three years, including any current third-party credit ratings.

_____

Loss Contingencies and Judgments

4.1 Has your Company (or an Affiliate), in the last five years: a) consented to the appointment of, or was taken in possession by, a receiver, trustee, custodian or liquidator of a substantial part of its assets, b) filed a bankruptcy petition in any bankruptcy court proceeding, c) answered, consented, or sought relief under any bankruptcy or similar law or failed to obtain a dismissal of an involuntary petition, d) admitted in writing its inability to pay its debts when due, e) made a general assignment for the benefit of creditors, f) been the subject of an involuntary proceeding seeking to adjudicate the Company (or affiliate) bankrupt or insolvent, g)

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sought reorganization, arrangement, adjustment, or composition of it or its debt under any law relating to bankruptcy, insolvency, or reorganization or relief of debtors?

4.2 If yes to any question in 4.1, please provide a description of proceedings including applicable docket or case numbers.

4.3 Has your Company (or one or more of its affiliates), in the last five years, been found in violation of SEC, OCC, FERC, or CFTC requirements or any other federal or state regulation or law regarding energy commodities? Additionally, if not found in violation of such regulations and/or laws, has your Company (or its affiliates) settled allegations of violation with the applicable regulatory authority and/or paid fines related to activity in energy commodities?
If yes to any question in 4.3, please provide a description of proceedings including applicable docket or case numbers.

4.4 Has your Company ever failed to cure an unpaid invoice from any RTO/ISO in the last 5 years, or been found to be in default by an RTO/ISO, or been either suspended or expelled (i.e., had its participation revoked) from an ISO/RTO?
If yes to any question in 4.4, please provide an explanation of the situation, its outcome, and all other relevant factors associated with the event (including applicable docket or case numbers).

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Signatures

The undersigned is duly authorized to declare and does hereby declare in good faith that all information, answers and documents provided with this Questionnaire are true, correct and authentic and that no relevant information is omitted.

Place	Date	Print Name: Title:
Signature		

Subscribed and sworn before me _____, a notary public of the State of _____, in and for the County of _____, this __ day of _____, 20_____.

_____

(Notary Public Signature)
My commission expires:__/__/__

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Comment [KLD8]: Come back to

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Additional Not-For-Profit Questions
Additional sheets may be added to fully answer the following questions.

1. **Does your company have the ability to set its own rates? If yes, please attach any documentation that will show that ability.**

2. **What are the terms and expiration dates of your company's wholesale power contracts?**

3. **How many customers do you serve directly? When considering your five largest customers that you directly serve, what percentage of your load do they represent?**

4. **Please describe your power supply portfolio and how it is used to meet your load. What percent of your load is secured by asset ownership or purchase power contracts? Are these assets or contracts long-term in nature? What are the expiration dates of your contracts? What is the fuel mix of your power supply portfolio? Do you engage in risk management activities? If so, please provide a brief summary of such activities.**

5. **How long has the present management team been in place? Please discuss their experience with the present firm and any previous experience.**

6. **Discuss your ability to access lines of credit from financial institutions.**

7. **Please discuss any other factors you want to have considered by SPP when assessing creditworthiness. If there are items concerning your financials that need explanation, please provide the explanation here.** If your company receives capital

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credits, please provide the associated cash portion of such capital credits, as well as the information needed to compute such an amount from your most recent audited financials.

Appendix "B" Credit and Security Agreement

This Credit and Security Agreement is effective as of the _____ day of _____, 20__, by and between _____ ("Company") and Southwest Power Pool, Inc. ("SPP").

Recitals

WHEREAS, SPP offers ~~certain services, including certain transmission services,~~ market services and other services as set out in the Markets+ Tariff of SPP, as may be amended and supplemented from time to time and together with all replacements and substitutes thereto (collectively, the "Tariff");

WHEREAS, SPP maintains a Credit Policy (which is Attachment H~~X~~ to the Tariff, as the same may be amended from time to time) in order to determine, on a case by case basis, the level of unsecured credit available to each customer who takes services under the Tariff and the form and amount of financial assurance to be required by each customer, if any;

WHEREAS, in the event Company provides financial assurance to SPP in the form of Cash Deposit, an Irrevocable Letter of Credit, a Surety Bond, or, for a Credit Customer that is a Federal Power Marketing Agency, a letter as specified in Section 7.1.4 of Attachment ~~X~~H, SPP requires Company, in accordance with the terms of its Credit Policy as filed and accepted by FERC, to execute this Credit and Security Agreement in order to assure the strength of SPP's security interest in such Cash Deposit, Federal Power Marketing Agency Letter, Irrevocable Letter of Credit, or Surety Bond;

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NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by each of the parties hereto, Company and SPP hereby agree as follows:

(1) The "Liabilities" as used in this Credit and Security Agreement means all of the financial obligations of the Company under the Tariff and/or any and all agreements entered into, under, pursuant to, or in connection with the Tariff (including, without limitation, the SPP Credit Policy) and any and all other agreements to which SPP and the Company are parties (collectively, the "Agreements").

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(2) As security for the payment and performance of the Liabilities, SPP shall have, and the Company hereby grants to SPP, a continuing security interest in the following collateral (as indicated below) (the "Collateral"): all of the Company's right, title, and interest in any and all cash, cash collateral, Cash Deposits and deposit accounts of the Company held or controlled by SPP, including accounts designated "for the benefit of" Company, that either (i) are or contain proceeds from any draw upon any Irrevocable Letter of Credit or Surety Bond naming SPP as beneficiary to the extent that SPP determines in its sole discretion to treat such payments as cash collateral, and without prejudice to SPP's right to treat draws as payments to SPP of any and all amounts due to SPP from the Company , or (ii) are or contain cash submitted by the Company as collateral or security, however created or evidenced, whether now existing or hereafter owned, acquired, created, used or arising, including all products and proceeds of the foregoing, any and all renewals, extensions, replacements, modifications, additions, and substitutions of the foregoing and all rights, remedies, claims and demands under or in connection with each of the foregoing.

(3) All Collateral held or controlled by SPP after the date of this Credit and Security Agreement shall be free of any lien, security interest or encumbrance, except for liens, security interests or encumbrances in favor of SPP, and the Company agrees not to grant any security interest or permit any lien or encumbrance to arise in any of the Collateral except for security interests, liens and encumbrances in favor of SPP without the prior written consent of SPP.

(4) The Company agrees to do such reasonable acts and things and deliver or cause to be delivered such other documents as SPP may reasonably deem necessary to establish and maintain a valid perfected security interest in the Collateral (free of all other liens and claims except those of SPP) to secure the payment and performance of the Liabilities and to defend title to the Collateral against any person claiming any interest therein adverse to SPP. The Company authorizes SPP to file a financing statement or statements on its behalf in those public offices deemed advisable or necessary by SPP to protect the security interest of the Company herein granted. If permitted by law, the Company agrees that a carbon, photographic or other reproduction of this Credit and Security Agreement or of a financing statement may be filed as a financing statement.

(5) Subject to the Tariff, upon the occurrence of any Default and at any time thereafter, SPP shall have all rights and remedies available at law or in equity including, without limitation, the rights and remedies of a secured party under the Arkansas Uniform Commercial Code, as in effect from time to time, including, without limitation, the right to retain and/or take possession of the Collateral. SPP may in its discretion transfer any property constituting Collateral into its own name or that of its nominee and receive the income thereon and hold the same as security for the Liabilities or apply it on amounts due on Liabilities.

(6) Until such time as SPP exercises its remedies upon a Default, all income, earnings and profits with respect to the Collateral shall be reported for state and federal income tax purposes as attributable to the Company and not SPP. Company hereby instructs SPP (and any other person authorized to report taxable income distributions) to issue, or cause to be issued, IRS Form 1099 indicating the Company as the recipient of such income, earnings and profits.

(7) Whenever possible each provision of this Credit and Security Agreement shall be interpreted in such a manner as to be effective and valid under applicable law, but if any provision of this Credit and Security Agreement shall be prohibited by or invalid under applicable law, such provision shall be ineffective only to the extent of such prohibition without invalidating the remainder of such provision or the remaining provisions of this Credit and Security Agreement. The Company recognizes that SPP has relied on this Credit and Security Agreement in extending credit to the Company and agrees that such reliance by SPP shall be sufficient consideration for this Credit and Security Agreement.

(8) The Company maintains any and all rights under Section 206 of the Federal Power Act it may have with regard to this Credit and Security Agreement or its implementation.

This Credit and Security Agreement shall be construed and enforced in accordance with, and governed by, the laws of the State of Arkansas (without giving effect to the principles of conflicts of laws).

_____
Company Name

_____
Authorized Signature

_____
Print Name

_____
Title

SOUTHWEST POWER POOL, INC.
By:

_____
Authorized Signature

_____
Print Name

_____
Title

Appendix "C" Form of Irrevocable Standby Letter of Credit

Irrevocable Standby Letter of Credit No. _____
Issued: [Date]
Expires at our counter (unless evergreen): [Date]

Ladies and Gentlemen:

We do hereby issue this Irrevocable Non-Transferable Standby Letter of Credit No. _____ by order of, for the account of and on behalf of _____ ("Account Party") and in favor of Southwest Power Pool, Inc. ("Beneficiary" or "SPP") ("Letter of Credit").

This Letter of Credit is irrevocable and is issued, presentable and payable and we guaranty to the Beneficiary of this Letter of Credit that drafts drawn under and in compliance with the terms of this Letter of Credit will be honored on presentation and surrender of certain documents pursuant to the terms of this Letter of Credit.

This Letter of Credit is available in one or more drafts and may be drawn hereunder for the account of Account Party up to an aggregate amount not exceeding $ _____ .00 (United States Dollars _____ and 00/100).

This Letter of Credit is drawn against by presentation to us at our office located at the following address:

_____
_____

of a drawing certificate: (i) Signed by an officer or authorized agent of the Beneficiary; (ii) dated the date of presentation; and (iii) containing one (1) of the following statements:

1. "The undersigned hereby certifies to _____ ("Issuer"), with reference to its Irrevocable Non-Transferable Standby Letter of Credit No. _____, dated _____, issued on behalf of _____ ("Account Party") and in favor of Southwest Power Pool, Inc. ("Beneficiary") that said Account Party has failed to make a payment in accordance with the terms and provisions of one or more of the following, as applicable: SPP's Tariff, as may be amended and supplemented from time to time, together with all replacements and substitutes (the "Tariff"), any and all agreements

entered into by Account Party under, pursuant to, or in connection with the Tariff and any and all agreements to which Account Party and SPP are parties, as such agreements may be amended and supplemented from time to time, whether now or hereafter executed, and any replacements or substitutions thereof, (collectively, the "Agreements"). The Beneficiary hereby draws upon the Letter of Credit in an amount equal to $ _____ (United States Dollars _____ and 00/100)"; or

2. "As of the close of business on _____, 20__ (fill in date which is less than eighty-seven (87) Calendar Days before the expiration date of the Letter of Credit), Account Party has failed to renew, replace or amend the Letter of Credit in a manner acceptable to Beneficiary." The Beneficiary hereby draws upon the Letter of Credit in an amount equal to $_____ (United States Dollars _____ and 00/100)"; or

3. "As of the close of business on _____, 20__ (fill in date which is more than three (3) Business Days after the Beneficiary has requested that Account Party replace the Letter of Credit because the Issuer's corporate debt is rated less than "A-" by S&P, "A3" by Moody's, "A-" by Duff & Phelps, or "A-" by Fitch), Account Party has failed to replace the Letter of Credit in a manner acceptable to Beneficiary." The Beneficiary hereby draws upon the Letter of Credit in an amount equal to $_____ (United States Dollars _____ and 00/100)".

Beneficiary shall have the right, in the event of a draw pursuant to subparagraph (2) or (3) of the immediately preceding paragraph, to draw down the entire face value of the Letter of Credit.

If presentation of any drawing certificate is made on a business day and such presentations made on or before 10:00 a.m._____ Time, ("Issuer") shall satisfy such drawing request on the same business day. If the drawing certificate is received after 10:00 a.m._____ Time, ("lssuer") will satisfy such drawing request on the next business day.

It is a condition of this Letter of Credit that it will be automatically extended without amendment for one year from the expiration date hereof, or any future expiration date, unless at least 90 Calendar Days prior to any expiration date we notify you by registered mail or overnight courier that we elect not to consider this Letter of Credit extended for any such period.

This Letter of Credit may be terminated upon Beneficiary's receipt of full payment from the Account Party and Issuer's receipt of a written release from the Beneficiary releasing the Issuer from its obligations under this Letter of Credit.

Disbursements under the Letter of Credit shall be in accordance with the following terms and conditions:

1. The amount, which may be drawn by the Beneficiary under this Letter of Credit, shall be automatically reduced by the amount of any drawings hereunder.

2. All commissions and charges will be borne by the Account Party.

3. This Letter of Credit may not be transferred or assigned by the Issuer.

4. This Letter of Credit is irrevocable.

5. Except when the amount of this Letter of Credit is increased this Letter of Credit may not be amended, changed or modified without the express written consent of the Beneficiary and the Issuer. Such consent may be delivered by electronic means including electronic mail to - _____.

6. This Letter of Credit shall be governed by the International Standby Practices Publication No. 590 of the International Chamber of Commerce, including any amendments, modifications or revisions thereof (the "ISP"), except to the extent that terms hereof are inconsistent with the provisions of the ISP, in which case the terms of the Letter of Credit shall govern. This Letter of Credit shall be governed by the internal laws of the state of Arkansas to the extent that the terms of the ISP are not applicable; provided that, in the event of any conflict between the ISP and such Arkansas laws, the ISP shall control.

_____ _____

[Authorized Signature] [Date]

Name: _____

Title:_____

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Appendix "D" Guaranty Form

GUARANTY AGREEMENT

This Guaranty Agreement (the "Guaranty") is made by _____ ("Guarantor"), a _____ corporation, in favor of Southwest Power Pool, Inc. ("Creditor"), an Arkansas nonprofit corporation.

———WHEREAS, one or more direct or indirect subsidiaries of the Guarantor (each referred to individually as "Debtor" and collectively as "Debtors") and the Creditor are parties to certain agreements pursuant to, or in connection with, the Creditor's ~~Open Access Transmission~~ Tariff, whether now existing or hereafter arising in accordance with their respective terms (each referred to individually as "Agreement" and collectively as "Agreements");

WHEREAS, Guarantor is the direct or indirect parent of the Debtor, will receive substantial and direct benefits from the extensions of credit contemplated by the Agreements and has agreed to enter into this Guaranty to provide assurance for the performance of Debtor's obligations in connection with the Agreements and to induce the Creditor to enter into the Agreements; and

WHEREAS, the execution and delivery of this Guaranty is a condition to Creditor's further performance of its obligations under the terms of the Agreements;

NOW, THEREFORE, in consideration of the promises and other good and valuable consideration, the adequacy, receipt and sufficiency of which are hereby acknowledged, Guarantor hereby agrees as follows:

1. **Guaranty.** Guarantor hereby unconditionally and absolutely guarantees the punctual payment as and when due of Debtor's payment obligations arising under any Agreement, as such Agreement may be amended or modified from time to time, together with any interest thereon (collectively, the "Guaranteed Obligations"). Guarantor's obligations and liability under this Guaranty shall be limited to payment obligations only and Guarantor shall have no obligation otherwise to perform under any Agreement, including, without limitation, to sell, deliver, purchase, receive, or transmit any electrical energy product or service.

2. **Guaranty Absolute.** The liability of Guarantor under this Guaranty shall be absolute and unconditional irrespective of:

   (a) any lack of validity or enforceability of or defect or deficiency in any Agreement or any other documents executed in connection with any Agreement;

   (b) any modification, extension or waiver of any of the terms of any Agreement;

   (c) any change in the time, manner, terms or place of payment of or in any other term of, all or any of the Guaranteed Obligations, or any other amendment or waiver of

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or any consent to departure from any Agreement or any other agreement or instrument executed in connection therewith;

(d) any sale, exchange, release or non-perfection of any property standing as security for the liabilities hereby guaranteed, or any liabilities incurred directly or indirectly hereunder or any setoff against any of said liabilities, or any release or amendment or waiver of or consent to departure from this Guaranty or any other guaranty, for all or any of the Guaranteed Obligations;

(e) except as to applicable statutes of limitation, failure, omission, delay, waiver or refusal by Creditor to exercise, in whole or in part, any right or remedy held by Creditor with respect to any Agreement or any transaction under any Agreement;

(f) any change in the existence, structure or ownership of Guarantor or any Debtor, or any insolvency, bankruptcy, reorganization or other similar proceeding affecting any Debtor or its assets; or

(g) any other circumstance that might otherwise constitute a defense available to, or a discharge of, any Debtor or any other individual, partnership, joint venture, corporation, association, trust or other enterprise that is a party to any Agreement, or any other agreement or instrument (including any guarantor) in respect of the Guaranteed Obligations, other than payment in full of the Guaranteed Obligations.

The obligations of the Guarantor hereunder are several from any Debtor or any other person, and are primary obligations concerning which the Guarantor is the principal obligor. There are no conditions precedent to the enforcement of this Guaranty, except as expressly contained herein. It shall not be necessary for Creditor, in order to enforce payment by Guarantor under this Guaranty, to show any proof of any Debtor's default, to exhaust its remedies against any Debtor, any other guarantor, or any other person liable for the payment or performance of the Guaranteed Obligations. Creditor shall not be required to mitigate damages or take any other action to reduce, collect, or enforce the Guaranteed Obligations.

This Guaranty shall continue to be effective or be reinstated, as the case may be, if at any time any payment of any of the Guaranteed Obligations are annulled, set aside, invalidated, declared to be fraudulent or preferential, rescinded or must otherwise be returned, refunded or repaid by Creditor upon the insolvency, bankruptcy, dissolution, liquidation or reorganization of Debtor or any other guarantor, or upon or as a result of the appointment of a receiver, intervenor or conservator of, or trustee or similar officer for, Debtor or any other guarantor or any substantial part of its property or otherwise, all as though such payment or payments had not been made.

3. **Waiver.** This is a guaranty of payment and not of collection. Guarantor hereby waives:

(a) notice of acceptance of this Guaranty, of the creation or existence of any of the Guaranteed Obligations and of any action by Creditor in reliance hereon or in connection herewith;

(b) notice of the entry into any Agreement between any Debtor and the Creditor and of any amendments, supplements or modifications thereto; or any waiver of consent under any Agreement, including waivers of the payment and performance of the obligations thereunder;

(c) notice of any increase, reduction or rearrangement of any Debtor's obligations under any Agreement or any extension of time for the payment of any sums due and payable to the Creditor under any Agreement;

(d) except as expressly set forth herein, presentment, demand for payment, notice of dishonor or nonpayment, protest and notice of protest or any other notice of any other kind with respect to the Guaranteed Obligations; and

(e) any requirement that suit be brought against, or any other action by Creditor be taken against, or any notice of default or other notice be given to, or any demand be made on, Debtor or any other person, or that any other action be taken or not taken as a condition to Guarantor's liability for the Guaranteed Obligations under this Guaranty or as a condition to the enforcement of this Guaranty against Guarantor.

4. **Expenses.** Notwithstanding and in addition to the limit on Guarantor's liability hereunder set forth in Section 1, Guarantor agrees to pay on demand any and all costs, including reasonable legal fees and expenses, and other expenses incurred by Creditor in enforcing Guarantor's payment obligations under this Guaranty; provided that the Guarantor shall not be liable for any expenses of Creditor if no payment under this Guaranty is due.

5. **Subrogation.** Guarantor shall be subrogated to all rights of Creditor against the Debtors in respect of any amounts paid by Guarantor pursuant to this Guaranty, provided that Guarantor waives any rights it may acquire by way of subrogation under this Guaranty, by any payment made hereunder or otherwise (including, without limitation, any statutory rights of subrogation under Section 509 of the Bankruptcy Code, 11 U.S.C. § 509, or otherwise), reimbursement, exoneration, contribution, indemnification, or any right to participate in any claim or remedy of the Creditor against any Debtor or any collateral which the Creditor now has or acquires, until all of the Guaranteed Obligations shall have been irrevocably paid to Creditor in full. If any amount shall be paid to the Guarantor on account of such subrogation rights at any time when all the Guaranteed Obligations shall not have been paid in full, such amount shall be held in trust for the benefit of Creditor and shall forthwith be paid to Creditor to be applied to the Guaranteed Obligations. If (a) the Guarantor shall perform and shall make payment to Creditor of all or any part of the Guaranteed Obligations and (b) all the Guaranteed Obligations shall have been paid in full, Creditor shall, at the Guarantor's request, execute and deliver to

the Guarantor appropriate documents necessary to evidence the transfer by subrogation to the Guarantor of any interest in the Guaranteed Obligations resulting from such payment by Guarantor.

6. **Setoff.** The Creditor is hereby authorized at any time, to the fullest extent permitted by law, to set off and apply any deposits (general or special, time or demand, provisional or final) and other indebtedness owing by the Creditor to or for the account of Guarantor against any and all of the obligations of Guarantor under this Guaranty, irrespective of whether or not the Creditor shall have made any demand under this Guaranty or such Agreement and although such obligations may be contingent and unmatured. The Creditor agrees promptly to notify Guarantor after any such set-off and application made by the Creditor provided that the failure to give such notice shall not affect the validity of such set-off and application.

7. **Notices.** All demands, notices and other communications provided for hereunder shall, unless otherwise specifically provided herein, (a) be in writing addressed to the party receiving the notice at the address set forth below or at such other address as may be designated by written notice, from time to time, to the other party, and (b) be effective upon delivery, when mailed by U.S. mail, registered or certified, return receipt requested, postage prepaid, by express courier with traceable receipt, ~~by facsimile,~~ or personally delivered. Notices shall be sent to the following addresses:

If to Creditor:
Southwest Power Pool, Inc.
201 Worthen Drive
Little Rock, AR 72223-4936
Attention: Credit and Risk Management Department

If to Guarantor:
_____
_____
_____
_____

8. **Demand and Payment.** Any demand by Creditor for payment hereunder shall be in writing, signed by a duly authorized officer of Creditor and delivered to the Guarantor pursuant to Section 7 hereof, and shall (a) reference this Guaranty, (b) specifically identify the Debtor, the Guaranteed Obligations to be paid and the amount of such Guaranteed Obligations, and (c) set forth payment instructions. There are no other requirements of notice, presentment or demand. Guarantor shall pay, or cause to be paid, such Guaranteed Obligations within two (2) business days of receipt of such demand.

9. **No Waiver; Remedies.** Except as to applicable statutes of limitation, no failure on the part of Creditor to exercise, and no delay in exercising, any right hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any right hereunder preclude any other or further exercise thereof or the exercise of any other right. The

remedies herein provided are cumulative and not exclusive of any remedies provided by law.

10. **Term; Termination.** This Guaranty shall continue in full force and effect for the term of the Agreements. Notwithstanding the foregoing, this Guaranty may be terminated at any time by the Guarantor by providing at least sixty (60) Calendar Days' prior written notice to Creditor; provided, however, upon termination hereof, Guarantor agrees that the obligations and liabilities hereunder shall continue in full force and effect with respect to any obligations incurred prior to the termination date, and any fees and costs of enforcement in connection herewith.

11. **Assignment; Successors and Assigns.** Creditor may, upon notice to Guarantor, assign its rights hereunder without the consent of Guarantor. Guarantor may assign its rights hereunder with the prior written consent of Creditor, which consent shall not be unreasonably withheld. Subject to the foregoing, this Guaranty shall be binding upon and inure to the benefit of the parties hereto and their respective successors, permitted assigns, and legal representatives.

12. **Amendments, Etc.** A written amendment executed by the Guarantor only may (a) increase the guaranty limit specified in Section 1 and/or (b) extend the termination date of this Guaranty. No other amendment of this Guaranty shall be effective unless in writing and signed by Guarantor and Creditor. No waiver of any provision of this Guaranty nor consent to any departure by Guarantor therefrom shall in any event be effective unless such waiver shall be in writing and signed by Creditor. Any such waiver shall be effective only in the specific instance and for the specific purpose for which it was given.

13. **Captions.** The captions in this Guaranty have been inserted for convenience only and shall be given no substantive meaning or significance whatsoever in construing the terms and provisions of this Guaranty.

14. **Representation and Warranties.**

The Guarantor represents and warrants as follows:

(a) the Guarantor is duly organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation and has full corporate power to execute, deliver and perform this Guaranty. This representation is evidenced by a copy of the resolution(s) of the board of directors or other governing body of the Guarantor authorizing this Guaranty, which is attached to and made a part of this Guaranty;

(b) the execution, delivery and performance of this Guaranty have been and remain duly authorized by all necessary corporate action and do not contravene the Guarantor's constitutional documents or any contractual restriction binding on the Guarantor or its assets;

(c) this Guaranty is not in violation of other undertakings or requirements applicable to Guarantor, and is enforceable against the Guarantor in accordance with these terms;

(d) this Guaranty constitutes the legal, valid and binding obligation of the Guarantor enforceable against Guarantor in accordance with its terms, subject, as to enforcement, to bankruptcy, insolvency, reorganization and other laws of general applicability relating to or affecting Creditor's rights and to general equity principles; and

(e) the audited financial statements of Guarantor for the most recent fiscal year and the unaudited financial statements of Guarantor for the most recent quarter (the "Financial Statements"), heretofore delivered to Creditor or filed with the United States Securities Exchange Commission by Guarantor present fairly the financial condition and results of operations of Guarantor and its consolidated subsidiaries as of the dates and for the period specified therein in conformity with United States generally accepted accounting principles, and, except as otherwise expressly stated therein, consistently applied. Except as expressly stated to Creditor in writing, there has been no Material Adverse Change in the financial condition of Guarantor and its consolidated subsidiaries since the dates of the Financial Statements.

15. **Limitation by Law.** All rights, remedies and powers provided in this Guaranty may be exercised only to the extent that the exercise thereof does not violate any applicable provision of law, and all the provisions of this Guaranty are intended to be subject to all applicable mandatory provisions of law that may be controlling and to be limited to the extent necessary so that they will not render this Guaranty invalid, unenforceable, in whole or in part, or not entitled to be recorded, registered or filed under the provisions of any applicable law.

16. **GOVERNING LAW; SUBMISSION TO EXCLUSIVE JURISDICTION. THIS GUARANTY SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF ARKANSAS AND ANY APPLICABLE FEDERAL LAW. TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE PARTIES HERETO HEREBY SUBMIT TO THE EXCLUSIVE JURISDICTION OF ANY ARKANSAS STATE COURT SITTING IN PULASKI COUNTY, ARKANSAS, OR THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF ARKANSAS, FOR THE PURPOSES OF ALL LEGAL PROCEEDINGS ARISING OUT OF OR RELATING TO THIS GUARANTY OR THE TRANSACTIONS CONTEMPLATED HEREBY. THE PARTIES HEREBY WAIVE ANY OBJECTION TO VENUE IN PULASKI COUNTY, ARKANSAS, AND ANY OBJECTION TO ANY ACTION OR PROCEEDING ON THE BASIS OF FORUM NON CONVENIENS.**

IN WITNESS WHEREOF, Guarantor has caused this Guaranty to be duly executed and delivered by its duly authorized officer effective as of this ___ day of _____, _____ ("Effective Date").

[GUARANTOR]

By:_____
Name:_____
Title:_____

Appendix "E" Annual Minimum Market Participation Criteria and Risk Management Certification Form

SPP ANNUAL MINIMUM MARKET PARTICIPATION CRITERIA – RISK MANAGEMENT CERTIFICATION FORM

I, _____, a duly authorized officer of _____ ("Market Participant"), understanding that Southwest Power Pool, Inc. ("SPP") is relying on this certification as evidence supporting SPP's determination that Market Participant meets the risk management and minimum market participation requirements as set forth in Attachment ~~II~~X to SPP's Markets+ Tariff ("Tariff"), hereby certify that I have full authority to certify and represent on behalf of Market Participant and further certify and represent as follows:

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1. Training. Employees or agents transacting in markets or services provided pursuant to the Tariff on behalf of the Market Participant have received, or will receive, applicable training with regard to their participation under the Tariff as a condition of being authorized to transact on behalf of Market Participant. As used in this representation, training is deemed 'applicable' where it is commensurate and proportional in sophistication, scope and frequency to the volume of transactions and the nature and extent of the risk taken by the Market Participant.

2. Risk Management. Market Participant maintains current written risk management policies and procedures that address those risks that could materially affect Market Participant's ability to pay its SPP invoices when due, including, but not limited to, credit risks, liquidity risks and market risks.

3. Operational Capabilities. Market Participant has available appropriate personnel resources, operating procedures, and technical abilities to promptly and effectively respond to SPP communications and directions related to, but not limited to, settlements, billing, credit requirements and other financial matters.

4. Minimum Participation Criteria. Market Participant meets or exceeds the minimum market participation criteria, including capitalization requirements, as specified in Section 3.1.1.8 of Attachment H of the Tariff. The Market Participant shall submit audited financial statements for the most recent fiscal year to demonstrate minimum Tangible Net Worth or minimum total assets, or provide a report produced by a Rating Agency to establish its Credit Rating as specified in Section 3.1.1.8.2. In the event the Market Participant is unable to meet at least one of these minimum financial requirements, the Market Participant shall maintain with SPP the amount of Financial Security required by Section 3.1.1.8.2(e) of Attachment H to the Tariff.

Date: _____

_____
(Signature)

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Print Name: _____

Title: _____

Subscribed and sworn before me _____, a notary public of the State of _____, in and for the County of _____, this __ day of _____, 20___.

_____

(Notary Public Signature)
My commission expires: _____/_____/_____

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Appendix "F" FORM OF SURETY BOND

Surety Bond No._____

THIS SURETY BOND is issued on **[date]** by **[full legal name of surety]** ("Surety") on behalf of **[full legal name of SPP customer]** ("Principal"), and in favor of Southwest Power Pool, Inc. ("SPP"). Capitalized terms used and not otherwise defined herein shall have the meaning ascribed to those terms in SPP's Markets+ Tariff ("Tariff").

WHEREAS, Principal seeks to satisfy credit or security requirements established in the ~~Markets+~~ Tariff; and

WHEREAS, Surety is U.S. Treasury-listed with a minimum "A" rating from A.M. Best and has agreed, in exchange for compensation provided by Principal, to provide this Surety Bond on behalf of Principal in accordance with SPP's credit requirements;

NOW, THEREFORE, in consideration of the mutual promises and covenants herein contained, Surety hereby agrees and covenants as follows:

1. Amount of Bond. Surety unconditionally and irrevocably agrees to pay SPP amounts not to exceed an aggregate of **[amount]**, in accordance with the terms of this Surety Bond.
2. Payment Upon Demand. Surety shall pay such amount as specified by SPP upon receipt of a demand for payment notice ("Demand for Payment Notice"). Such Demand for Payment Notice shall be: (i) signed by an officer or authorized agent of SPP, (ii) dated the date of presentation, and (iii) be in the form as set forth in Exhibit A, Exhibit B, or Exhibit C, as applicable.
3. Validation. SPP may demand payment pursuant to this Surety Bond without prior demonstration of the validity of the demand.
4. Multiple Draws. SPP may demand multiple payments pursuant to this Surety Bond; *provided, however*, that the total amount of Surety's obligation hereunder shall not exceed an aggregate of **[amount]**.
5. Time and Form of Payment. Surety shall pay amounts owed pursuant to this Surety Bond in full not later than the first business day following receipt of SPP's written demand for payment to the account designated therein.
6. Obligations Unconditional. This Surety Bond is not conditioned upon SPP first attempting to collect payment, resorting to any other means of security or collateral, or pursuing any other remedies it may have. The obligations of Surety hereunder are independent of the obligations of Principal, and SPP may bring an action against Surety without bringing an action against Principal. SPP may from time to time, without notice or demand, and without affecting Surety's liability hereunder, take and hold other security for Principal's obligations to SPP and exchange, waive, release, or apply such security as SPP deems appropriate in its sole discretion. Surety's liability under this Surety Bond is not conditioned upon the validity or enforceability of Principal's obligations to SPP.
7. Term of Surety Bond. The term of this Surety Bond shall begin on the date of its issuance, as set forth above, and shall continue in full force and effect until all amounts owed by

Principal pursuant to the Agreements, as that term is defined in the ~~Markets+~~ Tariff, are paid in full, including any amounts owed as a result of true-ups or other corrections to previous settlements; *provided, however,* that Surety may terminate this Surety Bond as provided in Paragraph 8, below.

8. Termination. Surety may terminate this Surety Bond upon ninety (90) Calendar ~~d~~Days written notice to SPP; *provided, however,* that: (i) Surety's liability hereunder shall survive such termination and remain in full force and effect as to obligations incurred by Principal during the term of this Surety Bond; and (ii) in the event that Principal fails to provide an acceptable form of replacement Financial Security to SPP at least eighty seven (87) Calendar ~~d~~Days prior to the termination of this Surety Bond, Surety shall, upon demand, without any notice other than such demand, and without any further action by SPP deliver Cash Deposit to SPP not later than the next Business Day in the amount of the full remaining value of this Surety Bond as security for Principal's obligations to SPP. A Cash Deposit provided to SPP by Surety and not applied by SPP to satisfy unpaid obligations of Principal shall be returned to Surety at such time as: (i) Principal provides adequate replacement Financial Security to SPP or (ii) all amounts owed by Principal to SPP are paid in full, including amounts owed as a result of true-ups or other corrections to previous settlements.

9. Principal Pays Bond Costs. Principal shall pay all commissions and charges for this Surety Bond. Principal's failure to pay any such charges shall not be grounds for termination of this Surety Bond, except as provided in Paragraph 8, above.

10. Expenses. Surety shall pay all reasonable costs incurred by SPP in the enforcement of this Surety Bond, including attorney fees and expenses. Surety's obligation to pay such costs shall be in addition to other amounts owed pursuant to this Surety Bond and shall not be limited by the maximum stated amount of this Surety Bond.

11. Communications. Demands, notices, and other communications shall be deemed effective when received, shall be in writing, and shall be delivered by courier with receipt of delivery or by registered mail, or certified mail ~~, or facsimile~~ to the following addresses:

a. If to Surety:

[Surety notice address]

b. If to SPP:

Attn: Credit and Risk Management Department
Southwest Power Pool, Inc.
201 Worthen Drive
Little Rock, AR 72223-4936

c. If to Principal:

[Principal notice address]

Surety, SPP, or Principal may change the address provided for receipt of communications pursuant to this Surety Bond by providing written notice to the other parties.

12. Representations and Warranties. Surety represents and warrants to SPP that:

a. Surety has the legal power to execute and deliver this Surety Bond and to perform in accordance with its terms. All necessary actions have been taken to authorize

the execution and delivery of this Surety Bond and performance in accordance with its terms. This Surety Bond is a legal, valid, and binding obligation of Surety.

b. There is no action or proceeding pending or, to Surety's knowledge, threatened before any court, arbitrator, or governmental agency that may materially adversely affect Surety's ability to perform its obligations under this Surety Bond.

c. There is no fact that Surety has not disclosed in writing to SPP of which Surety is aware or which Surety can reasonably foresee that would materially adversely affect Surety or the ability of Surety to perform its obligations hereunder.

13. Assignment. SPP may assign its rights under this Surety Bond without in any way diminishing Surety's obligations hereunder. Surety shall not be permitted to assign or transfer its rights under this Surety Bond without prior written consent of SPP.

14. Amendment and Waiver. The terms and provisions of this Surety Bond may not be amended or waived except in a writing signed by SPP and Surety. Election not to exercise, failure to exercise, or delay in exercising any rights under this Surety Bond shall in no way operate as a waiver of any rights of SPP under this Surety Bond.

15. Entire Agreement. This Surety Bond embodies the entire agreement between Surety and SPP with respect to the matters set forth herein and supersedes all prior such agreements.

16. Severability. Should any provision of this Surety Bond be determined by a court of competent jurisdiction to be unenforceable, all of the other provisions shall remain effective.

17. Choice of Law; Jurisdiction; Venue; and Service of Process. This Surety Bond shall be governed by the laws of the State of Arkansas without regard to conflict of laws principles. Surety irrevocably submits to the jurisdiction of any Arkansas court or any United States court sitting in Arkansas over any action or proceeding arising out of or relating to this Surety Bond and irrevocably agrees that all claims in such action or proceeding may be heard and determined by such court. Surety agrees that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law. Surety waives any objection to venue on the basis of forum non conveniens. Surety irrevocably consents to the service of process in any action or proceeding by the mailing of copies of such process to Surety at its address set forth herein. Nothing herein shall affect the right of SPP to bring any action or proceeding against Surety or its property in the courts of any other jurisdictions.

18. Waiver of Jury Trial. SURETY IRREVOCABLY, VOLUNTARILY, AND WITH ADVICE OF COUNSEL WAIVES ANY RIGHTS IT MAY HAVE TO A TRIAL BY JURY IN ANY ACTION ARISING IN CONNECTION WITH THIS SURETY BOND.

IN WITNESS WHEREOF, Surety has executed and delivered this Surety Bond this **[date]**.

[Full Legal Name of Surety]

By:_____

Name:
Title:

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EXHIBIT A

(Form of Demand for Payment Notice – Principal Failure to Make Payment)

[Date][1]

[Name and Address of Surety][2]

Re: Surety Bond No. _____
Demand for Payment

To the above named Surety:

The undersigned hereby certifies to [**full legal name of surety**] ("Surety"), with reference to its Surety Bond No. [**bond number**], dated [**execution date of Surety Bond**], issued on behalf of [**full legal name of SPP customer**] ("Principal") and in favor of Southwest Power Pool, Inc. ("SPP") that Principal has failed to make payment in accordance with the terms of the Agreements as defined in SPP's ~~OATT~~Markets+ Tariff. SPP hereby demands payment in the amount of $ [**amount**] in accordance with the following instructions.

[Wiring Instructions]

Southwest Power Pool, Inc.

By: _____[3]

Name: _____

Title: _____

[1] The date of the Demand for Payment Notice must be the date for which presentation of the Notice is made.
[2] This will be the address of the Surety as set forth in the Surety Bond.
[3] The undersigned must be an officer or authorized agent of SPP

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EXHIBIT B

(Form of Demand for Payment Notice – Principal Failure to Provide Acceptable Security)

[Date][4]

[Name and Address of Surety][5]

Re: Surety Bond No. _____
Demand for Payment

To the above named Surety:

The undersigned hereby certifies to **[full legal name of surety]** ("Surety"),with reference to its Surety Bond No. **[bond number]**, dated **[execution date of Surety Bond]**, issued on behalf of **[full legal name of SPP customer]** ("Principal") and in favor of Southwest Power Pool, Inc. ("SPP") that as of the close of business on **[date] [date less than eighty-seven (87) Calendar dDays before the expiration of the Surety Bond],**[6] Principal has failed to renew, replace, or amend this Surety Bond in satisfaction of the credit requirements established pursuant to SPP's Markets+ Tariff. SPP hereby demands payment in the amount of $ **[amount]** in accordance with the following instructions.

[Wiring Instructions]

Southwest Power Pool, Inc.

By: _____[7]

Name: _____

Title: _____

[4] The date of the Demand for Payment Notice must be the date for which presentation of the Notice is made.
[5] This will be the address of the Surety as set forth in the Surety Bond.
[6] Insert date less than eighty-seven (87) Calendar Days prior to expiration of the Surety Bond.
[7] The undersigned must be an officer or authorized agent of SPP

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EXHIBIT C

(Form of Demand for Payment Notice – Surety Rating Downgrade)

[**Date**] [8]

[**Name and Address of Surety**] [9]

Re: Surety Bond No. _____
Demand for Payment

To the above named Surety:

The undersigned hereby certifies to [**full legal name of surety**] ("Surety"),with reference to its Surety Bond No. [**bond number**], dated [**execution date of Surety Bond**], issued on behalf of [**full legal name of SPP customer**] ("Principal") and in favor of Southwest Power Pool, Inc. ("SPP") that as of the close of business on [**date**] [**date more than three (3) Business Days after SPP has requested that Principal replace the Surety Bond because the Surety's rating by A.M. Best is less than "A"**], Principal has failed to replace this Surety Bond in a manner acceptable to SPP. SPP hereby demands payment in the amount of $ [**amount**] in accordance with the following instructions.

[**Wiring Instructions**]

Southwest Power Pool, Inc.

By: _____ [10]

Name: _____

Title: _____

[8] The date of the Demand for Payment Notice must be the date for which presentation of the Notice is made.
[9] This will be the address of the Surety as set forth in the Surety Bond.
[10] The undersigned must be an officer or authorized agent of SPP.

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From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, February 8, 2024 6:41 AM
To: Detmer, Nick; Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] MDWG Public Power Seat - Vacancy Update

Hey there –

We had two nominations for Public Power empty MDWG seat:

(b)(6)

Thanks!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Wednesday, November 22, 2023 6:54 AM
To: Kristen Darden; Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] RE: Additional MDWG Meeting - Friday, 12/1/2023

I can make that or Monday December 4th would also work for me.

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, November 21, 2023 9:49 AM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Subject: Additional MDWG Meeting - Friday, 12/1/2023

EXTERNAL - STOP & THINK before opening links and attachments.

Hey there –

I'm getting caught up on what all was covered Friday and what is still needed to be covered. Given the amount of material, I'm thinking we need an additional meeting prior to the 1/11/24. Thoughts on the proposed date/time:

- **Friday, 12/1 – 11:00 a.m. - 5:00 p.m., CPT (10:00 a.m. – 4:00 p.m., MT/9:00 a.m. – 3:00 p.m., PT)**

We can view it as a 2-day meeting - so start with the 11/28 agenda and roll forward that Friday with the remainder items? 29th and 30th are unavailable due to MGHGTF, MSWG, MORWG, and MRATF meetings.

Thoughts? And if you're OOO until after Thanksgiving, I hope that you both have a lovely Thanksgiving with the ones you love (and some you maybe only like a little or maybe not like at all....). ☺

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Thursday, October 5, 2023 9:30 AM
To: Eaton,Sara L (BPA) - PTMA-5
Cc: Jim Gonzalez; Kristen Darden; Mantifel,Russell (BPA) - BT-3
Subject: RE: **External Email** RE: [EXTERNAL] RE: Follow Up- Aggregated Hydro
Attachments: Attachment A 4.2.6 Resource Aggregation Combined Comments 10 05 23.docx

Hi Sara,

Here is a version where the BPA comments are (hopefully) addressed. My intention is to post a version of this without comments – but wanted to make sure you saw this.

Thanks for the thought and consideration in these comments, please let me know if we have left anything unaddressed.

Kelli Schermerhorn
Lead Analyst, Market Design West
Staff Secretary, M+ Resource Adequacy Task Force
(b) (6)

From: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Sent: Wednesday, October 4, 2023 6:28 PM
To: Kelli Schermerhorn <kschermerhorn@spp.org>
Cc: Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: RE: **External Email** RE: [EXTERNAL] RE: Follow Up- Aggregated Hydro

Great – thanks so much Kelli!
And definitely let us know if any of the comments need clarification!

Best,
Sara

From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Wednesday, October 4, 2023 4:20 PM
To: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Cc: Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>; Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>
Subject: Re: **External Email** RE: [EXTERNAL] RE: Follow Up- Aggregated Hydro

We have a short meeting tomorrow morning to discuss plan for posting, thank you!

> On Oct 4, 2023, at 16:58, Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov> wrote:

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Hi All,

We were looking at the posted materials for 10/10 and for section 4.2.6, and didn't see any of the BPA comments included.
I think that's probably okay – but in anticipation of the meeting next week, I'm curious if SPP has any initial thoughts or responses to the comments we included?

Thanks,
Sara

From: Eaton,Sara L (BPA) - PTMA-5
Sent: Tuesday, October 3, 2023 12:12 PM
To: Kelli Schermerhorn <kschermerhorn@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>
Subject: RE: [EXTERNAL] RE: Follow Up- Aggregated Hydro

Hi All,

BPA is generally comfortable with the draft language, but have a few comments/areas that would be helpful to clarify from our perspective.
Given our experience in CAISO, it's possible that some of these specific items may be addressed in the protocols, but felt it was worth highlighting them here.

Thanks,
Sara Eaton

From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Monday, October 2, 2023 7:26 AM
To: Spires, Jeff <jeff.spires@powerex.com>; Cornelius, Adam <accornelius@snopud.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>; (b)(6)
Subject: [EXTERNAL] RE: Follow Up- Aggregated Hydro

Team,

Good morning! We are working to finalize materials for the upcoming MDWG meeting – I am following up on this language. Please let me know if you have feedback or comments by noon tomorrow 10/3 if possible, so we can meet the posting deadline!

Thanks!

Kelli Schermerhorn
Lead Analyst, Market Design West
Staff Secretary, M+ Resource Adequacy Task Force

From: Kelli Schermerhorn
Sent: Tuesday, September 19, 2023 5:04 PM
To: Spires, Jeff <jeff.spires@powerex.com>; Cornelius, Adam <accornelius@snopud.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov; Eaton, Sara <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; 'Siewert,Christopher W (BPA) - PGS-5' <cwsiewert@bpa.gov>; (b)(6)
Subject: RE: Follow Up- Aggregated Hydro

Hello,

Please see attached for consideration. Note that in this proposal, we looked at what we felt was the need – which is to allow aggregation of resources other than hydro, provided the criteria are met. We want to allow this need but also balance this need with the requirement of a correct network model, so we do not create reliability or congestion issues.

Please let me know when you might want to discuss this proposal, noting that SPP's goal is to include it on 10/10 MDWG Agenda.

Thanks,

Kelli Schermerhorn
Lead Analyst, Market Design West
Staff Secretary, M+ Resource Adequacy Task Force
(b)(6)

From: Kelli Schermerhorn
Sent: Friday, September 15, 2023 7:59 AM
To: Spires, Jeff <jeff.spires@powerex.com>; Cornelius, Adam <accornelius@snopud.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov; Eaton, Sara <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>; (b)(6)
Subject: RE: Follow Up- Aggregated Hydro

That's our plan, Jeff & team!

Thanks,

Kelli Schermerhorn
Lead Analyst, Market Design West
Staff Secretary, M+ Resource Adequacy Task Force

29330858

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, September 15, 2023 7:57 AM
To: Kelli Schermerhorn <kschermerhorn@spp.org>; Cornelius, Adam <accornelius@snopud.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov; Eaton, Sara <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>;
(b)(6)
Subject: **External Email** RE: Follow Up- Aggregated Hydro

CAUTION: This email originated from outside of the SPP network. Do not click links or open attachments unless you recognize or can verify the sender, or were expecting an email from the sender. The original sender of this email is Jeff.Spires@powerex.com

Hi Kelli

Thanks for the update and we look forward to a new draft of the language. As I noted on the last call, we think it is important to work through the language with this smaller group first, prior to sharing a revised draft with the broader group. We think this will be more productive and allow us to work with you to ensure the language works before having it be reviewed by a larger group.

Jeff

Jeff Spires | Director, Power | Powerex Corp. | Cell (b)(6)

From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Wednesday, September 13, 2023 11:22 AM
To: Cornelius, Adam <accornelius@snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov; Eaton, Sara <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>;
(b)(6)
Subject: Follow Up- Aggregated Hydro

⚠ **Caution: External Email**

Hi Team!

I am going to cancel this meeting. We have visited internally on a broader aggregation concept that will be unveiled in the 10/4 MDWG – but will be previewed will you all first. I will share this once it is ready.

Thank you for the feedback that allows us to have these conversations!

Kelli Schermerhorn
Lead Analyst, Market Design West
Staff Secretary, M+ Resource Adequacy Task Force
(b) (6)

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Attachment A – Section 4.2.6

4.2.6 Resource Aggregation

Market Participants may register a Resource representing multiple assets of the same fuel type that inject Energy into, or reduce the withdrawal of Energy from, one or more points of the transmission grid within the Markets+ footprint that meet the following:

1. Are electrically similar, anda the aggregation does not have a material impact on M+ market operations as determined by the Market Operator; and
2. Are located or pseudo-tied into the same Markets+ Balancing Authority Area; and
3. Share common operational control.

This aggregation is expected to be a long-term selection made by the Market Participant at resource registration and is intended to reflect resources that are operationally linked on a long-term basis. The aggregation may be at the plant or unit level. Physical and operational Resource characteristics, real-time telemetry and other information for each asset in a resource aggregation must be provided to the Market Operator. ~~Resources that select this Resource type at Resource Rregistration may be temporarily disqualified from submitting aggregate Resource offers if the the Aaggregationl~~f after resource registration, the Market Operator observes that the resource aggregation has or ~~could likely~~anticipates that the resource aggregation will have a material impact on ~~M+~~ market ~~operations as determined by the Market Operator;~~, then the Market Operator will work with Market Participant to remedy ~~Aggregation issue~~ throught the r~~R~~esource r~~R~~egistration process. The Market Operator recognizes that grouped hydro may not be able to separate hydro aggregations because of river management obligations, recognizing that power production is generally subordinate to other multi-purpose project usage directed by laws including statutes, treaties and operation agreements.

Comment [S1]: We assume, but must confirm that pumped hydro and storage hydro are classified as the same fuel type (GCL)

Comment [KS2]: Yes

Comment [KS3]: Elements to be defined in the M+ Protocol language

Comment [KS4]: Another comment to reflect the long-term nature

Comment [JG5]: This reads like filing discussion or protocol language.

Comment [S6]: Do we get to aggregate many hydro projects by having the aggregation being at the "plant level"? Need definition of plant to ensure we can aggregate multiple projects (with above definition of electrically similar).

Comment [EL(P57]: If we are aggregating hydro plants, will the real-time telemetry for each asset be the plant output (aka our high side meters) or will there still be a requirement for telemetry on each unit?

Comment [JG8]: POI-level telemetry is fine if individual resources is not available.

Comment [JG9]: This will be outlined in detail in the Markets+ Protocols

Comment [KS10]: MO needs to retain this ability for reliability but see edits

Comment [JG11]: This will need to be outlined in the Markets+ Protocols. I was going to add some tariff language that described how we would disallow a resource aggregation if they were terrible at communicating which pieces are going to respond, but I think that is included here.

In my mind the Protocols describe:
1) The method of determining as part of initial registration
2) Some sort of performance check that allows us to disallow the aggregation if their poor performance is causing material impact on M+.

From: Johnson, Ray <crjohnson@cityoftacoma.org>
Sent: Monday, September 18, 2023 7:14 AM
To: Holman, Mark; Suzanne Cooper (sbcoooper@bpa.gov); Mantifel,Russell (BPA) - PGL-5; Shawn Smith; Zyskowski, Jason; GFina@SNOPUD.com
Cc: Applegate, Rick; Kochheiser,Todd W (BPA) - TOI-DITT-2; Eaton,Sara L (BPA) - PTMA-5; 'Cornelius, Adam'; Spires, Jeff; Aitken, Meredith; Liechty, Joy
Subject: [EXTERNAL] RE: Storage Hydro Participation In Markets+

Mark,

We would like to participate. Please Include:

- Rick Applegate rapplegate@cityoftacoma.org
- Joy Liechty jliechty2@cityoftacoma.org
- Me

Thanks,

Ray

Ray Johnson | Tacoma Power
Deputy General Manager, Power Management
mobile (b)(6)

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Thursday, September 14, 2023 9:41 AM
To: Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Russ Mantifel (rxmantifel@bpa.gov) <rxmantifel@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Shawn Smith <Shawn.Smith@chelanpud.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Todd Kocheiser (twkochheiser@bpa.gov) <twkochheiser@bpa.gov>; Sara Eaton <sleaton@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: Storage Hydro Participation In Markets+

Good morning,

From our discussions with SPP's senior management on this topic, we have concluded that the nature of storage hydro participation in Markets+ should be set forth in the tariff. Based on those discussions, I am reaching out to you to arrange a call to kick-off a group discussion on identifying and drafting the necessary Markets+ tariff elements to facilitate storage hydro participation in Markets+. While work on some of these elements is already underway (e.g., hydro aggregation), it has become clear to us that there are several other elements that will need to be incorporated into the tariff to make Markets+ workable for storage hydro. These topics include:

- Hydro aggregation
- Hydro reference price (Default Energy Bid) for market power mitigation
- Hydro data sharing (a confined list of what data will be shared)
- Hydro operator autonomy over dispatch of individual facilities

- Hydro operator autonomy over reservoir and river management (water management)
- Hydro participant autonomy over offer quantity and offer price (while still being subject to must-offer obligations and related financial charges and to offer price mitigation)

Given the fundamental nature of these issues and their broad applicability to participating storage hydro resources, it seems critical that tariff provisions do not result in a gap in expectations of how storage hydro will participate. We are generally not seeking to carve out new approaches, but rather seeking to adopt standards that are consistent with storage hydro operations, and where possible "port over" the hydro components from the Western EIM and WRAP (Hydro DEB, voluntary nature of participation, data sharing items, etc.).

SPP has encouraged us to work with other hydro stakeholders and "use the governance process" to achieve the tariff language necessary from the outset of Markets+.

The first call is to make sure senior leaders at each of your organizations are aware of the issue and support the direction and elements to be covered in the tariff.

Please 'reply all' with a list of people to attend, and we'll set up a doodle poll for time slots.

Best regards,

Mark Holman
Managing Director | Powerex Corp.
1300 - 666 Burrard Street | Vancouver, BC | V6C 2X8
Direct (b)(6) | Fax 604.891.5045 | Cell (b)(6)

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From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, November 9, 2023 4:45 PM
To: Cornelius, Adam
Cc: Mantifel,Russell (BPA) - MTM-3; Kelli Schermerhorn
Subject: [EXTERNAL] Re: **External Email** Comments on Attachments B & C

Hey Adam,

Thanks for letting us know. Monday is great.

Enjoy your long weekend!

Kristen Darden
Real-Time Markets
Southwest Power Pool
(b) (6)

On Nov 9, 2023, at 5:09 PM, Cornelius, Adam <accornelius@snopud.com> wrote:

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Kristen and Russ,

We're still reviewing the latest drafts of Attachments B & C and tomorrow is a holiday for us. We do expect to have some comments and suggested edits – would Monday be ok?

Thanks,
Adam

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From: Meyers,Andrew P (BPA) - MTM-3
Sent: Tuesday, June 25, 2024 9:21 AM
To: Carrie Simpson; Mantifel,Russell (BPA) - MTM-3
Cc: Jim Gonzalez
Subject: RE: [EXTERNAL] edam vs. m+ market design differences
Attachments: Description of Tasks of Further Analysis (Final).pdf

Hi Carrie,

There are two items that we are asking E3 to examine that deal with market design differences.

1. We asked E3 to look at the value/difference associated with WRAP a participation
2. We asked E3 to look the GHG programs and try to understand the impact of the market rules.

I am attaching the slide deck which has the descriptions of all the analysis we requested.

Andy

Andy Meyers
apmeyers@bpa.gov
(w) 503-230-3014 | (c) (b)(6)
Bonneville Power Administration
Market Initiatives – Policy Lead
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

From: Carrie Simpson <csimpson@spp.org>
Sent: Tuesday, June 25, 2024 9:14 AM
To: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Cc: Jim Gonzalez <jgonzalez@spp.org>
Subject: [EXTERNAL] edam vs. m+ market design differences

Hi Russ/Andy,

In your additional sensitivities with E3, is BPA incorporating design differences between Markets+ and EDAM? I know that doing so can be tricky, but the more I've learned about how CAISO models/manages transmission within EIM/EDAM, I am convinced there is quite a bit more available to entities in the Markets+ approach. I actually wondered if studies are overestimating the amount of transfer capability allowed in EIM/EDAM . . .

Thoughts?

Let me know if you want to chat.

Carrie L. Simpson (she/her/hers) | Senior Director, Seams & Western Services | csimpson@spp.org | (b)
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool

29330958

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, February 22, 2024 8:04 AM
To: Laura A Olson
Cc: Mantifel,Russell (BPA) - MTM-3; Detmer, Nick
Subject: [EXTERNAL] Welcome to the MDWG!

Good morning Laura –

The MPEC approved your nomination to fill the vacant Public Power voting seat on the Markets+ Design Working Group (MDWG) during their 2/20/24 meeting. I want to say thank you in advance for joining us! A few housekeeping items:

1. If you have not already, please register for the upcoming MDWG meetings: link to MDWG page. All things MDWG are also located at that link.
2. The 3/12 MDWG meeting has been cancelled. Our next meeting is Tuesday, 4/9/24.
3. If you are unable to attend a meeting, please designate a proxy to act on your behalf, via email to myself and the chairs.
4. You have been added to the **Markets+ Market Design Working Group Members Only** email distribution list. You are also able to use the email list, if you would like to send something to MDWG rostered members only.

Please do not hesitate to reach out to me if you have any questions, comments, or concerns. My cell phone number is below. I try to always be responsive. Text is sometimes the best option so that my phone does not flag a call as spam. ☺

Thank you again and have a wonderful day!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, September 28, 2023 11:25 AM
To: Applegate, Rick
Cc: Mantifel,Russell (BPA) - PGL-5; Jared Greenwalt
Subject: [EXTERNAL] RE: Comments of Tacoma Power for 9/28 MDWG Deadline
Attachments: Tacoma comments re Market Monitoring.docx

Thank you for submitting comments, Rick. I've brought in Jared Greenwalt with the MMU so they may start to review the comments.

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Applegate, Rick <rapplegate@cityoftacoma.org>
Sent: Thursday, September 28, 2023 12:47 PM
To: Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** Comments of Tacoma Power for 9/28 MDWG Deadline

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Hi Kristen,

I am new to the process of commenting in SPP stakeholder processes, so I apologize if I am going about this the wrong way. Attached, please find Tacoma Power comments on the proposed tariff language for Market Power Mitigation and Market Monitoring currently before the MDWG. I believe that they are due today. If I should provide this through some other means, please let me know.

Thank you and best regards,

Rick

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Comments of Tacoma Power (9.28.2023)

Tacoma Power submits these comments to SPP and the MDWG for consideration. They reflect general concerns with respect to the Market Power Mitigation Plan and the Market Monitoring Plan, Attachments B and C. We also have a specific change to request with respect to Section 4.4 of Attachment C.

Tacoma Power operates a set of hydroelectric resources. Together with power purchased from third parties, these resources meet the energy needs of our customers and maintain our system reliability. In general, these resources have storage capability so can be fairly characterized as flexible, but energy limited. However, it is important to point out that each resource has a complex, unique, and situational set of operational limitations that go beyond a simple lack of ability to maintain sustained energy output over an extended period. For Tacoma Power to effectively participate in Markets+, sufficient tools within the market will need to exist for us to manage our hydroelectric resources within these constraints.

Tacoma Power recognizes that SPP has a successful track record for incorporating hydroelectric resources into its RTO, we nonetheless observe that our circumstance is distinguishable. First, under Markets+ we will continue to function as a balancing authority; this reliability function will not be transferred to SPP as is done with the eastern RTO. Second, we will be relying exclusively on hydroelectric resources for fulfillment of our reliability obligations, so unlike hydroelectric operators in the RTO, we cannot rely on other resources should the Markets+ design present operational problems.

One of the areas of the Markets+ tariff where we have invested considerable time and effort to address a potential issue for our hydroelectric resources is in the area of defining a limited must offer obligation for both the day-ahead and real-time markets as part of the MRATF. Limited must-offer requirements enable our hydro operators to submit resource offers that are hydrologically feasible within hydrological operating constraints. It is impossible to see how we would be able to submit credible offers for the full capacity of these resources, as is apparently required in the real-time market of SPP's eastern RTO.

It has been our expectation that when the stakeholder group adopts a limited must-offer framework in the MRATF that it would be reflected in the Markets+ draft tariff where relevant, including in provisions for Market Power Mitigation and Market Monitoring. We believe that this expectation is consistent with the MPEC resolution to generally adopt the tariff structure of the eastern RTO, provided modifications for necessary accommodations occur for circumstances in the west.

Unfortunately, we believe that we have observed a specific instance where the draft tariff language neither reflects the boilerplate language of the eastern RTO nor represents a circumstance in the west that requires accommodation. Section 4.4 (e) provides an example of behavior that may constitute market manipulation "(e) offering the output of … a Resource in a manner which raises market prices by withholding available supply from the market." As we have described above, we believe that it is important for hydroelectric to have the operational certainty provided by the limited must offer framework, and not be subject to unlimited or undefined expectations of making resource offers into the market. Accordingly, we request that SPP remove subsection (e) of section 4.4 from Attachment C, and that SPP provide a redline version of the draft Markets+ tariff that shows any other proposed differences between it and the eastern RTO tariff.

Tacoma Power fully accepts the need for market power mitigation in situations where market power exists. We support mitigation of resource offers as a means of accomplishing this objective. Our concern in this arena is limited to mitigation extending beyond resource offers that could result in an operation that would violate a hydroelectric resource constraint whether in the market interval when the mitigation occurs, or later. We look forward to working with SPP and the MMU as part of the MDWG to develop a pricing mechanism that is specifically designed for offer mitigation of storage hydro resources, as well as setting appropriate expectations for data that may be available for monitoring purposes.

From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Thursday, November 16, 2023 8:51 AM
To: Kelli Schermerhorn
Cc: Kristen Darden; Mantifel,Russell (BPA) - MTM-3; Fina, Joe; Carrie Simpson
Subject: [EXTERNAL] RE: [External Sender] RE: Comments on Attachments B & C

No problem

From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Thursday, November 16, 2023 8:46 AM
To: Cornelius, Adam <ACCornelius@Snopud.com>
Cc: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Fina, Joe <GFina@SNOPUD.com>; Carrie Simpson <csimpson@spp.org>
Subject: RE: [External Sender] RE: Comments on Attachments B & C

Adam – any issues if I share your comments with SRP? They will be posted later, but I wanted to share in advance...

From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Thursday, November 16, 2023 10:12 AM
To: Kelli Schermerhorn <kschermerhorn@spp.org>
Cc: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Carrie Simpson <csimpson@spp.org>
Subject: **External Email** Re: [External Sender] RE: Comments on Attachments B & C

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Hi Kelli,

The best time would be after 3pm PST, but if that's too late, I can step out of Seams WG between 10am-12pm PST.

Sent from my iPhone

> On Nov 16, 2023, at 7:22 AM, Kelli Schermerhorn <kschermerhorn@spp.org> wrote:
>
> Adam - do you have a few mins today to hop on a call with Staff & MMU to address some of the comments?
>
> Thanks!!
>
> ---
>
> **From:** Cornelius, Adam <ACCornelius@Snopud.com>
> **Sent:** Wednesday, November 15, 2023 5:33 PM
> **To:** Kristen Darden <kdarden@spp.org>

Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Kelli Schermerhorn <kschermerhorn@spp.org>; Fina, Giuseppe (Joe) <gfina@snopud.com>
Subject: **External Email** RE: [External Sender] RE: Comments on Attachments B & C

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Hi Kristen,

Please see Snohomish's comments on Attachments B & C. Again, sorry for the delay.
We are continuing to talk with our fellow hydro owners, so it is possible that more may come from those discussions, but wanted to get this out to you ahead of Friday as some of our comments are broader than hydro-specific issues.

-Adam

From: Cornelius, Adam
Sent: Tuesday, November 14, 2023 8:13 AM
To: Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Kelli Schermerhorn <kschermerhorn@spp.org>
Subject: Re: [External Sender] RE: Comments on Attachments B & C

Thanks Kristen. Yes, I do still expect to have some comments. Sorry for the delay - I have been trying to coordinate with others in the hydro subgroup.

Sent from my iPhone

> On Nov 14, 2023, at 7:21 AM, Kristen Darden <kdarden@spp.org> wrote:
>
> CAUTION: THIS EMAIL IS FROM AN EXTERNAL SENDER.
> Do not click on links or open attachments if the sender is unknown or the email is suspect.
>
> ---
>
> Hey Adam –
>
> Wanted to follow-up here and see if you had any comments you'd like to provide?
>
> Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary |
> kdarden@spp.org | O-501.482.2395 | C (b)(6) [redacted]
> 201 Worthen Drive * Little Rock, AR 72223-4936
> **Southwest Power Pool** | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
> *Working together to responsibly and economically keep the lights on today and in the future.*
>
> ---
>
> **From:** Cornelius, Adam <ACCornelius@Snopud.com>
> **Sent:** Thursday, November 9, 2023 5:09 PM

To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** Comments on Attachments B & C

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Kristen and Russ,

We're still reviewing the latest drafts of Attachments B & C and tomorrow is a holiday for us. We do expect to have some comments and suggested edits – would Monday be ok?

Thanks,
Adam

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From: Kristen Darden <kdarden@spp.org>
Sent: Monday, March 4, 2024 7:50 AM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] Upcoming SPP M+ Communication Change: SPP Request Management System (RMS)
Attachments: Markets+ RMS_2024.pdf

Good morning MDWG stakeholders and participants –

Starting April 1st, 2024, M+ Stakeholders are requested to submit questions, comments, and revision requests to SPP via RMS instead of via email. I've attached an overview put together by our Stakeholder Relations team. This does not mean you are not allowed/encouraged to email us individually. Our individual email is always available for you to reach out to as well. This will ensure proper routing of feedback that will be coming through with the development of the Markets+ Protocols and post SPP Markets+ Tariff FERC filing, along with other communications.

Please review and reach out to the Stakeholder Relations team, if you have any questions or follow-up.

- **Stakeholder Relations Email**: StakeholderRelations@spp.org

Thank you!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

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You are currently subscribed to mdwg as: rxmantifel@bpa.gov.

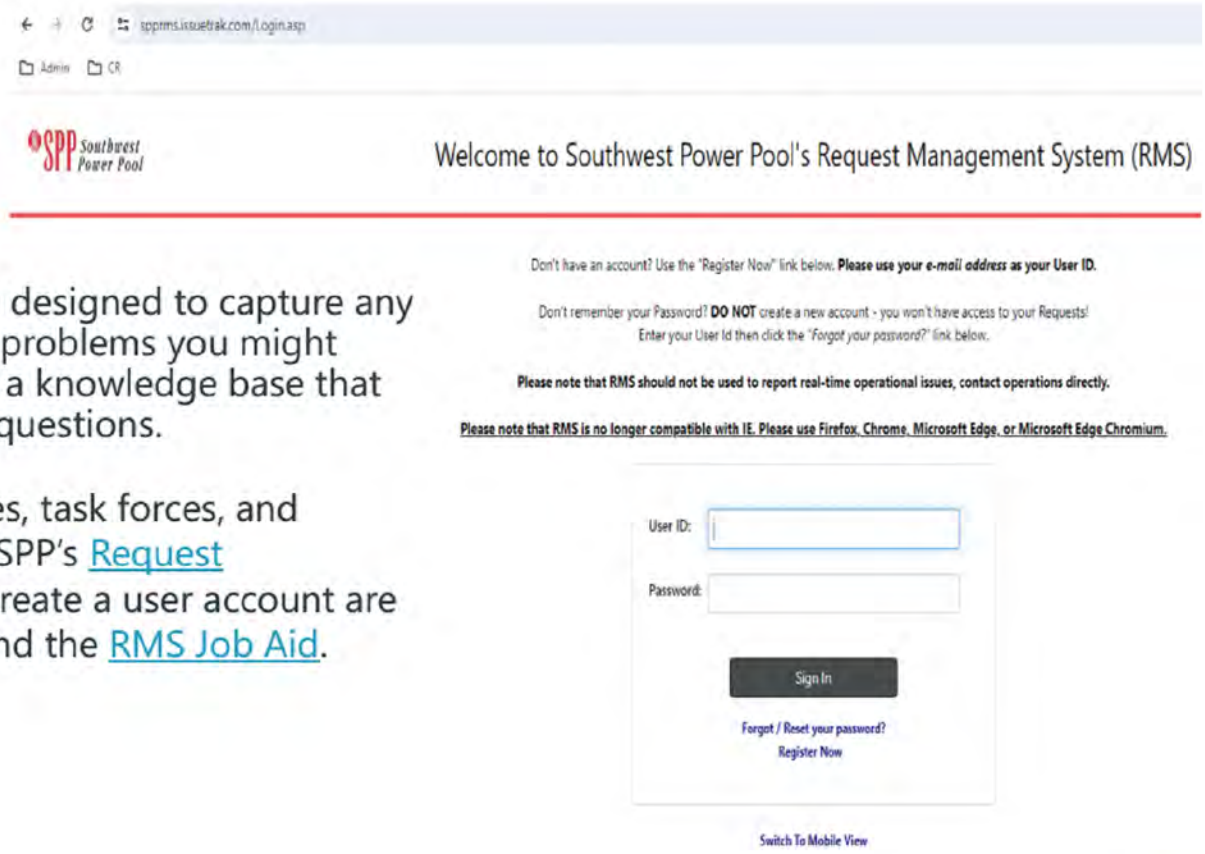
To unsubscribe click here:
http://10.23.18.35/u?id=234284.4924ede4b09f20571c7af2310687f4ba&n=T&l=mdwg&o=126408

(It may be necessary to cut and paste the above URL if the line is broken)

or send a blank email to leave-126408-234284.4924ede4b09f20571c7af2310687f4ba@spplist.spp.org


MARKETS+
REQUEST MANAGEMENT SYSTEM (RMS) USE FOR MARKETS+
SPP
Working together to responsibly and economically keep the lights on today and in the future.
SouthwestPowerPool
SPPorg
southwest-power-pool
Southwest Power Pool
WESTERN ENERGY SERVICES

SPP REQUEST MANAGEMENT SYSTEM (RMS)



The RMS is a web-based application designed to capture any requests, questions, suggestions, or problems you might have. The RMS system also contains a knowledge base that can be utilized for frequently asked questions.

Feedback solicited within committees, task forces, and working groups will be received via SPP's Request Management System. The steps to create a user account are noted here along with helpful tips and the RMS Job Aid.

WHY RMS?

- External RMS users are verified by your organization's designated resource to ensure company-specific information is not shared publicly
- RMS allows for secure file attachments, preventing the need to send sensitive information via email
- RMS is routinely monitored during business hours
- SPP resources triage and task requests appropriately for you; **no more guessing at whom to email** for your request or waiting for them to return to the office and reply
  - Resources have built-in backups to cover when they will be out of the office, reducing delays
- RMS allows for multiple resources to be tasked internally at SPP for efficiency, collaboration, and consistent responses.
- **Starting April 1, 2024, M+ Stakeholders are requested to submit questions, comments, and revision requests to SPP via RMS instead of via email.**

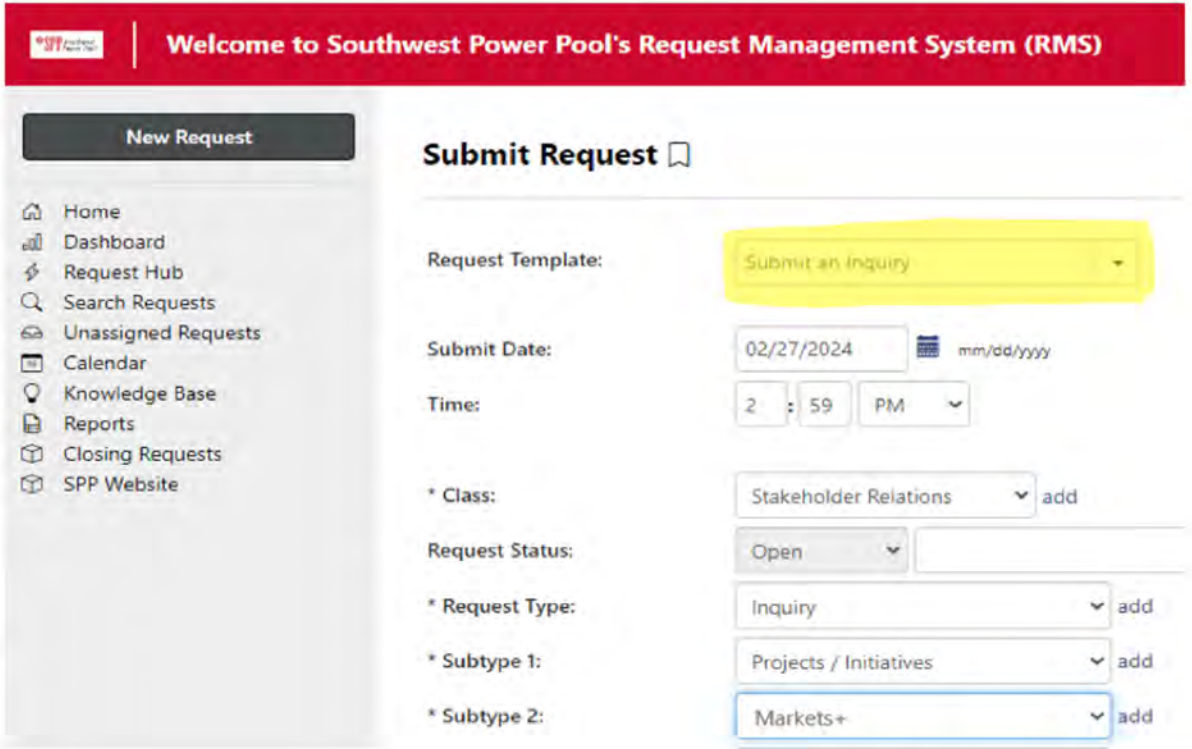
29331019

REQUEST OPTIONS: GENERAL INQUIRY

When submitting general inquiries for the Markets+ Program, the following option is available to you.

- **Request Template:** Submit an Inquiry
- **Subtype 1:** Projects / Initiatives
- **Subtype 2:** Markets+

You will then fill in the Subject and Description before submitting the request. You may also choose to attach files.



DRAFT PROTOCOL COMMENTS

Comments: What are they and what do I do with them?

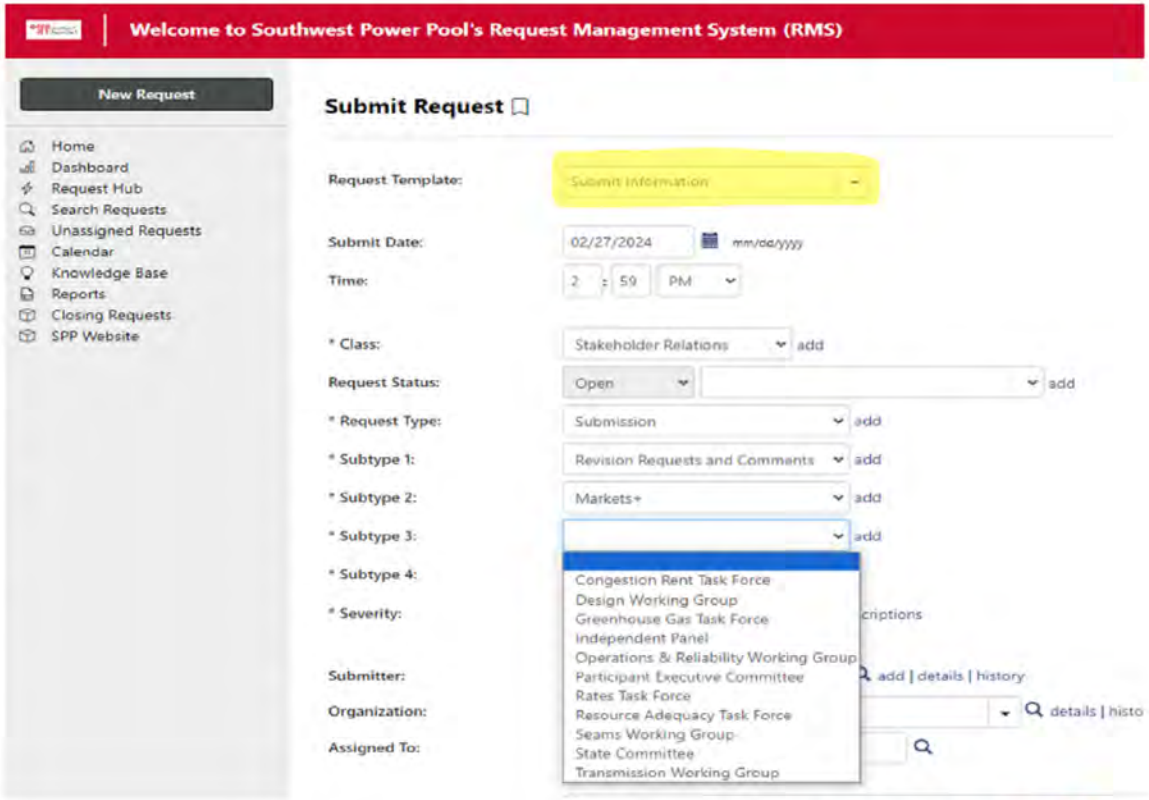
- During a meeting, members will review/discuss proposed Protocol language
- Comments on the proposed language may be submitted up to 1 week following the meeting
- Comments will be consolidated with proposed language for additional group review

REQUEST OPTIONS: DRAFT PROTOCOL COMMENTS

You may also submit Draft Protocol Requests or Comments using the following:

- **Request Template:** Submit Information
- **Subtype 1:** Revision Requests and Comments
- **Subtype 2:** Markets+
- **Subtype 3:** Select applicable WG/TF
- **Subtype 4:** Request or Comment

You will then fill in the Subject and Description before submitting the request. You may also choose to attach files.



QUESTIONS?

Please contact SPP Stakeholder Relations if you need assistance accessing the RMS system.
StakeholderRelations@spp.org



From: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>
Sent: Thursday, July 11, 2024 8:07 PM
To: Spires, Jeff; Kent.Walter@aps.com; Mantifel,Russell (BPA) - MTM-3; Hakala, Tuuli; Josh Robertson
Subject: [EXTERNAL] RE: Markets+ Issue Alerts
Attachments: Issue Alert 1 Governance DRAFT+jz.docx

Jeff,
I have a few small suggestions for us to discuss/consider in the attached.
This issue alert is concise and well-formed and closes strong.

Thank you!

Jessica Zahnow
State & Regional Policy – Regional Markets
Phone: (b)(6)

PUGET SOUND ENERGY

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Wednesday, July 10, 2024 4:15 PM
To: Kent.Walter@aps.com; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Josh Robertson <Josh.Robertson@srpnet.com>
Subject: Markets+ Issue Alerts

CAUTION - EXTERNAL EMAIL
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Hi all,

This email is a follow up to the discussion on Monday's Markets+ funding party executive call in which there was agreement to develop a series of "Issue Alerts" that could be shared publicly by Markets+ funding entities over the coming weeks, as a means to provide more proactive messaging about Markets+. I am reaching out to this smaller group based on the entities that expressed interest in helping with development of the documents. If you are aware of others that would like to be involved, please let me know and we can include them going forward.

The high level topics that were identified during the call are below. It was also discussed that ideally all 6 documents would be published by the end of August which means timelines are tight and we will need a cadence of nearly weekly to achieve that.

Topics:

1. Governance
    - Markets+ vs Pathways
2. Reliability
    - Markets+ (WRAP, Must Offer) vs EDAM Resource Sufficiency
3. Price Formation

    - Fast Start, Scarcity, Market Power Mitigation
4. Seams Issues
    - Determining Priority to Flow
    - Congestion Revenue Allocation
    - Seams Agreements
5. GHG Attribution
6. Operator Actions & Modelling

In an effort to help move forward quickly, we put together an initial draft of the first paper on governance for your review and feedback (see attached). Ideally the first paper would be finalized by next Wednesday so that it could make Clearing Up on Friday. This will likely require that we have a near-final version by midday Monday so we can share it with the larger group of funding entities for review and approvals by Wednesday. If possible, it would be really helpful to get your feedback and edits by the end of this week or early Monday.

A call would be useful to discuss the first paper and to determine how to proceed on future topics. I've list a few potential times in the short-term, please let me know if any of these are workable. If we can't find a time on such short notice, an alternative is to share feedback on the first paper by email and look to find time for a call later next week.

- Thursday 12 pm – 2 pm
- Friday 9 – 10 am or 12 pm – 1 pm
- Monday 8 am – 12 pm

Regards,
Jeff

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Markets+ Phase 1 Funding Parties To Publish "Issue Alerts" To Inform Public Dialogue On Day-Ahead Market Choices

In recent months, there has been considerable industry dialogue focused on the market seams that will exist between EDAM and Markets+, as well as the EDAM / EIM governance enhancements being pursued through the Pathways Initiative. While both of these topics are important, the Markets+ Phase 1 Funding Parties believe this dialogue is incomplete without also considering the numerous governance and market design differences between Markets+ and EDAM/EIM that are driving continued support for Markets+. To address this information gap, the Markets+ Phase 1 Funding Parties will be issuing a series of "Issue Alerts" to identify and explain the key governance and market design elements that differ between Markets+ and EDAM/EIM and why these differences have important consequences for customers in terms of reliability, economic value, and environmental objectives.

A new Issue Alert will be issued by the Markets+ Phase 1 Funding Parties every few weeks covering the following topics:

1. **Governance**
    - Markets+ framework vs. Pathways proposals
2. **Reliability**
    - Markets+ (WRAP participation required, Must Offer) vs. EDAM (Resource Sufficiency test)
3. **Price Formation**
    - Fast Start, Scarcity, Market Power Mitigation
4. **Seams Issues**
    - Determining Priority to Flow
    - Congestion Revenue Allocation
    - Seams Agreements
5. **GHG Attribution**
6. **Operator Actions & Modeling**

Field Code Changed

Issue Alert 1:
The Markets+ Governance Framework Is The Best Option For A Multi-State Day-Ahead Organized Market

A key consideration in the selection of a day-ahead market for the Markets+ Phase 1 Funding Parties ("the Funding Parties") is the governance of the market. "Governance" determines how all key decisions are made, including the market design, tariff, business practices and operating protocols, both at go-live and over the years to come. Governance also influences the actions of the market operator day-to-day, and the perspective through which the performance of the market will be evaluated. Consequently, governance has a major influence on market outcomes, including the determination of market prices, how costs are allocated, the extent and allocation of reliability risks during stressed conditions, and the success of environmental programs.

Each of these outcomes will affect far more than the volume of electricity transacted in an energy imbalance market, such as the Western EIM. This is because the transition in the west to a full day-ahead and real-time organized market (whether EDAM/EIM or Markets+) is expected to replace much of the bilateral day-ahead and real-time transactions that occur today, while also impacting the prices of forward transactions and the utilization of the western transmission grid. A recent analysis performed by Powerex using WECC annual interchange data and average annual wholesale market prices estimates that the total inter-BAA trade in the west is valued at approximately $25 billion or more.



Sound governance is a foundational requirement for a day-ahead organized market to provide the benefits of increased efficiency and enhanced reliability while also ensuring equitable outcomes for all participants and all western sub-regions. The key features of sound governance were described in Bonneville Power Administration's Staff Recommendation on Day-Ahead Market Participation:

> *The market has a durable, effective, and independent governance structure which provides fair representation to all market participants and stakeholders. Decision making and stakeholder engagement occurs in a transparent and inclusive manner.*

The Funding Parties believe the Markets+ Governance framework fully achieves this objective, as highlighted by the following key elements:

1. A fully independent board / panel with authority over all aspects of the market.

Field Code Changed

2. A transparent market development process led by stakeholders, and with stakeholder voting rights to determine whether each specific market design proposal moves forward.
3. A fully independent and impartial market operator.

Importantly, the Markets+ governance framework is already up and running, and it provided the decision-making framework for developing the Markets+ initial market design and proposed tariff.

The Founding Parties are supportive of the efforts by the Pathways Initiative to propose incremental improvements to the governance of EDAM and EIM. Even if fully successful, however, the Founding Parties believes that the Pathways Initiative will not result in a governance framework comparable to Markets+, for several reasons:

1. The starting point for EDAM and EIM is a market design and tariff developed under the California ISO's existing governance framework, and the Pathways Initiative does not propose to replace this initial market design with a stakeholder-driven design.
2. EDAM and EIM were built as additive to an institutional framework with entrenched dependencies on, and obligations to, California state agencies, which the Pathways Initiative does not propose to unwind.
3. The Pathways Initiative does not propose to replace the California ISO's market development process, through which its staff—rather than stakeholders with formal voting rights—determines how the market design will evolve over time.
4. The Pathways Initiative does not ensure that the California ISO, as a market operator, will balance the interests of all stakeholders, avoiding undue influence from California interests.
5. Even if significant and numerous uncertainties are overcome, independence could not reasonably be achieved in a reasonable timeframe.

Comment [ZJL1]: Open to better wording here, but would like to capture the idea that there are less obvious entrenched interests that Pathways will not unwind.

Comment [ZJL2]: Just to keep in mind. "Step 2" appears to be considering a new stakeholder process with potential voting rights.

The stakeholder-driven Markets+ development process has resulted in a market design that is substantially different from the EDAM/EIM design in several key respects. Future Issue Alerts will focus on each of these market design differences, which have the potential to greatly impact real-world economic, reliability and/or environmental outcomes for customers. Production cost models—including the models used in the multiple studies published comparing Markets+ and EDAM/EIM—are generally unable to reflect and quantify these important market design differences, however. This is because these models necessarily make many simplifying assumptions that make it appear as if the two markets are largely identical in these aspects when in fact they are not. These simplifying assumptions include:

- Both markets are always fully resource adequate / resource sufficient;
- Limited, if any, scarcity events occur in either market (and no scarcity pricing);
- Limited differences, if any, in how prices are calculated in each market;
- Differences in opportunity costs associated with unique market risks are not considered;
- Congestion rent allocated similarly in both markets;
- Environmental programs, including GHG attribution, are similar in both markets; and
- There are no operator actions such as load biasing or changing import / export limits in either market.

Comment [ZJL3]: Again, there may be a better way to say this, but reflecting the idea that participants will behave differently in either market based on the unique risks such as flow priorities, load biasing, likelihood of having your clean taken, etc..

The governance framework of a day-ahead market is a paramount consideration, as it has the potential to affect $25 billion or more in annual trade. The Founding Parties believe that Markets+ provides the

Field Code Changed

governance framework required to deliver an equitable distribution of the economic benefits and costs associated with this trade, while protecting reliability and supporting environmental programs. Governance will be a key driver of real-world market outcomes, and the Markets+ decision-making and governance framework provides the necessary confidence that all customers and all sub-regions will be treated fairly at market inception and as the market and western grid continues to evolve.

Field Code Changed

From: Kochheiser,Todd W (BPA) - TOI-DITT-2
Sent: Friday, September 8, 2023 12:15 PM
To: Kelli Schermerhorn; Cornelius, Adam; Spires, Jeff; Applegate, Rick; Eaton,Sara L (BPA) - PTMA-5; Jim Gonzalez; Kristen Darden
Cc: Mantifel,Russell (BPA) - PGL-5; Siewert,Christopher W (BPA) - PGS-5
Subject: RE: [External Sender] Re: [EXTERNAL] RE: Grouped Hydro Language

All:

Per our conversation this morning, most of the details regarding the aggregation model used in WEIM by BPA and PWX were covered in our respective implementation agreements (filed with FERC). The BPA aggregated resource model was explained on page 4 of our transmittal letter for the WEIM participation agreements. There is a reference to the a BPM section (4.2.3.2) and a tariff section (3.1.2) in footnote 14.

https://www.westerneim.com/Documents/Oct1-2021-EIMParticipationAgreements-BonnevillePowerAdministration-ER22-25.pdf

As for Powerex's model, that was explained in their Canadian EIM Entity Agreement, which included much more explanation and justification for the unique modeling necessary for Powerex's participation in the WEIM (see pages 9-12 of the transmittal letter linked below).

https://www.westerneim.com/Documents/Nov3_2017_PowerexCanadianEIMEntityAgreement_ER18-251.pdf

I have not found anything specific in our tariff yet, but I have an email out to our general counsel.

Great call today and hopefully this is helpful.

Best,
Todd

-----Original Appointment-----
From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Friday, September 1, 2023 7:29 AM
To: Kelli Schermerhorn; Cornelius, Adam; Spires, Jeff; Applegate, Rick; Kochheiser,Todd W (BPA) - TOI-DITT-2; Eaton,Sara L (BPA) - PTMA-5; Jim Gonzalez; Kristen Darden
Cc: Mantifel,Russell (BPA) - PGL-5; Siewert,Christopher W (BPA) - PGS-5
Subject: [External Sender] Re: [EXTERNAL] RE: Grouped Hydro Language
When: Friday, September 8, 2023 10:00 AM-11:00 AM (UTC-06:00) Central Time (US & Canada).
Where:

From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Wednesday, August 30, 2023 2:36 PM
To: Spires, Jeff <jeff.spires@powerex.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov; Kelli Schermerhorn <kschermerhorn@spp.org>; Eaton, Sara <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>;

Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: **External Email** RE: [External Sender] Re: [EXTERNAL] RE: Grouped Hydro Language

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Those times work for me as well.

Thanks,
Adam

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Wednesday, August 30, 2023 11:30 AM
To: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Kelli Schermerhorn <kschermerhorn@spp.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Cornelius, Adam <ACCornelius@Snopud.com>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: [External Sender] Re: [EXTERNAL] RE: Grouped Hydro Language

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Hi all, those times work for me too.

Jeff

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From: Applegate, Rick <rapplegate@cityoftacoma.org>
Sent: Wednesday, August 30, 2023 10:59:54 AM
To: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Kelli Schermerhorn <kschermerhorn@spp.org>; Spires, Jeff <Jeff.Spires@powerex.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Cornelius, Adam <accornelius@snopud.com>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: Re: [EXTERNAL] RE: Grouped Hydro Language

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BPAs times work for me.

From: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>
Sent: Wednesday, August 30, 2023 8:28:49 AM
To: Kelli Schermerhorn <kschermerhorn@spp.org>; Applegate, Rick <rapplegate@cityoftacoma.org>; Spires, Jeff <jeff.spires@powerex.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Cornelius, Adam <accornelius@snopud.com>;

Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: RE: [EXTERNAL] RE: Grouped Hydro Language

Kelli,

These times would probably work for BPA (Pacific):

9/7: 8-10
9/7: 2-3
9/8: 8-10
9/8: 2-4

Thanks you,
Todd

From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Wednesday, August 30, 2023 6:38 AM
To: Applegate, Rick <rapplegate@cityoftacoma.org>; Spires, Jeff <jeff.spires@powerex.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Cornelius, Adam <accornelius@snopud.com>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: [EXTERNAL] RE: Grouped Hydro Language

I will be helping facilitate the settlements workshop in Denver at the end of this week, then traveling back to MT; how is the 7th / 8th looking for this group? Thank you!

From: Applegate, Rick <rapplegate@cityoftacoma.org>
Sent: Tuesday, August 29, 2023 5:05 PM
To: Spires, Jeff <jeff.spires@powerex.com>; Kelli Schermerhorn <kschermerhorn@spp.org>; Eaton, Sara <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Cornelius, Adam <accornelius@snopud.com>; twkochheiser@bpa.gov; 'Siewert,Christopher W (BPA) - PGS-5' <cwsiewert@bpa.gov>
Subject: **External Email** RE: Grouped Hydro Language

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I am available on Friday as well, but unfortunately have other SPP meeting conflicts with the other times that work for Jeff...To the extent you need to meet during those times, please feel free. My only issue with respect to the language is the requirement of a hydraulic linkage in bullet point number one. If that bullet point is removed in its entirety, I am happy.

Thank you,

Rick

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Tuesday, August 29, 2023 1:27 PM
To: Kelli Schermerhorn <kschermerhorn@spp.org>; Eaton, Sara <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>

Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Cornelius, Adam <accornelius@snopud.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov; 'Siewert,Christopher W (BPA) - PGS-5' <cwsiewert@bpa.gov>
Subject: Re: Grouped Hydro Language

Hi Kelli

Thank you for following up. I think a call would be valuable before moving this forward. Speaking for Powerex, we were comfortable with the language that BPA proposed and we have some challenges with the edits from SPP. I think it would be useful to arrange a discussion to hear your concerns about BPA's proposed language and to work through workable alternatives.

I am on the road this week so my availability is limited to Thursday 130-3 pm PT or Friday 12 pm - 3 pm PT. Anytime Tuesday Sept 5th would work for me as well.

Jeff

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From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Tuesday, August 29, 2023 1:06 PM
To: Eaton, Sara <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Cornelius, Adam <accornelius@snopud.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov <twkochheiser@bpa.gov>; 'Siewert,Christopher W (BPA) - PGS-5' <cwsiewert@bpa.gov>
Subject: RE: Grouped Hydro Language

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Hello team,

Please let me know if it would be helpful to discuss this language once you have had a moment to digest. Thanks much!

Kelli Schermerhorn
Lead Analyst, Market Design West
Staff Secretary, M+ Resource Adequacy Task Force

From: Kelli Schermerhorn
Sent: Monday, August 28, 2023 8:31 AM
To: Eaton, Sara <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Spires, Jeff <jeff.spires@powerex.com>; Cornelius, Adam <accornelius@snopud.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: RE: Grouped Hydro Language

Good morning!

We reviewed the comments provided last week, please see the attached response. It would be nice to discuss this as a smaller group before discussing in MDWG; we were thinking given the importance of this issue, we may wish to move approval to the 9/20 meeting to allow more time for consideration.

Please let me know if you all would like to touch base on these revisions.

Thank you for your engagement and thought on these issues.

Kelli Schermerhorn
Lead Analyst, Market Design West
Staff Secretary, M+ Resource Adequacy Task Force

From: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Sent: Friday, August 25, 2023 12:32 PM
To: Jim Gonzalez <jgonzalez@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Spires, Jeff <jeff.spires@powerex.com>; Kelli Schermerhorn <kschermerhorn@spp.org>; Cornelius, Adam <accornelius@snopud.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: **External Email** Grouped Hydro Language

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Hi Jim,

Thanks for your patience on the hydro language.
BPA has worked with Powerex, Snohomish and Tacoma to come to some shared language that would work for all of us and how we participate with our resource aggregations.
We think this language would be a good starting point for discussions in the upcoming MDWG.

Please let us know if you have any questions on the draft language.
Best,

Sara Eaton (she/her)
Senior Markets Policy Analyst | Market Policy and Pricing | PTMP
Bonneville Power Administration
C: (b)(6) | W: 503-230-5222 | sleaton@bpa.gov

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From: Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>
Sent: Thursday, March 7, 2024 11:49 AM
To: Carrie Simpson; Chris Nolen; Gilhen, Jonathan; Miller,Todd E (BPA) - LP-7; Gorlin, David; Fina, Giuseppe (Joe); Mastrogiacomo, Tim T; Karilee S Ramaley; Hickey, Lisa; Christine Dillard; 'Alaine Ginocchio'; Jason.Kuzma@pse.com; Engelby, Ben; Charles.VonReis@chelanpud.org; 'Irene Scruggs'; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7; elee; Davis,Thomas E (BPA) - LT-7; Kallstrom, Jeffrey; Starnes, Heather; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew; Tabak, Gabe; Rubin, David; mmorais@nationalgridrenewables.com; Gray, Spencer; Simmerson, William; tcreekpaum@ppcpdx.org
Cc: Rachel Kane; Emon Mahony; Joseph Ghormley; Kristen Darden; Trolese, Laura; Cole, Brian; Egge, Eric M; Mantifel,Russell (BPA) - MTM-3; Holman, Mark
Subject: RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

Carrie:

I responded a couple of days ago on behalf of Black Hills and indicated we agreed with SPP that the provisions should remain out of the tariff for the same reasons Chris had noted. Just letting you know in case you were not on that particular chain.

Cathy

Cathy Sabers I Black Hills Energy I Associate General Counsel I Desk: 605-721-1914 I Cell: (b)(6)

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Sent: Thursday, March 7, 2024 11:40 AM
To: Chris Nolen <cnolen@spp.org>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Gorlin, David <Gorlin@WAPA.GOV>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; Hickey, Lisa <lisa@interwest.org>; Christine Dillard <cdillard@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>; Simmerson, William

<William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Cole, Brian <brian.cole@aps.com>; Egge, Eric M <Eric.M.Egge@blackhillscorp.com>; Mantifel, Russ <rxmantifel@bpa.gov>; Holman, Mark <Mark.Holman@powerex.com>
Subject: RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

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All,
I am reaching out to close the loop on this issue because SPP staff needs to follow up with MPEC (promptly) on the WAPA-DSW provisions and needs a recommendation from this sub-group.

I see comments from BPA and Powerex below indicating a desire to keep the provisions in the tariff to create flexibility for WAPA to join later, but (in my opinion) I haven't seen a solution that addresses SPP legal's concerns. Please correct me if I am mistaken.

Returning to Joe's original question (paraphrasing): is there a legal reason why the language should be put back in?

What do we need to do to officially reach a recommendation from this group?

Thanks!

Carrie L. Simpson (she/her/hers) | Senior Director, Seams & Western Services | csimpson@spp.org | (b) (6)
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool

---

From: Chris Nolen <cnolen@spp.org>
Sent: Wednesday, March 6, 2024 2:03 PM
To: Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Gorlin, David <Gorlin@WAPA.GOV>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; Hickey, Lisa <lisa@interwest.org>; Christine Dillard <cdillard@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>; Joseph Ghormley <jghormley@spp.org>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Cole, Brian <brian.cole@aps.com>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>
Subject: RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

Want to reiterate...if WAPA-DSW determines that they will participant in M+ at some point in the future, we would make a simple 205 filing amending the then-existing tariff.

The risk to keeping the unnecessary provision outweighs the slight extra effort required to make a future filing adding the WAPA special provision to the tariff if WAPA determines that they are going to participate in the future.

cmn

Christopher M. Nolen
Managing Attorney
Southwest Power Pool, Inc.
cnolen@spp.org
(b) (6)

From: Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>
Sent: Wednesday, March 6, 2024 1:10 PM
To: Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Chris Nolen <cnolen@spp.org>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Gorlin, David <Gorlin@WAPA.GOV>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; Hickey, Lisa <lisa@interwest.org>; Christine Dillard <cdillard@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>; Joseph Ghormley <jghormley@spp.org>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Cole, Brian <brian.cole@aps.com>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>
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All – apologies for responding so late on this. To the greatest extent possible, I think we should preserve the ability for WAPA to join at the outset with their required language included in the tariff, but I appreciate SPP legal's (and Black Hills) perspective on this and do not want to jeopardize approval of the tariff.

I am offering some questions and alternative suggestions here and hoping to get feedback on these.

Is WAPA prepared to file comments/supporting evidence even if WAPA has not made a decision whether to join Markets+ and explain why the provisions are just and reasonable?

To SPP legal's concern below, I note that CAISO, in its EDAM filing, appears to have indicated that certain aspects of its DAME and EDAM proposals were severable (and FERC rejected the EDAM access charge without prejudice). This is not my area of expertise, but could the Markets+ Tariff be filed with the WAPA provision severable from the rest of the tariff if found not to be just and reasonable. If WAPA is prepared to file supporting comments and evidence, I wonder

whether this is a viable path particularly as substantially similar language is in IM and WEIS without jeopardizing the whole of the tariff.

If we retain the WAPA language, should the introductory language to Section 6.4 be revised to make it a bit more expressly conditional on WAPA joining/being a Market Participant?

Again, this is not my area of expertise, but hoping there might be a middle ground that works for all. If not, and on balance there is a material risk that FERC may not approve the Markets+ tariff, I would support the legal working group endorsing their removal before filing.

Jonathan

Jonathan Gilhen
Lead Counsel, Power & Renewable Products | Powerex Corp.
Email Jonathan.Gilhen@powerex.com

From: Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>
Sent: Monday, March 4, 2024 11:51 AM
To: Chris Nolen <cnolen@spp.org>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Gorlin, David <Gorlin@WAPA.GOV>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Hickey, Lisa <lisa@interwest.org>; Christine Dillard <cdillard@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>; Joseph Ghormley <jghormley@spp.org>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Cole, Brian <brian.cole@aps.com>; Egge, Eric M <Eric.M.Egge@blackhillscorp.com>
Subject: RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

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Black Hills agrees with the sentiments expressed by SPP legal staff. If there are no participating WAPA entities any special provisions for those entities should be removed.

Cathy

Cathy Sabers | Black Hills Energy | Associate General Counsel | Desk: 605-721-1914 | Cell: (b)(6) [redacted]

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From: Chris Nolen <cnolen@spp.org>
Sent: Monday, March 4, 2024 11:58 AM
To: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Gorlin, David <Gorlin@WAPA.GOV>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; 'Gilhen, Jonathan' <Jonathan.Gilhen@powerex.com>; Hickey, Lisa <lisa@interwest.org>; Christine Dillard <cdillard@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>; Joseph Ghormley <jghormley@spp.org>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Cole, Brian <brian.cole@aps.com>
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SPP legal has a *strong* preference for removing the unnecessary section.

Retaining the unneeded language is, *at best*, a net neutral and more likely puts the broader tariff in jeopardy.

Post-*NRG*, there are *very* limited circumstances wherein FERC can order the change of tariff language presented in a 205 filing (which is what the M+ tariff filing will be). They give a thumbs up or a thumbs down on the full tariff, all provisions included.

SPP legal cannot represent in its 205 filing that 6.4 is necessary in order for the tariff to be just and reasonable.

Moreover, SPP does not justify the special provisions that apply to the FPMAs; the FPMAs must carry their own water in the docket via comments/testimony in support of their special provisions.

If, in the future, WAPA-DSW determines that it intends to participate in M+, SPP would make a standard 205 filing at FERC of the language then-approved through the M+ stakeholder process.

Thank you!

cmn

Christopher M. Nolen
Managing Attorney
Southwest Power Pool, Inc.
cnolen@spp.org
(b)(6)

From: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>
Sent: Monday, March 4, 2024 12:25 PM
To: Gorlin, David <Gorlin@WAPA.GOV>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; 'Gilhen, Jonathan' <Jonathan.Gilhen@powerex.com>; Hickey, Lisa <lisa@interwest.org>; Christine Dillard <cdillard@spp.org>; Chris Nolen <cnolen@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>; Joseph Ghormley <jghormley@spp.org>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Cole, Brian <brian.cole@aps.com>
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Joe,

Thank you for quickly getting this issue in front of the M+ Legal Group. While I understand SPP staff's reaction to the letter from WAPA, Bonneville would like to have section 6.4 remain in the tariff that is filed. Our rationale for retaining the section is that while WAPA is not planning on participating now, it will be at least three years before the market starts operations and the tariff becomes effective. That is a long-time period in which WAPA could change their mind about participation in a day ahead market. At this point we do not know who will ultimately commit to join the market. Participants and SPP staff worked hard to pull the whole tariff together and section 6.4 has been approved through the MPEC and the IMIP. From a FERC filing perspective it will be much easier to get section 6.4 approved as a small part of the overall tariff, as opposed to filing later, if WAPA decides to participate, as a single issue filing, in which FERC would only be focused on the special provisions needed to allow WAPA's participation. It would be much easier to leave 6.4 in the tariff for now, and if it is clear that WAPA will not participate in 2027 or soon thereafter, remove the section in a filling just before start-up when other adjustments will be needed to account for actual participation.

I realize that based on the IMIP tariff approval, the Legal Group will need to make a recommendation to retain the provision, MPEC will need to approve, and IMIP will need to have a meeting to decide the one issue, prior to the March 25th SPP Board meeting. Booneville asks that, based on the logic describe above, the Legal group recommend retaining section 6.4 and see where the process takes us from there.

-Todd

From: Gorlin, David <Gorlin@WAPA.GOV>
Sent: Monday, March 4, 2024 10:03 AM
To: Fina, Joe <GFina@SNOPUD.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; 'Gilhen, Jonathan' <Jonathan.Gilhen@powerex.com>; lisa@interwest.org;

'Christine Dillard' <cdillard@spp.org>; 'Chris Nolen' <cnolen@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; 'Engelby, Ben' <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; 'Irene Scruggs' <iscruggs@ppcpdx.org>; 'Sabers, Cathy' <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; 'Starnes, Heather' <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; 'Binette, Matthew' <binette@wrightlaw.com>; 'Tabak, Gabe' <gtabak@cleanpower.org>; 'Rubin, David' <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; 'Gray, Spencer' <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: 'Rachel Kane' <rkane@spp.org>; 'Emon Mahony' <emahony@spp.org>; 'Joseph Ghormley' <jghormley@spp.org>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Laura Trolese <ltrolese@teainc.org>; Brian Cole (APS) <Brian.Cole@aps.com>
Subject: RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

Joe – Thanks for your note and for initiating this discussion.

If I had to categorize WAPA's position at present, it would be neutral. While we understood SPPs preference to remove them given that no WAPA region currently plans to join Markets+, I should note we also saw some benefits to retaining the provisions. They have been vetted and approved by this group and the MPEC, are nearly identical to provisions established in the Integrated Marketplace and WEIS, and they would establish the foundation by which WAPA could become a market participant in the future without the need for additional tariff revisions.

At the very least, we appreciate SPP's and all stakeholders' engagement throughout this process, and if the WAPA provisions in 6.4 are removed from the tariff, we would expect them to form the basis of any discussions if a WAPA region determined to join Markets+ in the future.

Thanks!

Dave

David Gorlin
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From: Fina, Joe <GFina@SNOPUD.com>
Sent: Friday, March 1, 2024 4:28 PM
To: Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; 'Gilhen, Jonathan' <Jonathan.Gilhen@powerex.com>; lisa@interwest.org; 'Christine Dillard' <cdillard@spp.org>; 'Chris Nolen' <cnolen@spp.org>; Gorlin, David <Gorlin@WAPA.GOV>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; 'Engelby, Ben' <bengelby@azgt.coop>;

Charles.VonReis@chelanpud.org; 'Todd Miller' <temiller@bpa.gov>; 'Irene Scruggs' <iscruggs@ppcpdx.org>; 'Sabers, Cathy' <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; elee <elee@cityoftacoma.org>; 'Davis,Thomas E (BPA) - LT-7' <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; 'Starnes, Heather' <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; 'Binette, Matthew' <binette@wrightlaw.com>; 'Tabak, Gabe' <gtabak@cleanpower.org>; 'Rubin, David' <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; 'Gray, Spencer' <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: 'Rachel Kane' <rkane@spp.org>; 'Emon Mahony' <emahony@spp.org>; 'Joseph Ghormley' <jghormley@spp.org>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Laura Trolese <ltrolese@teainc.org>; Brian Cole (APS) <Brian.Cole@aps.com>
Subject: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

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Markets+ Legal Group,

During today's IMIP meeting, SPP announced that WAPA-DSW had provided notice to exit from its Phase 1 funding agreement. In light of that, SPP recommended that the WAPA-DSW related tariff language be removed. After some discussion, I and SPP Legal identified Article II ("Special Rules"), Section 6.4 as the only section that needed to be removed. The IMIP unanimously voted to approve the tariff without Article II, Section 6.4. However, the IMIP also created an action item for the legal group and then the MPEC to review the revised tariff as approved. SPP Legal was also asked to provide an explanation as to why the WAPA-DSW tariff language should be removed.

I think the questions for our group to answer to help the MPEC in their discussions are:

1. Whether there is a particular legal/practical reason why the language should be put back in; and
2. Assuming the MPEC does not recommend that the WAPA-DSW language be put back in and besides having to re-number Section 6, whether we need to remove or revise any other tariff language besides Article II, Section 6.4.

Please provide your feedback by **COB Wednesday.** I'll also ask SPP Legal and Dave Gorlin from WAPA to provide any additional context. Dave, in particular the group would benefit if WAPA has a preference to include or not include the language, or whether WAPA is neutral.

Here is a link to the tariff: https://spp.org/Documents/70999/Markets%20Plus%20Tariff_Public_012624.docx

Thanks,

Joe

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From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, October 3, 2023 12:31 PM
To: Mantifel,Russell (BPA) - BT-3
Cc: Detmer, Nick
Subject: RE: **External Email** RE: [EXTERNAL] October MDWG Agendas
Attachments: Proposed Mitigated Offer for Hydroelectric Resources.docx

Hey Russ and Nick –

I just received MMU's proposed redlines for Hydro mitigation. I've attached for your review. This will be posted in the 10/10 MDWG materials this afternoon. Our internal Markets+ tariff team is also working to bring our own separate proposed redlines for hydro mitigation, following suit to some of CAISO's DEB design and language to accommodate feedback we have received from the stakeholders.

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, October 2, 2023 5:27 PM
To: Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: Re: **External Email** RE: [EXTERNAL] October MDWG Agendas

Thank you, Russ. I know Carrie and Chris Nolen spoke with PPC last week when they were in LR regarding hydro mitigation. We are working internally to bring a proposal for everyone's review 10/10. I'll send to you both as soon as it's ready.

Kristen Darden
Real-Time Markets
Southwest Power Pool
(b) (6)

On Oct 2, 2023, at 3:13 PM, Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov> wrote:

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Be very cautious of any links or attachments unless you recognize this sender - rxmantifel@bpa.gov and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Thanks Kristin. The hydro group is working on some proposals for the market monitoring sections, I will try to get an update on that. It will either help or hurt the ability to get them comfortable with a vote on 10/10

From: Kristen Darden <kdarden@spp.org>
Sent: Friday, September 29, 2023 11:02 AM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: [EXTERNAL] October MDWG Agendas

Good morning –

I've attached a few agendas for your review:

1. 10/10 will be posted Tuesday, 10/3
2. 10/11 will be posted Wednesday, 10/4
3. 10/26 will be posted Thursday, 10/19

It's going to be a heavy month! Let me know if you have any questions or modifications to the agendas. The 10/26 agenda is still draft. It's joint with the MTWG and Ken said they need about 2 hours.

Happy Friday!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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SPP Southwest Power Pool

MARKET MONITORING UNIT

PROPOSED MITIGATED OFFER FOR HYDROELECTRIC RESOURCES

By Market Monitoring Unit

Published on October 3, 2023

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1 INTRODUCTION

Under the Markets+ initiative there are a series of entities that are interested in joining Markets+ that have substantial hydroelectric capacity. There has been a proposal that, with respect to the hydroelectric functionality, large portions of tariffs from other jurisdictions can simply be ported over to the SPP tariff either wholly unchanged, or substantively unchanged. Most of the entities in the Pacific Northwest have experience with the CAISO and their hydroelectric Default Energy Bid, and this implementation has proven popular in conversation. This document examines the CAISO's implementation of the Hydroelectric Default Energy Bid, and outlines some concerns that the MMU has with the CAISO's implementation and why SPP should deviate from a strict following of the CAISO approach. Thereafter, the SPP MMU proposes modifications to that implementation and provides background and tariff language to support those changes.

2 MITIGATED OFFER CALCULATIONS

2.1 CAISO HYDROELECTRIC REFERENCE LEVEL CALCULATIONS

Although the CAISO has long allowed opportunity cost to play a role in the formation of the reference levels used for mitigation, it was only quite recently in 2019 that the hydroelectric reference level was explicitly introduced. The calculation of the hydro DEB is the maximum of the following three components:

1. Long-Term/Geographic: representing the opportunity costs for the resource to sell output in the future, including in different bilateral markets.
2. Short-Term: opportunity costs created by short-term water use limitations.
3. Gas Floor: represents the cost of replacement energy in the real-time market if the resource exceeds its short-term limitations as measured by the average gas turbine heat rate multiplied by the gas price applicable to the relevant region.

The long-term and gas floor components include a 10 percent adder to account for variations between published price indices and prices of actual individual bilateral transactions. The short-term component includes a 40 percent adder to prevent a resource from being too frequently dispatched on a particular day that is intended to avoid dispatching a resource for more than four hours per day. CAISO calculates the hydro DEB on a resource level once per day, and separately for the day-ahead and real-time markets.

In addition to the calculation requirements there are a number of further requirements that allow an entity to qualify to use the hydro DEB. These include:

1. Deliverability demonstration; entity must have firm transmission rights to a requested electric pricing hub. This must also include:
    a. Historical records validating these firm transmission rights on a monthly basis
    b. Unencumbered transmission capacity available on a monthly basis, allowing for incremental sales to the electric hub
    c. Where the transmission rights fall short of the hydro resource capacity the CAISO can apply proportional weighting to the calculation
    d. In the absence of supporting transmission rights the CAISO defaults to the bilateral electric pricing hub specified elsewhere in the tariff or Business Practice Manual (BPM)
    e. Should the entity lose access to its transmission rights for any reason it has a positive obligation to inform the CAISO within five business days
    f. The CAISO can audit the Scheduling Coordinator (SC) to validate its assertions and request extra data
    g. In the event of any disagreement the CAISO can revert any resource to the default electric pricing hub

There is also detail in the tariff about how to calculate the storage horizon, as well as extensive detail in the Market Instruments BPM on the exact implementation detail in section D.8. As a convention the CAISO uses the LMP option as the standard default to the hydroelectric DEB.

2.2 SPP EQUIVALENT TARIFF

SPP has most of its mitigation detail in its OATT tariff, Attachment AF, as well as in its market protocols, in particular Section 8 of the Integrated Marketplace Protocols (and Appendix G in particular) and also Section 7 and Appendix D of the WEIS Protocols. These protocols include detail on various circumstances in which opportunity cost might be considered in constructing mitigated offers. However there is no explicit hydroelectric mitigated offer construct.

2.3 DIFFERENCES BETWEEN SPP AND CAISO

There are numerous differences between these entities, and it is not the purpose of this document to exhaustively document them, however there are some that pertain to mitigation that are worth cataloguing.

1. Generally, the CAISO uses direct mitigation similar to PJM, rather than Conduct and Impact mitigation common to SPP, MISO, NYISO and ISO-NE. Direct mitigation is regarded as somewhat more severe than conduct and impact, as mitigation is likely to be triggered more often.

2. The CAISO tariff does not prescribe a method for routinely screening for uneconomic production in the same manner that SPP and MISO screen for this condition. This is important as the screen at SPP is based on the mitigated offers. Higher mitigated offers will trip the screens and may lead to an unacceptably high level of false positives.

3. Reference levels at the CAISO are agreed upon by DMM during resource registration and thereafter calculated by the CAISO. At SPP, the market participant proposes a mitigated offer methodology that is reviewed and agreed upon by the MMU before participation in the market. Mitigated offers are calculated by the participants and provided to the market software by the participant, and are subject to validation by the MMU.

2.4 MMU CONCERNS WITH THE CAISO IMPLEMENTATION

Firstly, the MMU would like to state explicitly that it has no qualms with the general methodology of the CAISO DEB. Hydro facilities are energy limited and the use of opportunity cost for these sorts of facilities is well established. As a general rule the SPP MMU believes that an opportunity-based mitigated offer calculation is appropriate. The MMU has concerns with certain aspects of the CAISO implementation. The purpose of mitigated offers is to mimic the bid pattern under competitive conditions. The main concern is simply that the MMU is concerned that a mitigated offer calculated with this methodology will not mimic competitive conditions in all seasons. There are two main issues that the MMU has with this formulation;

1. Hydroelectric plants have less flexibility currently than they did forty years ago due to the rise of environmentalism in society and the increasing demands made on water resources. The idea that hydroelectric plants are flexible is not an historical anachronism, but the level of flexibility is much lower than one might think. The MMU recognizes that modeling a cascading hydroelectric system is complicated, however it seems as if the hydroelectric flexibility is over-emphasized given the constraints that modern hydroelectric systems have to navigate. Generally water facilities are sequentially optimized, not co-optimized, and the sequence is approximately as follows (with b and c being somewhat interchangeable);

   a. Flood control

   b. Environmental constraints (various fish species such as salmon or delta smelt)

c. Water provision to cities and farmers

d. Recreational uses (river rafting; maintaining water levels)

e. Electricity production

2. There are certain time periods of the year when this lack of flexibility is at its peak. This period is termed the spring melt/fish flush. Its timing depends on latitude and altitude. This time coincides with low loads as there is less heating and air-conditioning load in the spring, although thermal plants often perform pre-summer maintenance during this time as well. Generally hub pricing during this time period is depressed, transmission lines are often fully loaded, and hydroelectric generators have to either generate or spill. This does depend on storage levels generally and the largest dams can store, but many secondary facilities are quickly water saturated. In addition, higher water levels mean more efficient hydroelectric production due to higher head levels.

3. Implementation issues. The hydroelectric reference level is highly constrained. It is available, but only to those resources that can satisfy the conditions enumerated by the CAISO procedures.

Given these concerns, this approach, which calculates "the max of the max of the max", can be an unduly optimistic interpretation of competitive conditions and does not likely reflect the realities of hydro operation in all seasons.

2.5 MMU'S PREFERRED IMPLEMENTATION ADJUSTMENTS

Although the MMU believes that the CAISO approach is generally workable, it also believes that the CAISO implementation does not reasonably reflect opportunity costs under certain conditions. Therefore, the MMU cannot support such an approach without some changes. At the same time the MMU does not question the general approach of using opportunity costs and does not think that a wholesale study of this issue and a new stakeholder process will be worth the effort at this time.

The main change the MMU would like to see is an adjustment of the reference level calculation during the second quarter, defined as April 1st to June 30th for all hours of the day. During this period the mitigated offer calculation should revert to the day-ahead peak price at the locally defined and registered hub price. During this period of constrained operation the local hub is, most likely, the most appropriate measure of opportunity cost. In the event that a participant believes that this approximation is overly constraining, then that participant may approach the MMU with historical data and advocate for a more compressed period than the entire second

quarter. In this manner the second quarter is abbreviated so that it matches the spring melt more closely.

The MMU proposes to introduce to the SPP tariff two main changes that are similar to the CAISO's tariff specification:

1. A Seasonally-Adjusted Hydroelectric Offer Curve (SHOC). This mitigated offer approach is essentially the same as the CAISO's formulation with the exception of the second quarter, when the day-ahead peak price at the applicable electric pricing hub is used instead. The length of the second quarter by default is from April 1st to June 30th, however, with the consent of the MMU, and with appropriate evidence, this period may be shortened, so that it is effectively the spring melt period on a resource-specific basis.

2. A day-ahead peak price at the applicable electric pricing hub as the default method for hydroelectric resources without storage, as well as the only mitigated offer method for all hydroelectric resources during the second quarter.

3 PROPOSED TARIFF LANGUAGE

The language below is from the proposed Attachment B, section 3.4, as presented in the Markets+ Design Working Group background materials on September 20, 2023. This language is intended here as context for the proposed hydro language.

ATTACHMENT B
Market Power Mitigation Plan

3.4 Mitigation Measures for Energy Offer Curves

A Market Participant must submit Mitigated Energy Offer Curves daily in accordance with the mitigated offer development guidelines in the Markets+ Protocols.

1) For MCRs, for which a single configuration allows physical units to be swapped (e.g., Combustion Turbine 2 for Combustion Turbine 1), the costs used in the mitigated offer development for that configuration must be those of the least cost physical unit that is available and can be swapped in such configuration.

2) [The mitigated Energy Offer Curve may be updated up to the close of the Day-Ahead Market for use in the Day-Ahead Market.

i. For any period a Resource is not committed by the Day-Ahead Market, the mitigated Energy Offer Curve for that period may be updated until the RUC begins.

ii. For Resources committed by the Day-Ahead Market, the mitigated Energy Offer Curve submitted as of the close of the Day-Ahead Market will apply to the Day-Ahead Market on the day before the Operating Day and the RTBM on the Operating Day unless an exception is allowed in Section 3.4 (J) of this Attachment B;

iii. For all other Resources, the mitigated Energy Offer Curve submitted at the time the RUC begins will apply to the RUC on the day before the Operating Day, and the RUC processes and the RTBM on the Operating Day.

3) For the pricing Simultaneous Co-optimization Methodology, the composite Energy Offer Curve and mitigated composite Energy Offer Curve will be calculated and used by the Market Operator for FSRs in the Day-Ahead Market and RTBM.

The conduct threshold is a 10% increase above the mitigated Energy Offer Curve

B. The Market Operator applies mitigation measures by placing a cap on the Energy Offer Curve of 10% above the mitigated Energy Offer Curve if:

(1) The Resource's Energy Offer Curve exceeds the mitigated Energy Offer Curve by the conduct threshold; and

(2) The Resource has market power as determined in Sections 3.2(1) or 3.2(3); and

3) The Resource fails the Market Impact Test as described in Section 3.7. A Resource with a

C. For a Resource that has market power as determined in Section 3.2(2), the Market Operator applies mitigation measures by placing a cap on the Energy Offer Curve of 10% above the mitigated Energy Offer Curve.

D. The mitigated Energy Offer Curve must be the Resource's short-run marginal cost of producing energy as determined by the unit's heat rate or similar production efficiency ratio; fuel costs and the costs related to fuel usage, such as transportation and emissions costs ("total fuel related costs"); and Energy Offer Curve ("EOC") variable operations and maintenance costs ("VOM").

E. For Resources that are not ESRs, opportunity cost must be an estimate of Markets+ revenues net of short run marginal costs for the marginal forgone run time during the timeframe when the Resource experiences the run-time restrictions.

The forecasted Locational Marginal Prices are based on (i) the relationship between (a) the monthly average on-peak and off-peak system LMP and (b) the expected price of natural gas and (ii) hourly deviations between (a) the LMP at the Resource Settlement Location and (b) the system LMP, as determined by the Market Monitor. The formulas and instructions in the price forecast model are determined by the Market Monitor and published in the Markets+ Protocols as part of the Mitigated Offer Development Guidelines, updated, as needed, by the Market Monitor. Historic LMPs are considered for the three-year period immediately preceding the period of time in which the Resource is bound by the referenced restrictions. The forecasted costs to generate energy at the Resource's Settlement Location are subtracted from the forecasted Locational Marginal Prices, as specified in more detail in Appendix XYZ of the Markets+ Protocols. If the difference between the forecasted Locational Marginal Prices and forecasted costs to generate energy is negative, the resulting opportunity cost is zero. The Market Monitor will verify all Market Participants' opportunity cost calculations for consistency and accuracy. When the Market Monitor determines that the market price for any period was not competitive, it will adjust the LMP forecasting process used in the opportunity cost calculations to ensure that forecasted LMPs do not reflect non-competitive market conditions.

The following formula applies to all mitigated Energy Offer Curves unless specified otherwise in this Section 3.4 of this Attachment B:

Mitigated Energy Offer ($/MWh) = HeatRate (mmBtu/MWh) *
Performance Factor * Total Fuel Related Costs ($/mmBtu) + EOC VOM ($/MWh) + Opportunity Costs ($/MWh) + [Schedule 1-A3 Charge ($/MWh) + Schedule 1-A4 Charge ($/MWh)]

The run-time restrictions must be updated more frequently as fewer hours remain available. The Market Participant may include in the calculation of its mitigated Energy Offer Curve an amount reflecting the resource-specific opportunity costs expected to be incurred under the following circumstances:

(1) Externally imposed environmental run-hour restrictions as verified by the Market Monitor; or

(2) Physical equipment limitations on the number of starts or run-hours, as verified by the Market Monitor and determined by reference to the manufacturer's recommendation or bulletin, or a documented restriction imposed by the applicable insurance carrier; or

(3) Fuel supply or transportation limitations, for up to one year, resulting from an event of force majeure or other circumstances verified by the Market Monitor.

F. The Market Participant must submit heat rate curves, descriptions of how spot fuel prices and/or contract prices are used to calculate fuel costs, variable fuel transportation and handling costs, emissions costs, and VOM to the Market Monitor. All cost data and cost calculation descriptions are subject to the review and approval of the Market Monitor to ensure reasonableness and consistency across Market Participants. The submitted information must be sufficient for replication of the mitigated Energy Offer Curve and must include, among other data, the following information:

(1) For fuel costs, Market Participants must provide the Market Monitor with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants must submit VOM costs, calculated in adherence with the Appendix XYZ of the Markets+ Protocols, reflecting short-run marginal costs, exclusive of fixed costs.

Further details associated with the development, validation, and updating of these costs are included in Appendix XYZ of the Markets+ Protocols.

G. For Demand Response Resources utilizing Behind-The-Meter Generation, the mitigated Energy Offer Curve methodology must be developed in the same manner as a generating Resource as described above. For load reduction Demand Response Resources, the mitigated Energy Offer Curve methodology must include the quantifiable opportunity costs associated with the reduction, net of related offsetting increases in usage.

H. For Dispatchable Variable Energy Resources, the mitigated Energy Offer Curve methodology may include, but must not exceed, any calculation of quantifiable costs that vary by MWh output, including short-run incremental VOM. Mitigation does not apply to Non-Dispatchable Variable Energy Resources in the Real-Time Balancing Market.

I. For an ESR, the mitigated Energy Offer Curve methodology may include, but must not exceed, (i) charging cost and (ii) opportunity cost, both adjusted for round-trip efficiency. Charging cost is the cost at which the ESR charged, and opportunity cost is the average profit in the next hour forgone by charging or discharging in the current hour. The sum of the charging cost and opportunity cost is the average LMP that is expected for the next Operating Hour. This expected average LMP for the next Operating Hour is the unweighted average of the LMPs for the most recent forty-five (45) days comparing like Operating Hours. The mitigated Energy Offer Curve for MSRs must have at least two breakpoints: one for charging and another for discharging. More breakpoints may be added to the extent that other costs vary.

The following formula applies to mitigated Energy Offer Curves for ESRs:

Charging Mitigated Energy Offer ($/MWh) =

Performance Factor * Average LMP Expected for the Next Hour ($/mmBtu) * Round-Trip Efficiency - EOC VOM ($/MWh)

Discharging Mitigated Energy Offer ($/MWh) =

Performance Factor * Average LMP Expected for the Next Hour ($/mmBtu) / Round-Trip Efficiency + EOC VOM ($/MWh)

J. Intra-day changes to the mitigated Energy Offer Curve are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past their initial commitment period by the Day-Ahead Market or a RUC process, the Market Participant may submit an updated mitigated Energy Offer Curve that reflects the procurement of higher cost fuel; or

(2) A Resource must switch fuels due to unforeseen operating conditions; or

(3) The Resource is an ESR; or

(4) As approved by the Market Monitor during periods of high intraday fuel price volatility.

Intra-day changes to the mitigated Energy Offer Curve must follow the mitigated offer development guidelines in Appendix XYZ of the Markets+ Protocols and will be validated by the Market Monitor.

K. A Market Participant that has a Resource with short-run marginal costs greater than the Safety-net Energy Offer Cap may submit an Energy Offer Curve using the same guidelines for development of the Resource's Mitigated Energy Offer Curve established in Appendix XYZ of the Markets+ Protocols. The Energy Offer Curve above $1,000/MWh must be equal to the Mitigated Energy Offer Curve and may include an adder with a maximum of $100/MWh due to the uncertainty of expected costs. For purposes of LMP calculation, the Energy Offer Curve will be limited to a maximum of $2,000/MWh and must be verified by the Market Monitor prior to the start of the applicable market clearing process. If the Energy Offer Curve cannot be verified prior to the start of the applicable market clearing process, then the Resource may be eligible to receive make-whole payments for its actual costs after verification by the Market Monitor. The default value is $1,000/MWh for any offer above $1,000/MWh until the offer can be verified. If the verified Energy Offer Curve is greater than $2,000/MWh, the Energy Offer Curve will be capped at $2,000/MWh in the applicable market clearing process, and the Resource may be eligible for make-whole payments for actual costs exceeding $2,000/MWh. Market Participants must submit evidence of actual costs to the

Market Monitor. The Market Monitor must verify the actual costs for use in make-whole payments. In order to include the costs in the make-whole payments of the S120 Settlement Statement, the submission must occur within 75 calendar days after the Operating Day and the verification must be complete no later than noon on the business day prior to 105 calendar days after the Operating Day.

L. Cost data submitted for the development of mitigated offers, including opportunity cost data, are subject to the confidentiality provisions set forth in Section 10 of Attachment A of this Tariff.

M. For all hydroelectric Resources, the default method of calculating the mitigated Energy Offer Curve shall be the day-ahead peak price at the applicable electric pricing hub. Market Participants with hydroelectric Resources with meaningful storage, as defined in the Markets+ Protocols, may elect to use the Seasonal Hydroelectric Offer Curve Calculation (SHOCC) as defined in this Section 3.2.

(1) Market Participants eligible (and approved) to calculate their mitigated Energy Offer Curve using the day-ahead peak price at the applicable electric pricing hub will do so consistent with the Markets+ Protocols.

(2) Market Participants electing the Seasonal Hydroelectric Offer Curve Calculation will calculate that curve in the following manner, with the exception of the spring melt period, which, by default, is defined as the period from April 1st of every year to June 30th of every year, will apply for all hours of every day. The beginning and end of the spring melt period may be adjusted for each resource with the agreement of the MMU. For each Trading Day, the Market Participant will calculate the Seasonal Hydroelectric Offer Curve as the maximum of the (a) gas floor, (b) short-term component, and (c) long-term/geographic component, which are all calculated as specified below.

(3). The Market Participant will calculate the gas floor as the most recent average heat rate for a typical natural gas turbine generator, as defined in the Markets+ Protocols, multiplied by the natural gas price for the fuel region applicable to the location of the hydroelectric resource, multiplied by 1.1.

(4) The Market Participant will calculate the short-term component as 1.4 multiplied by the maximum of:

(a) the day-ahead peak price at the applicable electric pricing hub;

(b) the on-peak balance of the month on peak futures price for the current month at the applicable electric pricing hub; and

(c) the on-peak monthly index on peak futures price at the applicable electric pricing hub for one (1) month after the current month.

(5) The Market Participant will calculate the long-term/geographic component calculated based on multiple electric pricing hubs in addition to the default electric pricing hub consistent with Section 3.2 of this tariff. The Market Participant will calculate the long-term/geographic component as 1.1 multiplied by the maximum of:

(a) the day-ahead on-peak price at the applicable electric pricing hub(s);

(b) the on-peak balance of the month futures prices for the current month at the applicable electric pricing hub(s); and

(c) the on-peak monthly index futures price at the applicable electric pricing hub(s) for all future months up to the maximum storage horizon after the current month.

(6) As part of its request for a Seasonal Hydroelectric Offer Curve (SHOC), the Market Participant must submit to the MMU:

(a) Annually, for each month of the upcoming year and for each electric pricing hub requested that is not the default electric pricing hub, the Market Participant must (1) demonstrate that it holds firm transmission rights to enable delivery from the hydroelectric resource's default market region to the requested electric pricing hub or to a delivery point that is similarly priced location; or (2) provide documentation that supports a historical practice of acquiring monthly firm transmission rights to the requested electric pricing hub(s) or similarly priced location. Market Participants may demonstrate transmission rights to multiple locations and, based on the MMU's evaluation of such information, the Market Participant may include multiple electric pricing hubs, in addition to the default electric pricing hubs, in the long-term/geographic component of the SHOC for the affected resources. The Market Participant will attest

through its submission that it reasonably expects it will be able to use the demonstrated transmission rights to deliver incremental sales from the hydroelectric resource because the rights are not fully committed and that there is an actual opportunity to use these rights. If the Market Participant includes multiple electric pricing hubs in the long-term/geographic component, the SHOC calculation will use the maximum of the electric price indices published for each electric pricing hub as determined for each Trading Day. On Trading Days for which there are no relevant published electric price indices at an electric pricing hub, the Market Participant will use the most recently published index for the applicable electric pricing hub.

(b) For resources that the Market Participant demonstrates a quantity of firm transmission rights to a requested electric pricing hub or similarly priced location that is less than the hydro resource's capacity, the Market Participant will include the requested electric pricing hub up to the quantity demonstrated transmission rights, and apply a proportional weighting of the resource's transmission rights to calculate a weighted average of those bilateral electric pricing hub prices when calculating the value of the long-term/geographic component of the SHOC.

(c) In the absence of MMU approved supporting transmission rights information when calculating the SHOC, the Market Participant will revert to the default bilateral electric pricing hub specified in this Section 3.2

(d) If during the term of the annual period the Market Participant no longer has the firm annual transmission rights previously demonstrated, or can no longer continue a historical practice of acquiring monthly firm transmission rights, the Market Participant must inform the MMU within five (5) Business Days of no longer holding such firm transmission rights.

(e) The MMU may audit the Market Participant and request additional information in support of the Market Participant's assertions.

(f) If the MMU determines the Market Participant has submitted inaccurate information, the MMU will require the Market Participant alter the resource's default electric pricing hubs as specified in this Section 3.2.

(7) The maximum hydroelectric resource storage horizon submitted by the Market Participant must:

(a) Reflect the typical storage duration of a hydroelectric resource's reservoir, defined as the length of time between which the reservoir cycles from a maximum elevation to a new maximum elevation during a hydro cycle. The Market Participant will compute the reservoir's cycling time based on multiple years of reservoir elevation data.

(b) Be supported by (1) a written attestation by a representative who has the authority to bind the company stating that the value used by the Market Participant as the maximum storage horizon is consistent with the requirements specified in this Section 3.2 or (2) corroborating information submitted to the MMU, which may include several years of historic reservoir levels for the specific hydroelectric resource and regulatory filings related to the operations of the hydroelectric resource.

(8) Every resource will have a default electric pricing hub, and that default electric pricing hubs will be as specified in the Markets+ Protocols, which will also include a process for modifying or adding electric pricing hubs to the list of default electric pricing hubs.

From: Jim Gonzalez <jgonzalez@spp.org>
Sent: Tuesday, May 14, 2024 7:28 AM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] m+study work

Morning Russ,

I was talking to Carrie and she mentioned you were looking at some study work for markets in west and wanted to touch base. Most of my day is in mdwg today, but I can be pretty wide open the rest of the week.

Let me know when you've got some time.

jim

Jim Gonzalez | Technical Director, Market Policy & Operations | jgonzalez@spp.org | 501.482.2538 | Cell Phone (b)(6)
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Working together to responsibly and economically keep the lights on today and in the future.

29331127

From: Kristen Darden <kdarden@spp.org>
Sent: Friday, February 16, 2024 5:32 AM
To: Mantifel,Russell (BPA) - MTM-3; Detmer, Nick
Subject: RE: [EXTERNAL] RE: March MDWG Meeting

Great! Thank you both. And thank you for everything you do! I couldn't do it without both of you. I'll send an email out later today cancelling the meeting.

From: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Sent: Thursday, February 15, 2024 5:01 PM
To: Detmer, Nick <nick.detmer@xcelenergy.com>; Kristen Darden <kdarden@spp.org>
Subject: **External Email** RE: [EXTERNAL] RE: March MDWG Meeting

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - rxmantifel@bpa.gov and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Oh boy, me too! Thanks to both of you for covering for me today.

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Thursday, February 15, 2024 2:09 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: [EXTERNAL] RE: March MDWG Meeting

I am good with that!

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, February 15, 2024 2:25 PM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Subject: March MDWG Meeting

EXTERNAL - STOP & THINK before opening links and attachments.

Hey trusty chairs –

How would you both feel about canceling the March 12th MDWG meeting? These past 7 weeks have been extremely intense (7 MDWG meetings alone, not even considering your other work I'm sure you have) for Stakeholders and Staff. We think it would be beneficial to take some time to just breathe and get ready to dive into Protocols. Thoughts on this?

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C (b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, August 29, 2023 10:32 AM
To: Mantifel,Russell (BPA) - PGL-5; Detmer, Nick
Subject: RE: [EXTERNAL] RE: Proposed Additional MDWG Meeting - MMU Tariff Review

Great –thank you both. Will mention it at the end of today's meeting and work to get the meeting on SPP.org within the next couple of business days.

From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Tuesday, August 29, 2023 12:28 PM
To: Detmer, Nick <nick.detmer@xcelenergy.com>; Kristen Darden <kdarden@spp.org>
Subject: **External Email** RE: [EXTERNAL] RE: Proposed Additional MDWG Meeting - MMU Tariff Review

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Same

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Tuesday, August 29, 2023 10:21 AM
To: Kristen Darden <kdarden@spp.org>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Subject: [EXTERNAL] RE: Proposed Additional MDWG Meeting - MMU Tariff Review

Yes

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, August 29, 2023 10:59 AM
To: Detmer, Nicholas J <nick.detmer@xcelenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: RE: Proposed Additional MDWG Meeting - MMU Tariff Review

EXTERNAL - STOP & THINK before opening links and attachments.

So the Markets+ State Committee (MSC) is meeting 9/15, 11-12 CPT. I would recommend we meet 12-5 CPT. Would that still work for you?

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Tuesday, August 29, 2023 9:14 AM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: Proposed Additional MDWG Meeting - MMU Tariff Review

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I am available

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, August 29, 2023 8:11 AM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Subject: Proposed Additional MDWG Meeting - MMU Tariff Review

EXTERNAL - STOP & THINK before opening links and attachments.

Hey there –

I was looking at the schedule for the remainder of the year and I think we need an extra net-conference to review MMU language. Are ya'll available **Friday, 9/15, 10:30 a.m. - 4:00 p.m., CPT**?

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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From: Karan Pol <kpol@daymarkea.com>
Sent: Wednesday, August 2, 2023 12:06 PM
To: Michael Daly; Louisa Lund; Taylor, Joseph; Mantifel,Russell (BPA) - PGL-5; Hofmann, Chris; Hakala, Tuuli; Carrie Simpson; Trolese, Laura; Wright, Steve; Antoine Lucas; Kristen Darden; Ken Quimby; Brad Johnston; Aaron Shipley; Kim O'Guinn; Russell Carey; Derek Wingfield; Dustin B. Smith; 'eric.blank@state.co.us'; Wiencke, Mary; Moore, Tyler; Freitas, Art; Gentry Crowson; Micha Bailey; Cole, Brian; Tabak, Gabe; Engelby, Ben; Maddock JP; Egge, Eric; Dibble,Rachel L (BPA) - PT-5; Smith, Shawn; Heidi Ratz; Hickey, Lisa; Parker, Bradley; Jones, Jill; Gray, Spencer; Carman Ruder; Kelli Schermerhorn; Barbash, Carolyn; Yourkowski, Cameron; Holman, Mark; Tenney Denison, Lauren; 'josheph.c.taylor@xcelenergy.com'; Flanigan, Richard; Haines, Phil; Arnold, Robin; Robertson, Josh C; Wannier, Greg; Fina, Giuseppe (Joe); Robinson, Chris; Walter, Dan; Rugel, Sam; Paulsen, John; Staks, Kathleen; Miller, Scott; Satyal, Vijay
Cc: Meghan D. Sever; Jennelle Primm; Sonya Hall; Sherry Hamilton; John Gunter; Jennifer Farley; Lorie Bailey; Chet Howland; Jordan Foster; Amy Casavechia; Contractor-Kevin Morelock; Kevin Morelock; Spires, Jeff; Adriane Barnes
Subject: [EXTERNAL] Re: (EXTERNAL)FW: Markets+ Participant Executive Committee Quarterly Briefing

I did not. It doesn't seem like Louisa did either based on her calendar.

Thank you for covering Heidi.

Get Outlook for iOS

From: Heidi Ratz <hratz@cebuyers.org> on behalf of Michael Daly <mdaly@spp.org>
Sent: Wednesday, August 2, 2023 3:04:05 PM
To: Louisa Lund <llund@daymarkea.com>; Karan Pol <kpol@daymarkea.com>; Taylor, Joseph <Joseph.c.taylor@xcelenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>; Hofmann, Chris <Chris.Hofmann@srpnet.com>; Hakala, Tuuli <tuuli.hakala@chelanpud.org>; Carrie Simpson <csimpson@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Wright, Steve (b) (6) @gmail.com>; Antoine Lucas <alucas@spp.org>; Kristen Darden <kdarden@spp.org>; Ken Quimby <kquimby@spp.org>; Brad Johnston <bjohnston@spp.org>; Aaron Shipley <ashipley@spp.org>; Kim O'Guinn <koguinn@spp.org>; Russell Carey <rcarey@spp.org>; Derek Wingfield <dwingfield@spp.org>; Dustin B. Smith <dbsmith@spp.org>; 'eric.blank@state.co.us' <eric.blank@state.co.us>; Wiencke, Mary <mwiencke@publicgeneratingpool.com>; Moore, Tyler <Tyler.moore@aps.com>; Freitas, Art <arthur.p.freitas@xcelenergy.com>; Gentry Crowson <gtcrowson@spp.org>; Micha Bailey <mcbailey@spp.org>; Cole, Brian <brian.cole@aps.com>; Tabak, Gabe <gtabak@cleanpower.org>; Engelby, Ben <bengelby@azgt.coop>; Maddock JP <JPMaddock@bepc.com>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; Dibble, Rachel <rldibble@bpa.gov>; Smith, Shawn <shawn.smith@chelanpud.org>; Heidi Ratz <hratz@cebuyers.org>; Hickey, Lisa <lisa@interwest.org>; Parker, Bradley <brad.parker@libertyutilities.com>; Jones, Jill <jjones@nmppenergy.org>; Gray, Spencer <sgray@nippc.org>; Carman Ruder <cruder@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Barbash, Carolyn <Carolyn.Barbash@nvenergy.com>; Yourkowski, Cameron <cameron.yourkowski@patternenergy.com>; Holman, Mark <Mark.Holman@powerex.com>; Tenney Denison, Lauren <tenney@ppcpdx.org>; 'josheph.c.taylor@xcelenergy.com' <josheph.c.taylor@xcelenergy.com>; Flanigan, Richard <rflanig@gcpud.org>; Haines, Phil <philip.haines@pse.com>; Arnold, Robin <robin@renewablenw.org>; Robertson, Josh C <Josh.Robertson@srpnet.com>; Wannier, Greg <greg.wannier@sierraclub.org>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Robinson, Chris <CRobinson@cityoftacoma.org>; Walter, Dan <dwalter@tristategt.org>; (b) (6) @tep.com>; Paulsen, John <paulsen@wapa.gov>; Staks, Kathleen <kstaks@westernfreedom.org>; Miller, Scott <smiller@wptf.org>; Satyal, Vijay

29331163

<vijay.satyal@westernresources.org>
Cc: Meghan D. Sever <msever@spp.org>; Jennelle Primm <jprimm@spp.org>; Sonya Hall <shall@spp.org>; Sherry Hamilton <shamilton@spp.org>; John Gunter <jgunter@spp.org>; Jennifer Farley <jfarley@spp.org>; Lorie Bailey <lbailey@spp.org>; Chet Howland <chowland@spp.org>; Jordan Foster <jfoster@spp.org>; Amy Casavechia <acasavechia@spp.org>; Contractor-Kevin Morelock <contractor-kmorelock@spp.org>; Kevin Morelock <kmorelock@utilicast.com>; Spires, Jeff <jeff.spires@powerex.com>; Adriane Barnes <abarnes@spp.org>
Subject: {EXTERNAL}FW: Markets+ Participant Executive Committee Quarterly Briefing
When: Wednesday, August 2, 2023 3:00 PM-4:00 PM.
Where: Virtual (via Webex Link Below)

Did you all get this event? I'm in and taking notes.

From: Michael Daly <mdaly@spp.org>
Sent: Friday, June 23, 2023 2:30:47 PM (UTC-05:00) Eastern Time (US & Canada)
To: Michael Daly <mdaly@spp.org>; Taylor, Joseph <Joseph.c.taylor@xcelenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>; Hofmann, Chris <Chris.Hofmann@srpnet.com>; Hakala, Tuuli <tuuli.hakala@chelanpud.org>; Carrie Simpson <csimpson@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Wright, Steve (b) (6) @gmail.com>; Antoine Lucas <alucas@spp.org>; Kristen Darden <kdarden@spp.org>; Ken Quimby <kquimby@spp.org>; Brad Johnston <bjohnston@spp.org>; Aaron Shipley <ashipley@spp.org>; Kim O'Guinn <koguinn@spp.org>; Russell Carey <rcarey@spp.org>; Derek Wingfield <dwingfield@spp.org>; Dustin B. Smith <dbsmith@spp.org>; 'eric.blank@state.co.us' <eric.blank@state.co.us>; Wiencke, Mary <mwiencke@publicgeneratingpool.com>; Moore, Tyler <Tyler.moore@aps.com>; Freitas, Art <arthur.p.freitas@xcelenergy.com>; Gentry Crowson <gtcrowson@spp.org>; Micha Bailey <mcbailey@spp.org>; Cole, Brian <brian.cole@aps.com>; Tabak, Gabe <gtabak@cleanpower.org>; Engelby, Ben <bengelby@azgt.coop>; Maddock JP <JPMaddock@bepc.com>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; Dibble, Rachel <rldibble@bpa.gov>; Smith, Shawn <shawn.smith@chelanpud.org>; Heidi Ratz <hratz@cebuyers.org>; Hickey, Lisa <lisa@interwest.org>; Parker, Bradley <brad.parker@libertyutilities.com>; Jones, Jill <jjones@nmppenergy.org>; Gray, Spencer <sgray@nippc.org>; Carman Ruder <cruder@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Barbash, Carolyn <Carolyn.Barbash@nvenergy.com>; Yourkowski, Cameron <cameron.yourkowski@patternenergy.com>; Holman, Mark <Mark.Holman@powerex.com>; Tenney Denison, Lauren <tenney@ppcpdx.org>; 'josheph.c.taylor@xcelenergy.com' <josheph.c.taylor@xcelenergy.com>; Flanigan, Richard <rflanig@gcpud.org>; Haines, Phil <philip.haines@pse.com>; Arnold, Robin <robin@renewablenw.org>; Robertson, Josh C <Josh.Robertson@srpnet.com>; Wannier, Greg <greg.wannier@sierraclub.org>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Robinson, Chris <CRobinson@cityoftacoma.org>; Walter, Dan <dwalter@tristategt.org>; (b) (6) @tep.com>; Paulsen, John <paulsen@wapa.gov>; Staks, Kathleen <kstaks@westernfreedom.org>; Miller, Scott <smiller@wptf.org>; Satyal, Vijay <vijay.satyal@westernresources.org>
Cc: Meghan D. Sever <msever@spp.org>; Jennelle Primm <jprimm@spp.org>; Sonya Hall <shall@spp.org>; Sherry Hamilton <shamilton@spp.org>; John Gunter <jgunter@spp.org>; Jennifer Farley <jfarley@spp.org>; Lorie Bailey <lbailey@spp.org>; Chet Howland <chowland@spp.org>; Jordan Foster <jfoster@spp.org>; Amy Casavechia <acasavechia@spp.org>; Contractor-Kevin Morelock <contractor-kmorelock@spp.org>; Kevin Morelock <kmorelock@utilicast.com>; Spires, Jeff <jeff.spires@powerex.com>; Adriane Barnes <abarnes@spp.org>
Subject: Markets+ Participant Executive Committee Quarterly Briefing
When: Wednesday, August 2, 2023 3:00 PM-4:00 PM.
Where: Virtual (via Webex Link Below)

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Good afternoon,

This meeting will primarily focus on briefing Market+ Participant Executive Committee (MPEC) members ahead of their Aug. 8-9 meeting in Portland, Oregon. This meeting will review the agenda

and voting items that will come before this group. I will send out an agenda for this meeting and those listed as optional can determine their attendance at that time.

Please let me know if you have additional questions.

Thank you,

Michael
Michael Daly (he/him/his) (Why Pronouns Matter) | Principal External Affairs Liaison | mdaly@spp.org | (b)(6)

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Virtual Meeting Information:
Meeting
Link: https://mysppmeeting.webex.com/mysppmeeting/(b)(6)
Meeting Number: (b)(6)
Meeting Password

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From: Aitken, Meredith <Meredith.Aitken@powerex.com>
Sent: Wednesday, July 31, 2024 9:28 AM
To: Taylor, Joseph C; Marr, Garrison; Tuuli Hakala; Marcie L Martin
Cc: Walter, Kent C; (b)(6) [redacted]; Spires, Jeff; Holman, Mark; Josh C Robertson; Zahnow, Jessica Lynn; Phil Haines; Mantifel,Russell (BPA) - MTM-3; Dibble,Rachel L (BPA) - PT-5; Hayes,Matthew C (BPA) - MTM-3; Cole, Brian; Janet Jaspers; Egge, Eric; dan.walter@tristategt.org; Robinson, Chris; Johnson, Ray; Zyskowski, Jason; Cornelius, Adam; Rich Flanagan; (b)(6) [redacted]; Fina, Joe
Subject: [EXTERNAL] RE: Confidential: Markets+ Issue Alerts - Governance
Attachments: Issue Alert 1 Governance July 31 2024.docx

Thank you all. Attached is the final version which includes 10 entities.

Please note this is not yet public and the header is still marked as confidential draft. We will provide an update on the next steps shortly.

Meredith

From: Taylor, Joseph C <joseph.c.taylor@xcelenergy.com>
Sent: Wednesday, July 31, 2024 7:56 AM
To: Aitken, Meredith <Meredith.Aitken@powerex.com>; Marr, Garrison <GBMarr@Snopud.com>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Marcie L Martin <Marcie.Martin@srpnet.com>
Cc: Walter, Kent C <Kent.Walter@aps.com>; (b)(6) [redacted]@tep.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh C Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Cole, Brian <Brian.Cole@aps.com>; Janet Jaspers <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Cornelius, Adam <ACCornelius@Snopud.com>; Rich Flanagan <rflanig@gcpud.org>; (b)(6) [redacted]@tep.com>; Fina, Joe <gfina@snopud.com>
Subject: RE: Confidential: Markets+ Issue Alerts - Governance

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PSCo will sign on. Thanks

Joe Taylor
C: (b)(6) [redacted]

From: Aitken, Meredith <Meredith.Aitken@powerex.com>
Sent: Tuesday, July 30, 2024 3:49 PM
To: Marr, Garrison <GBMarr@Snopud.com>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Marcie L Martin <Marcie.Martin@srpnet.com>
Cc: Walter, Kent C <Kent.Walter@aps.com>; (b)(6) [redacted]@tep.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh C Robertson

<Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Cole, Brian <Brian.Cole@aps.com>; Janet Jaspers <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Cornelius, Adam <ACCornelius@Snopud.com>; Rich Flanagan <rflanig@gcpud.org>; Taylor, Joseph C <joseph.c.taylor@xcelenergy.com>; (b)(6) @tep.com>; Fina, Joe <gfina@snopud.com>
Subject: RE: Confidential: Markets+ Issue Alerts - Governance

EXTERNAL - STOP & THINK before opening links and attachments.

All,

Attached is the near final version of the Governance Issue Alert. Also included is a redline comparison with the small wording changes proposed by the group, including the wording change proposed by Snohomish below.

Entities that have confirmed being listed are:
Arizona Public Service Co, Chelan County PUD, Grant County PUD, Powerex Corp., Salt River Project, Tacoma Power, Tri-State Generation and Transmission Association Inc. and Tucson Electric Power Company

Pending final review: PSCO and Snohomish

We plan to finalize this today to have sufficient time to make it public by Friday.

Please reach out to Kent (APS) or me with any questions on it.

Thanks,
Meredith

From: Marr, Garrison <GBMarr@Snopud.com>
Sent: Tuesday, July 23, 2024 11:33 AM
To: Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Marcie L Martin <Marcie.Martin@srpnet.com>
Cc: Walter, Kent C <Kent.Walter@aps.com>; (b)(6) @tep.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh C Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Cole, Brian <Brian.Cole@aps.com>; Janet Jaspers <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Cornelius, Adam <ACCornelius@Snopud.com>; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) @tep.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [External Sender] Re: [External] RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

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Hey all,

We have some of our senior folks out and are not able to sign on the group's timeline for that reason.

That being said, it might be worthwhile to wordsmith some of the language on Page 3. That language now says the Pathways Initiative "cannot result in a governance framework comparable to Markets+ for several reasons". You might consider replacing "cannot" with "is unlikely to". Softening the language may help establish credibility with what could be a broad audience with diverse perspectives. Don't disagree with the notion, but think the language may cause a reaction for some and impede broader goals.

Garrison Marr
Senior Manager, Power Supply
Snohomish County PUD | (b)(6)
2320 California Street | Everett, WA | 98201

From: Tuuli Hakala <Tuuli.Hakala@chelanpud.org>
Sent: Tuesday, July 23, 2024 11:08 AM
To: Marcie L Martin <Marcie.Martin@srpnet.com>
Cc: Walter, Kent C <Kent.Walter@aps.com>; (b)(6) @tep.com>; Jeff Spires <jeff.spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh C Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Cole, Brian <Brian.Cole@aps.com>; Janet Jaspers <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Marr, Garrison <GBMarr@Snopud.com>; Cornelius, Adam <ACCornelius@Snopud.com>; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) (b)(6) @tep.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
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Chelan as well

On Jul 23, 2024 10:35 AM, Marcie L Martin <Marcie.Martin@srpnet.com> wrote:

PAUSE TO CONSIDER: The actual sender address for this email is
prvs=69340f9711=marcie.martin@srpnet.com.
Do you trust this message and any contents within?
If not, please forward it to our Phishing Hole for analysis. Thank You!

Hi Kent,

SRP will sign the governance issue brief.

Marcie Martin

Principal Analyst
SRP | Energy Market Strategy | PAB 361
P.O. Box 52025, Phoenix, AZ 85072-2025
P: (602) 236-2811 | **M**: (b)(6)

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Sent: Monday, July 22, 2024 10:40 AM
To: (b)(6) @tep.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh C Robertson <Josh.Robertson@srpnet.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Cole, Brian <Brian.Cole@aps.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) (b)(6) @tep.com>
Cc: Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

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Thanks for the comments. Attached are clean and redline versions with the proposed language incorporated.

Kent

From: (b)(6) @Tep.com>
Sent: Monday, July 22, 2024 8:56 AM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@psc.com>; Phil Haines <Philip.Haines@psc.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Cole, Brian <Brian.Cole@aps.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) (b)(6) @tep.com>
Cc: Walter, Kent C <Kent.Walter@aps.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

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(b)(4)

(b)(4)

(b)(4)

From: (b)(6) @tep.com>
Sent: Friday, July 19, 2024 4:03 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Brian.Cole@aps.com; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristatcgt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) @tep.com>
Cc: Kent.Walter@aps.com; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

(b)(4)

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, July 19, 2024 6:10 AM
To: Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Brian.Cole@aps.com; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) @tep.com>; (b)(6) @tep.com>
Cc: Kent.Walter@aps.com; Aitken, Meredith <Meredith.Aitken@powerex.com>
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Good morning all,

Last week during the Monday Markets+ funding party executive call there was discussion followed by general consensus on the call for developing a series of "Issue Alerts" that could be shared publicly by Markets+ funding entities, with one Issue Alert released every two weeks or so, to provide some balance to the recent industry dialogue that has been narrowly focused on seams issues and the Pathways initiative. The objective is to publicly issue (to Clearing Up and possibly elsewhere) these short summaries (one on governance and then 5-6 on specific market design topics) that details the benefits of Markets+ relative EDAM/EIM in each of these areas to better explain the continued support for Markets+.

A smaller group (PWX, CHPD, BPA, PSE, APS, and SRP) have worked together on the first paper on governance (see attached). We expect each of those entities will sign on except for BPA based on certain limitations they have related to their ongoing public process.

Please keep this letter **confidential** for now. We request that each of you confirm whether you will sign on by the ***end of the day on Monday.***

This effort is being coordinated by Kent Walter (APS) and myself so please feel free to reach out to us with any questions. Please note I am on vacation starting next week; Meredith Aitken will be the Powerex point of contact on this while I am away.

Regards,

Jeff

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From: Christine Dillard <cdillard@spp.org>
Sent: Friday, January 5, 2024 5:03 PM
To: Chris Nolen; Doot,Erika A (BPA) - LP-7
Cc: Mantifel,Russell (BPA) - MTM-3; Kaseweter,Alisa D (BPA) - AI-7; Miller,Todd E (BPA) - LP-7
Subject: [EXTERNAL] RE: **External Email** MMU Provisions for GHG Task Force
Attachments: 06.b. GHG Tariff Language 20240105 Redline.docx; 06.c. GHG Tariff Language 20240105 Additional Sections.docx

Hi Erika,
Apologies, just now seeing this. You have probably now seen the posted tariff language versions. MMU agrees that re-stating section 6.9 specifically for GHG is not necessary and that a reference may be helpful, but they do not appear to be advocating for it. Because of this, we are presenting two versions to the task force for consideration – one without the reference to 6.9 and one with. Both versions are attached for your convenience. Let me know if I can help with anything else! See you all Monday.

Thanks,

Christine Dillard | Attorney, Markets & Regulatory Policy
cdillard@spp.org | (b)(6) (c)

Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Chris Nolen <cnolen@spp.org>
Sent: Friday, January 5, 2024 5:42 PM
To: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Christine Dillard <cdillard@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Kaseweter, Alisa <alkaseweter@bpa.gov>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>
Subject: Re: **External Email** MMU Provisions for GHG Task Force

Last I heard, there would be a simple "…in accordance with section 6.9" pointer.

Copying Christine to confirm or clarify.

cmn

Christopher M. Nolen
Managing Attorney
Southwest Power Pool, Inc.
cnolen@spp.org
501.482.2394 office
(b)(6) mobile

On Jan 5, 2024, at 5:01 PM, Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov> wrote:

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - eadoot@bpa.gov and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Hi Chris,

Our GHG workgroup staff are concerned that they have not seen language from the MMU that will be put forward in the draft tariff provisions on Monday. I hope that you may be able to assist if we find ourselves in a situation like the MDWG back and forth. We anticipate that they will put forward the compromise language from the real offer parameters, but if it is something quite different the timing could be problematic.

Please let me know if you have any additional information.

Thanks,
Erika

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From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, January 9, 2024 2:15 PM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] FW: additional meeting materials in support of B&C for 1/11 MDWG
Attachments: MarketsPlus_Attachment B_C_SPP_MMU Combined Edits 1 09 24 for discussion.docx; MarketsPlus_Attachment B_C_SPP_MMU Combined Edits 1 09 24 Track Changes.docx

From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Tuesday, January 9, 2024 2:23 PM
To: Kristen Darden <kdarden@spp.org>
Subject: additional meeting materials in support of B&C for 1/11 MDWG

Hi!

Please include these **two** updates:

1. **Attch B&C – for discussion**. This document points clearly to the remaining outstanding issues, to be discussed 1/11. The issues that have not yet been resolved are as follows:
   Attch B:
   3.2 B Market Power Test – removal of reserve zones
   3.4 (I) Mitigation Measures for Energy Offer Curves ESR – Development of ESR mitigation, where resources have a cycle constraint
   3.5 A Mitigation Measures for Start-Up Offers and No-Load Offers – Stakeholders recommend a percentage increase in the Start-up & no –load costs, from 10% to 25%.
   Attch C: 4.6 Monitoring for Market Participant Behavior Possibly Warranting Mitigation
   4.6.1 Uneconomic Production
   4.6.4 Physical Withholding – Exemptions

2. **Attch B&C – track changes** This document contains all comments and should be used as a reference point for discussions between parties.

Kelli Schermerhorn
Lead Analyst, Market Design West
Staff Secretary, M+ Resource Adequacy Task Force
(b) (6) [redacted]

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ATTACHMENT B
Market Power Mitigation Plan

TABLE OF CONTENTS

1. Purpose and Objective
2. Definitions
   - 2.1 Measures
   - 2.2 Performance Factor
   - 2.3 Resource-to-Load Distribution Factor (RLDF)
3. Mitigation Measures for Economic Withholding – Market Power in Energy and Flexibility Reserve Products
   - 3.2 Market Power Test
   - 3.3 Mitigated Offer Calculation Methodology
   - 3.4 Mitigation Measures for Energy Offer Curves
   - 3.5 Mitigation Measures for Start-Up Offers and No-Load Offers
     - 3.5.1 Mitigation Measures for Transition State Offers
   - 3.6 Mitigation Measures for Flexibility Reserve Product Offers
   - 3.7 Validation of Mitigated Resource Offers
   - 3.8 Additional Mitigation Measures for Resource Offer Parameters
   - 3.9 Market Impact Test
4. Miscellaneous Provisions
   - 4.1 Rights and Remedies

1. Purpose and Objective

The Market Mitigation Measures (the "Measures") contained within this Market Power Mitigation Plan provide for mitigation of the exercise of horizontal and vertical market power by Market Participants in certain specified circumstances. The Market Operator will implement the Market Power Mitigation Plan as defined.

2. Definitions

For purposes of this Market Power Mitigation Plan, capitalized terms have the meanings specified below:

2.1 Measures

SPP's Market Mitigation Measures set forth in this document.

2.2 Performance Factor

The calculated ratio of actual fuel burn to either theoretical fuel use (design heat input) or the most recent heat rate performance test, consistent with the Markets+ Protocols.

2.3 Resource-to-Load Distribution Factor (RLDF)

The simulated impact of incremental power output from a specific Resource ("source") on the loading of a specific flowgate based on delivery to a representation of the locational weighting of all loads within all Settlement Locations ("sink").

3. Mitigation Measures for Economic Withholding – Market Power in Energy and Flexibility Reserve Products

This section sets forth the market power mitigation measures that are applied in the Day-Ahead Market, Reliability Unit Commitment processes and the Real-Time Balancing Energy Markets, collectively referred to as Markets+.

3.2 Market Power Test

A Resource satisfying at least one of the following conditions is determined to have market power:

(1) The Resource:

(a) has a Resource-to-Load-Distribution factor less than or equal to negative five percent (-5%) relative to a binding transmission constraint; or

~~(b) is located in a binding Reserve Zone;~~

Comment [CA1]: SNPD: I don't recall discussing this provision. Is this saying that if any flex up or down constraint for a zone binds, all resources in the zone, regardless of size, are deemed to have market power and could potentially be mitigated? If the flex product demand curve is reached for a zone, does that necessarily imply that the Reserve zone has bound? Is the market power determination only for the flex product that binds, or for all products, including energy?

Comment [MMU2]: MMU supports change with the assumption that "Reserve Zone" in Markets+ is more of an "energy limited zone" directed towards deliverability. If zones start to represent BA limits and need to ensure service, such as ramp, that might be provided, MMU position is that this language is needed.

(2) The Resource is committed, or the Multi-Configuration Resource ("MCR") is transitioned, as a Reliability Must Run; or

(3) Within a Reserve Zone, the total Supplier Capacity plus unused deliverable import capacity is not sufficient to meet the Market Adjusted Obligation without a Market Participant's Supplier Capacity in a Dispatch Interval.

(a) Supplier Capacity is the sum of Maximum Output Limits of each Supplying Resource.

(i) The Maximum Output Limit is defined by Resource type:

(1) For a forecasted VER, the Maximum Output Limit is the lesser of its (i) output forecast or (ii) its Maximum Economic Capacity Operating Limit.

(2) For an MSR with a commitment that allows it to be dispatched above zero megawatts, the Maximum Output Limit is its Maximum Discharge Limit. For an MSR with a commitment that allows it to charge only, the Maximum Output Limit is zero megawatts.

(3) For a Resource type that is not specified above, the Maximum Output Limit is the Resource's Maximum Economic Capacity Operating Limit for that interval;

(ii) A Supplying Resource is a Resource that is both:

(1) Registered under that Market Participant or its Affiliate(s), unless the Market Monitor allows an exclusion as described below, where "Affiliate" is defined in 18 CFR § 35.36(a)(9); and

(i) The Market Monitor may authorize the exclusion of the capacity associated with the Affiliate(s) of the Market Participant from that Market Participant's Supplier Capacity calculation upon a showing to the satisfaction of the Market Monitor that the relevant entities maintain safeguards and corporate controls to prevent coordinated or collusive market activity.

(2) Available ~~for dispatch because the Resource~~to the market:

Comment [MMU3]: Does Reliability Must Run include resources that were committed as part of the reliability back stop? If not, we need to add another mitigation provision for those resources.

Comment [SPP4]: Agree with change proposed by Hydro parties based on discussion at MDWG and MMU

Comment [CA5]: SNPD: What is meant by unused? If there is a dynamic schedule into the BAA/zone that is available for optimization, that should count towards the available import capacity, correct? If there is a fixed schedule into the BAA/zone, would that reduce the obligation within the zone?

Comment [CA6]: SNPD: Does import capacity include both import capacity from another M+ BA/Zone and import capacity from outside the footprint? Any difference in treatment?

Comment [KS7]: SPP – comments inline can be handles in protocol development

Comment [SRP8]: If the forecast is less than the capacity limit, SRP suggests that the Maximum Output Limit be limited to the forecast.

Comment [KS9]: MMU Accepts this change

Comment [SPP 10]:

(a) For a dispatch process, a Resource is available when it:

(i) Has a Commitment; or

(ii) Is an off-line fast-start resource that is eligible to be dispatched above zero megawatts; or

(iii) Is a Variable Energy Resource that has a Commitment Status other than 'Outage' or 'Not Available'.

(b) For a commitment process, a Resource is available when it has a commitment status other than 'Outage' or 'Not Available'.

(b) The Market Adjusted Obligation is equal to (i) the forecasted obligation adjusted by (ii) the Net Scheduled Interchange plus (iii) the sum of Maximum Charge Limits of MSRs with a commitment that allows them to charge.

Comment [CA11]: SNPD: For the DA Market and RUC tests, why must a resource be already committed, given that those processes are intended to commit resources? Would one fix be to apply subbullet (iii) to all resources at least for DAM and RUC?

Comment [KS12]: SPP MMU Will take the pen on changing this to reflect "has a commitment or "is available to be committed" in the DAMKT or RUC – but NOT RTBM

Comment [JW13]: MMU working on proposed language.

Comment [SPP 14]: Expected completion 1/4/2024

Comment [CA15]: SNPD: See comment above – for the DA market/RUC, will an MSR already have a commitment? Or should this be based on the way in which the resource offers or Commitment Status?

3.3 Mitigated Offer Calculation Methodology

Market Participants must submit a mitigated offer calculation methodology, including accurate cost data and/or verifiable supporting documentation, as applicable, sufficient to replicate the mitigated energy offer curve to the Market Monitor for approval for each Resource. Market Participants must keep the methodology up to date. Mitigated offers must be calculated according to the approved methodology.

Comment [SPP16]: Why was this proposal made?

Comment [KS17]: REVIEW THE COMMENTS MADE IN THE MDWG 12/01 MEETING –

Comment [SPP 18]:

Comment [SPP 19]: Proposed by Emon Mahoney, SPP Legal at 2:48 in MDWG recording

For a new Market Participant registering a new Resource in the market, the Market Participant must submit the methodology no less than 120 days before its first offer. For an existing Market Participant registering a new Resource, the Market Participant must submit the methodology no less than thirty (30) calendar days before its first offer.

If the Market Monitor communicates to a Market Participant that a methodology is not approved, the Market Monitor will identify the reasons, and the Market Participant must re-submit as soon as practicable. The methodology is effective beginning on the Operating Day following Market Monitor approval. If the Market Monitor does not respond to a submitted methodology in fifteen

(15) calendar days, then the submitted methodology is allowed until the Market Monitor communicates otherwise.

3.4 Mitigation Measures for Energy Offer Curves

A. A Market Participant must submit Mitigated Energy Offer Curves daily in accordance with the mitigated offer development guidelines in the Markets+ Protocols.

1) For MCRs, for which a single configuration allows physical units to be swapped (e.g., Combustion Turbine 2 for Combustion Turbine 1), the costs used in the mitigated offer development for that configuration must be those of the least cost physical unit that is available and can be swapped in such configuration.

2) The mitigated Energy Offer Curve may be updated up to the close of the Day-Ahead Market for use in the Day-Ahead Market.

   i. For any period a Resource is not committed by the Day-Ahead Market, the mitigated Energy Offer Curve for that period may be updated until the RUC begins.

   ii. For Resources committed by the Day-Ahead Market, the mitigated Energy Offer Curve submitted as of the close of the Day-Ahead Market will apply to the Day-Ahead Market on the day before the Operating Day and the RTBM on the Operating Day unless an exception is allowed in Section 3.4 (J) of this Attachment B;

   iii. For all other Resources, the mitigated Energy Offer Curve submitted at the time the RUC begins will apply to the RUC on the day before the Operating Day, and the RUC processes and the RTBM on the Operating Day.

3) For the pricing Simultaneous Co-optimization Methodology, the composite Energy Offer Curve and mitigated composite Energy Offer

Comment [SRP20]: SRP has concerns with market participants calculating and submitting these values. In WEIM, these values are calculated by CAISO and can be viewed in CMRI at any time. SRP suggests that M+ consider a process similar to CAISO WEIM.

Comment [KS21]: Comment resolved

Curve will be calculated and used by the Market Operator for FSRs in the Day-Ahead Market and RTBM.

B. The conduct threshold is a 10% increase above the mitigated Energy Offer Curve. The Market Operator applies mitigation measures by placing a cap on the Energy Offer Curve of 10% above the mitigated Energy Offer Curve if:

(1) The Resource's Energy Offer Curve exceeds the mitigated Energy Offer Curve by the conduct threshold; and

(2) The Resource has market power as determined in Sections 3.2(1) or 3.2(3); and

(3) The Resource fails the Market Impact Test as described in Section 3.7.

C. For a Resource that has market power as determined in Section 3.2(2), the Market Operator applies mitigation measures by placing a cap on the Energy Offer Curve of 10% above the mitigated Energy Offer Curve.

D. Except for Resources following the Seasonal Hydroelectric Offer Curve methodology outlined in ~~this~~ Section 3.4M, the mitigated Energy Offer Curve must be the Resource's short-run marginal cost of producing energy as determined by the unit's heat rate or similar production efficiency ratio; fuel costs and the costs related to fuel usage, such as transportation and emissions costs ("total fuel related costs"); Resource opportunity costs, as applicable; and Energy Offer Curve ("EOC") variable operations and maintenance costs ("VOM").

E. For Resources that are not ESRs that are not eligible or do not elect the Seasonal Hydroelectric Offer Curve methodology outlined in this Section 3.4M, opportunity cost must be an estimate of Markets+ revenues net of short run marginal costs for the marginal forgone run time during the timeframe when the Resource experiences the run-time restrictions.

The forecasted Locational Marginal Prices are based on (i) the relationship between (a) the monthly average on-peak and off-peak system LMP and (b) the expected price of natural gas and (ii) hourly deviations between (a) the LMP at the Resource Settlement Location and (b) the system LMP, as determined by the Market Monitor. The formulas and instructions in the price forecast model are determined by the Market Monitor and published in the Markets+ Protocols as part of the Mitigated Offer Development Guidelines, updated, as needed, by the Market Monitor. Historic LMPs are considered

Comment [SPP22]: Agree - Non substantive change.

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Comment [SPP 23]: SPP Staff (Carrie & Kelli) believe that the Resource Aggregation model is specifically covered here, with additional detail to be developed in the M+ Protocols.

Comment [MMU 24]: MMU believes there should be Tariff language regarding mitigated offers for Aggregate Resources similar to other specific resource types, i.e. fast start resources, ESRs, etc.

Comment [SPP 25]: SPP MMU should make an appropriate counterproposal for MP consideration due 1/4/2024

Comment [MMU26]: While the MMU believes this is a rate, term, condition that should be in the Tariff, we note that lack of the language in Tariff does not limit MMU authority for approval. Section 3.3 notes that the MP just submit a methodology for approval to the MMU and must be approved by the MMU before participation in the market. This would apply to all aggregated resources, including hydro.

Comment [CA27]: SNPD: either resources using opportunity cost should be another exception OR opportunity cost needs to be added to this list of elements included in a resource's mitigated energy offer curve

Comment [SPP 28]: Consider this addition, following the 12/19 Meeting

Comment [SRP29]: It looks like paragraph D and E contradict each other. It says what is in the formula in both sections, and they are different.

Comment [CA30]: SNPD: As written, I don't think this opportunity cost calculator works well for storage hydro resources.
(1) This framework is around runtime restrictions. However hydro resources with less than 30 days of storage that wouldn't qualify for the SHOC tend to face energy limits rather than run-time limits (and in ...

Comment [SPP31]: Adam/SNPD: Does the latest red-line proposal in 3.4M (10 and 11) ...

for the three-year period immediately preceding the period of time in which the Resource is bound by the referenced restrictions. The forecasted costs to generate energy at the Resource's Settlement Location are subtracted from the forecasted Locational Marginal Prices, as specified in more detail in Appendix G of the Markets+ Protocols. If the difference between the forecasted Locational Marginal Prices and forecasted costs to generate energy is negative, the resulting opportunity cost is zero. The Market Monitor will verify all Market Participants' opportunity cost calculations for consistency and accuracy. When the Market Monitor determines that the market price for any period was not competitive, it will adjust the LMP forecasting process used in the opportunity cost calculations to ensure that forecasted LMPs do not reflect non-competitive market conditions.

~~The~~ Except for Resources that elect the Seasonal Hydroelectric Offer Curve methodology, the following formula applies to all mitigated Energy Offer Curves unless specified otherwise in this Section 3.2(E) of this Attachment B:

Comment [SPP32]: Agree- clarifying language.

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Mitigated Energy Offer ($/MWh) = HeatRate (mmBtu/MWh) * Performance Factor * Total Fuel Related Costs ($/mmBtu) + EOC VOM ($/MWh) + Opportunity Costs ($/MWh) ~~+ [Schedule 1-A3 Charge ($/MWh) + Schedule 1-A4 Charge ($/MWh)]~~

The run-time restrictions must be updated more frequently as fewer hours remain available. The Market Participant may include in the calculation of its mitigated Energy Offer Curve an amount reflecting the resource-specific opportunity costs expected to be incurred under the following circumstances:

(1) Externally imposed environmental run-hour restrictions as verified by the Market Monitor; or

(2) Physical equipment limitations on the number of starts or run-hours, as verified by the Market Monitor and determined by reference to the manufacturer's recommendation or bulletin, or a documented restriction imposed by the applicable insurance carrier; or

(3) Fuel supply or transportation limitations, for up to one year, resulting from an event of force majeure or other circumstances as verified by the Market Monitor.

F. For Resources that are not eligible or do not elect the Seasonal Hydroelectric Offer Curve Methodology outlined in Section 3.4 M, the Market Participant must submit if applicable, heat rate curves, descriptions of how spot fuel prices and/or contract prices are used to calculate fuel costs, ~~if applicable,~~ variable fuel transportation and handling costs, emissions costs, and VOM to the Market Monitor. All cost data and cost calculation descriptions are subject to the review and approval of the Market Monitor to ensure reasonableness and consistency across Market Participants. The submitted information must be sufficient for replication of the mitigated Energy Offer Curve and must include, among other data, the following information:

(1) For fuel costs, Market Participants must provide the Market Monitor with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants must submit VOM costs, calculated in adherence with the Appendix G of the Markets+ Protocols, reflecting short-run marginal costs, exclusive of fixed costs.

Further details associated with the development, validation, and updating of these costs are included in Appendix G of the Markets+ Protocols.

G. For Demand Response Resources utilizing Behind-The-Meter Generation, the mitigated Energy Offer Curve methodology must be developed in the same manner as a generating Resource as described above. For load reduction Demand Response Resources, the mitigated Energy Offer Curve methodology must include the quantifiable opportunity costs associated with the reduction, net of related offsetting increases in usage.

Comment [CA33]: These circumstances are not the limitations faced by hydro resources

Comment [SPP 34]:

Comment [CA35]: SNPD: Should ESRs be an exception too?

Comment [CA36]: SNPD: it seems that "if applicable" likely applies to all of these elements.

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H. For Dispatchable Variable Energy Resources, the mitigated Energy Offer Curve methodology may include, but must not exceed, any calculation of quantifiable costs that vary by MWh output, including short-run incremental VOM. Mitigation does not apply to Non-Dispatchable Variable Energy Resources in the Real-Time Balancing Market.

I. For an ESR, the mitigated Energy Offer Curve methodology may include, but must not exceed, (i) charging cost and (ii) opportunity cost, both adjusted for round-trip efficiency. Charging cost is the cost at which the ESR charged, and opportunity cost is the average profit in the next hour forgone by charging or discharging in the current hour. The sum of the charging cost and opportunity cost is the average LMP that is expected for the next Operating Hour. This expected average LMP for the next Operating Hour is the unweighted average of the LMPs for the most recent forty-five (45) days comparing like Operating Hours. The mitigated Energy Offer Curve for MSRs must have at least two breakpoints: one for charging and another for discharging. More breakpoints may be added to the extent that other costs vary.

The following formula applies to mitigated Energy Offer Curves for ESRs:

Charging Mitigated Energy Offer ($/MWh) =

Performance Factor * Average LMP Expected for the Next Hour ($/mmBtu) * Round-Trip Efficiency - EOC VOM ($/MWh)

Discharging Mitigated Energy Offer ($/MWh) =

Performance Factor * Average LMP Expected for the Next Hour ($/mmBtu) / Round-Trip Efficiency + EOC VOM ($/MWh)

J. Intra-day changes to the mitigated Energy Offer Curve are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past their initial commitment period by the Day-Ahead Market or a RUC process, the Market Participant may submit an updated mitigated Energy Offer Curve that reflects the procurement of higher cost fuel; or

(2) A Resource must switch fuels due to unforeseen operating conditions; or

(3) The Resource is an ESR; or

Comment [APS 37]: oAPS changes are in track changes in this section, Energy storage mitigated offer only offers 1-hour of opportunity cost. An hour-to-hour management of an energy storage product does not allow adequate management of limited duration resources – especially across operating days. Resources of a couple hours in duration may be depleted in an evening peak when its best use for the Market Participant and reliability of market may be the morning peak on the following day. APS proposes to extend the horizon for opportunity cost to include the next operating day. There are changes to the math in the section below but figured that is more the output of the language below:

Comment [SPP38]: SPP Staff recommends the further development of dispatch-limited ESR mitigation as a high priority action item to be developed immediately upon filing due to the complexity of the issue, and the importance of alignment.

Comment [CA39]: SNPD: how does this next hour/current hour framework fit into the day-ahead market? Does only considering two hours ensure an ESR is available to discharge in the highest priced hours and charge in the lowest priced hours of the day? How to make sure the resource is available for, say, morning and evening peaks?

Comment [JW40]: The MMU does not support these changes. This was discussed on the 12/20 call. The MMU is reaching out to participants on this and other items for further discussion.

Comment [CA41]: SNPD: water supply can change intraday, which could affect opportunity cost for hydro resources

Comment [SPP42]: Adam: do the changes in SHOC methodology proposed in 3.4M 10 and 11 address your concern?

(4) As approved by the Market Monitor during periods of high intraday fuel price volatility.

Intra-day changes to the mitigated Energy Offer Curve must follow the mitigated offer development guidelines in Appendix G of the Markets+ Protocols and will be validated by the Market Monitor.

K. A Market Participant that has a Resource with short-run marginal costs greater than the Safety-net Energy Offer Cap may submit an Energy Offer Curve using the same guidelines for development of the Resource's Mitigated Energy Offer Curve established in Appendix G of the Markets+ Protocols. The Energy Offer Curve above $1,000/MWh must be equal to the Mitigated Energy Offer Curve and may include an adder with a maximum of $100/MWh due to the uncertainty of expected costs. For purposes of LMP calculation, the Energy Offer Curve will be limited to a maximum of $2,000/MWh and must be verified by the Market Monitor prior to the start of the applicable market clearing process. If the Energy Offer Curve cannot be verified prior to the start of the applicable market clearing process, then the Resource may be eligible to receive make-whole payments for its actual costs after verification by the Market Monitor. The default value is $1,000/MWh for any offer above $1,000/MWh until the offer can be verified. If the verified Energy Offer Curve is greater than $2,000/MWh, the Energy Offer Curve will be capped at $2,000/MWh in the applicable market clearing process, and the Resource may be eligible for make-whole payments for actual costs exceeding $2,000/MWh. Market Participants must submit evidence of actual costs to the Market Monitor. The Market Monitor must verify the actual costs for use in make-whole payments. In order to include the costs in the make-whole payments of the S120 Settlement Statement, the submission must occur within 75 calendar days after the Operating Day and the verification must be complete no later than noon on the business day prior to 105 calendar days after the Operating Day.

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L. Cost data submitted for the development of mitigated offers, including opportunity cost data, are subject to the confidentiality provisions set forth in Section 10 of Attachment A of this Tariff.

3.4 Mitigation Measures for Energy Offer Curves

A. A Market Participant must submit Mitigated Energy Offer Curves daily in accordance with the mitigated offer development guidelines in the Markets+ Protocols.

1) For MCRs, for which a single configuration allows physical units to be swapped (e.g., Combustion Turbine 2 for Combustion Turbine 1), the costs used in the mitigated offer development for that configuration must be those of the least cost physical unit that is available and can be swapped in such configuration.

2) The mitigated Energy Offer Curve may be updated up to the close of the Day-Ahead Market for use in the Day-Ahead Market.

   i. For any period a Resource is not committed by the Day-Ahead Market, the mitigated Energy Offer Curve for that period may be updated until the RUC begins.

   ii. For Resources committed by the Day-Ahead Market, the mitigated Energy Offer Curve submitted as of the close of the Day-Ahead Market will apply to the Day-Ahead Market on the day before the Operating Day and the RTBM on the Operating Day unless an exception is allowed in Section 3.4 (J) of this Attachment B;

   iii. For all other Resources, the mitigated Energy Offer Curve submitted at the time the RUC begins will apply to the RUC on the day before the Operating Day, and the RUC processes and the RTBM on the Operating Day.

3) For the pricing Simultaneous Co-optimization Methodology, the composite Energy Offer Curve and mitigated composite Energy Offer Curve will be calculated

Comment [KS43]: This is the approved MDWG Language from the 12/01/2023 Meeting

and used by the Market Operator for FSRs in the Day-Ahead Market and RTBM.

B. The conduct threshold is a 10% increase above the mitigated Energy Offer Curve. The Market Operator applies mitigation measures by placing a cap on the Energy Offer Curve of 10% above the mitigated Energy Offer Curve if:

(1) The Resource's Energy Offer Curve exceeds the mitigated Energy Offer Curve by the conduct threshold; and

(2) The Resource has market power as determined in Sections 3.2(1) or 3.2(3); and

(3) The Resource fails the Market Impact Test as described in Section 3.7.

C. For a Resource that has market power as determined in Section 3.2(2), the Market Operator applies mitigation measures by placing a cap on the Energy Offer Curve of 10% above the mitigated Energy Offer Curve.

D. Except for Resources following the Seasonal Hydroelectric Offer Curve methodology outlined in Section 3.4(M), the mitigated Energy Offer Curve must be the Resource's short-run marginal cost of producing energy as determined by the unit's heat rate or similar production efficiency ratio; fuel costs and the costs related to fuel usage, such as transportation and emissions costs ("total fuel related costs"); and Energy Offer Curve ("EOC") variable operations and maintenance costs ("VOM").

E. For Resources that are not ESRs that are not eligible or do not elect the Seasonal Hydroelectric Offer Curve methodology outlined in this Section 3.4(M), opportunity cost must be an estimate of Markets+ revenues net of short run marginal costs for the marginal forgone run time during the timeframe when the Resource experiences the run-time restrictions.

The forecasted Locational Marginal Prices are based on (i) the relationship between (a) the monthly average on-peak and off-peak system LMP and (b) the expected price of natural gas and (ii) hourly deviations between (a) the LMP at the Resource Settlement Location and (b) the system LMP, as determined by the Market Monitor. The formulas and instructions in the price forecast model are determined by the Market Monitor and published in the Markets+ Protocols as part of the Mitigated Offer Development Guidelines, updated, as needed, by the Market Monitor. Historic LMPs are considered for the three-year period immediately preceding the period of time in which the Resource

is bound by the referenced restrictions. The forecasted costs to generate energy at the Resource's Settlement Location are subtracted from the forecasted Locational Marginal Prices, as specified in more detail in Appendix G of the Markets+ Protocols. If the difference between the forecasted Locational Marginal Prices and forecasted costs to generate energy is negative, the resulting opportunity cost is zero. The Market Monitor will verify all Market Participants' opportunity cost calculations for consistency and accuracy. When the Market Monitor determines that the market price for any period was not competitive, it will adjust the LMP forecasting process used in the opportunity cost calculations to ensure that forecasted LMPs do not reflect non-competitive market conditions.

Except for Resources that elect the Seasonal Hydroelectric Offer Curve methodology, the following formula applies to all mitigated Energy Offer Curves unless specified otherwise in this Section 3.2(E) of this Attachment B:

Mitigated Energy Offer ($/MWh) = HeatRate (mmBtu/MWh) * Performance Factor * Total Fuel Related Costs ($/mmBtu) + EOC VOM ($/MWh) + Opportunity Costs ($/MWh) + ~~[Schedule 1-A3 Charge ($/MWh) + Schedule 1-A4 Charge ($/MWh)]~~

The run-time restrictions must be updated more frequently as fewer hours remain available. The Market Participant may include in the calculation of its mitigated Energy Offer Curve an amount reflecting the resource-specific opportunity costs expected to be incurred under the following circumstances:

(1) Externally imposed environmental run-hour restrictions as verified by the Market Monitor; or

(2) Physical equipment limitations on the number of starts or run-hours, as verified by the Market Monitor and determined by reference to the manufacturer's recommendation or bulletin, or a documented restriction imposed by the applicable insurance carrier; or

(3) Fuel supply or transportation limitations, for up to one year, resulting from an event of force majeure or other circumstances as verified by the Market Monitor.

F. For Resources that are not eligible or do not elect the Seasonal Hydroelectric Offer Curve Methodology outlined in Section 3.4 M, the Market Participant must submit if applicable, heat rate curves, descriptions of how spot fuel prices and/or contract prices are used to calculate fuel costs, variable fuel transportation and handling costs, emissions costs, and VOM to the Market Monitor. All cost data and cost calculation descriptions are subject to the review and approval of the Market Monitor to ensure reasonableness and consistency across Market Participants. The submitted information must be sufficient for replication of the mitigated Energy Offer Curve and must include, among other data, the following information:

(1) For fuel costs, Market Participants must provide the Market Monitor with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants must submit VOM costs, calculated in adherence with the Appendix G of the Markets+ Protocols, reflecting short-run marginal costs, exclusive of fixed costs.

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Further details associated with the development, validation, and updating of these costs are included in Appendix G of the Markets+ Protocols.

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G. For Demand Response Resources utilizing Behind-The-Meter Generation, the mitigated Energy Offer Curve methodology must be developed in the same manner as a generating Resource as described above. For load reduction Demand Response Resources, the mitigated Energy Offer Curve methodology must include the quantifiable opportunity costs associated with the reduction, net of related offsetting increases in usage.

H. For Dispatchable Variable Energy Resources, the mitigated Energy Offer Curve methodology may include, but must not exceed, any calculation of quantifiable costs that

vary by MWh output, including short-run incremental VOM. Mitigation does not apply to Non-Dispatchable Variable Energy Resources in the Real-Time Balancing Market.

I. For an ESR, the mitigated Energy Offer Curve methodology may include, but must not exceed, (i) charging cost and (ii) opportunity cost, both adjusted for round-trip efficiency. Charging cost is the cost at which the ESR charged, and opportunity cost is the average profit in the next hour forgone by charging or discharging in the current hour. The sum of the charging cost and opportunity cost is the average LMP that is expected for the next Operating Hour. This expected average LMP for the next Operating Hour is the unweighted average of the LMPs for the most recent forty-five (45) days comparing like Operating Hours. The mitigated Energy Offer Curve for MSRs must have at least two breakpoints: one for charging and another for discharging. More breakpoints may be added to the extent that other costs vary.

The following formula applies to mitigated Energy Offer Curves for ESRs:

Charging Mitigated Energy Offer ($/MWh) =

Performance Factor * Average LMP Expected for the Next Hour ($/mmBtu) * Round-Trip Efficiency - EOC VOM ($/MWh)

Discharging Mitigated Energy Offer ($/MWh) =

Performance Factor * Average LMP Expected for the Next Hour ($/mmBtu) / Round-Trip Efficiency + EOC VOM ($/MWh)

J. Intra-day changes to the mitigated Energy Offer Curve are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past their initial commitment period by the Day-Ahead Market or a RUC process, the Market Participant may submit an updated mitigated Energy Offer Curve that reflects the procurement of higher cost fuel; or

(2) A Resource must switch fuels due to unforeseen operating conditions; or

(3) The Resource is an ESR; or

(4) As approved by the Market Monitor during periods of high intraday fuel price volatility.

Intra-day changes to the mitigated Energy Offer Curve must follow the mitigated offer development guidelines in Appendix G of the Markets+ Protocols and will be validated by the Market Monitor.

K. A Market Participant that has a Resource with short-run marginal costs greater than the Safety-net Energy Offer Cap may submit an Energy Offer Curve using the same guidelines for development of the Resource's Mitigated Energy Offer Curve established in Appendix G of the Markets+ Protocols. The Energy Offer Curve above $1,000/MWh must be equal to the Mitigated Energy Offer Curve and may include an adder with a maximum of $100/MWh due to the uncertainty of expected costs. For purposes of LMP calculation, the Energy Offer Curve will be limited to a maximum of $2,000/MWh and must be verified by the Market Monitor prior to the start of the applicable market clearing process. If the Energy Offer Curve cannot be verified prior to the start of the applicable market clearing process, then the Resource may be eligible to receive make-whole payments for its actual costs after verification by the Market Monitor. The default value is $1,000/MWh for any offer above $1,000/MWh until the offer can be verified. If the verified Energy Offer Curve is greater than $2,000/MWh, the Energy Offer Curve will be capped at $2,000/MWh in the applicable market clearing process, and the Resource may be eligible for make-whole payments for actual costs exceeding $2,000/MWh. Market Participants must submit evidence of actual costs to the Market Monitor. The Market Monitor must verify the actual costs for use in make-whole payments. In order to include the costs in the make-whole payments of the S120 Settlement Statement, the submission must occur within 75 calendar days after the Operating Day and the verification must be complete no later than noon on the business day prior to 105 calendar days after the Operating Day.

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L. Cost data submitted for the development of mitigated offers, including opportunity cost data, are subject to the confidentiality provisions set forth in Section 10 of Attachment A of this Tariff.

M. Market Participants may elect to use the Seasonal Hydroelectric Offer Curve calculation (SHOC) for hydroelectric Resources with storage capability, including Aggregate Resources, as defined in this Section 3.4.

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(1) Market Participants electing the SHOC will calculate that curve in the following manner for all hours of every Operating day, except as provided in Section 3.4M(11). For each Operating Day, the Market Participant will calculate the Seasonal Hydroelectric Offer Curve as the maximum of the (a) gas floor, (b) short-term component, and (c) long-term/geographic component, which are all calculated as specified below.

(3) The Market Participant will calculate the gas floor as the most recent average heat rate for a typical natural gas turbine generator, as defined in the Markets+ Protocols, multiplied by the natural gas price for the fuel region applicable to the location of the hydroelectric resource, multiplied by 1.1.

(4) The Market Participant will calculate the short-term component as 1.4 multiplied by the maximum of:

(a) the most recent day-ahead peak price at the applicable electric pricing hub;

(b) the on-peak balance of the month futures price for the current month at the applicable electric pricing hub; and

(c) the on-peak monthly index futures price at the applicable electric pricing hub for one (1) month after the current month.

(5) The Market Participant will calculate the long-term/geographic component calculated based on multiple electric pricing hubs in addition to the default electric pricing hub consistent with Section 3.4 of this Attachment B. The Market Participant will calculate the long-term/geographic component as 1.1 multiplied by the maximum of:

(a) the most recent day-ahead on-peak price at the applicable electric pricing hub(s);

(b) the on-peak balance of the month futures prices for the current month at the applicable electric pricing hub(s); and

(c) the on-peak monthly index futures price at the applicable electric pricing hub(s) for all future months up to the maximum storage horizon after the current month.

(6) As part of its request for a Seasonal Hydroelectric Offer Curve, the Market Participant must submit to the Market Monitor:

(a) For each month and for each electric pricing hub requested that is not the default electric pricing hub, the Market Participant must (1) demonstrate that it holds firm transmission rights to enable delivery from the hydroelectric resource's default market region to the requested electric pricing hub or to a delivery point that is similarly priced location; or (2) provide documentation that supports a historical practice of acquiring monthly firm transmission rights to the requested electric pricing hub(s) or similarly priced location. Market Participants may demonstrate transmission rights to multiple locations and, based on the Market Monitor's evaluation of such information, the Market Participant may include multiple electric pricing hubs, in addition to the default electric pricing hubs, in the long-term/geographic component of the SHOC for the affected resources. The Market Participant will attest through its submission that it reasonably expects it will be able to use the demonstrated transmission rights to deliver incremental sales from the hydroelectric resource because the rights are not fully committed and that there is an actual opportunity to use these rights. If the Market Participant includes multiple electric pricing hubs in the long-term/geographic component, the SHOC calculation will use the maximum of the electric price indices published for each electric pricing hub as determined for each Operating Day. On Operating Days for which there are no relevant published electric price indices at an electric pricing hub, the Market Participant will use the most recently published index for the applicable electric pricing hub.

(b) For Resources that the Market Participant demonstrates a quantity of firm transmission rights to a requested electric pricing hub or similarly priced location that is less than the hydro Resource's capacity, the Market Participant will include the requested electric pricing hub up to the quantity of demonstrated transmission rights, and apply a proportional weighting of the Resource's transmission rights to calculate a weighted

average of those bilateral electric pricing hub prices when calculating the value of the long-term/geographic component of the SHOC.

(c) In the absence of Market Monitor approved supporting transmission rights information when calculating the long-term/geographic component of the SHOC, the Market Participant will revert to the default bilateral l electric hub price specified in Section 3.4M(8).

(d) If during the term of the annual period the Market Participant no longer has the firm annual transmission rights previously demonstrated, or can no longer continue a historical practice of acquiring monthly firm transmission rights, the Market Participant must inform the Market Monitor within five (5) Business Days of no longer holding such firm transmission rights.

(e) The Market Monitor may audit the Market Participant and request additional information in support of the Market Participant's assertions.

Comment [SPP44]: This is standard from the CAISO DEB 39.7.1.7.2 and SPP does not support deleting it.

(f) If the Market Monitor determines the Market Participant has submitted substantively inaccurate information, the Market Monitor will take actions to require the Market Participant to change which electric pricing hub it uses in the SHOC calculation.

(7) The maximum hydroelectric Resource storage horizon submitted by the Market Participant must:

(a) Reflect the typical storage duration of a hydroelectric Resource's reservoir, defined as the length of time between which the reservoir cycles from a maximum elevation to a new maximum elevation during a hydro cycle. The Market Participant will compute the reservoir's cycling time based on multiple years of reservoir elevation data. For purposes of calculating the maximum storage horizon for a hydroelectric Resource (including an Aggregate Resource) with multiple reservoirs, the Market Participant will use data from the reservoir with the longest storage duration.

Comment [SPP45]: SPP would like to understand reasoning here for using longest instead of shortest?

Comment [MMU46]:

MMU proposes the following red-line, and contingent on final Aggregate Resource Data design:

" . . . use the data from the reservoir with the highest elevation provided that the water in that storage facility runs through all of the resources in the aggregate.

(b) Be supported by (1) a written attestation by a representative who has the authority to bind the Market Participant stating that the value used by the

Market Participant as the maximum storage horizon is consistent with the requirements specified in this Section 3.4 or (2) corroborating information submitted to the Market Monitor, which may include several years of historic reservoir levels for the specific hydroelectric Resource and regulatory filings related to the operations of the hydroelectric Resource.

(8) The default electric pricing hub will be as specified in the Markets+ Protocols, which will also include a process for modifying or adding electric pricing hubs to the list of default electric pricing hubs.

(9) Run-of-river hydroelectric Resources are defined as those resources with 1 hour of storage or less. Run-of-river hydroelectric Resources will use the greater of (a) the most recent day-ahead peak price at the applicable electric pricing hub, and (b) $0/MWh, as their mitigated offer curve for all hours of the year.

(10) Hydroelectric Resources with a maximum hydroelectric Resource storage horizon of 30 days or less shall not include the price for the first month after the current month in the calculation of the SHOC until such hydroelectric Resource's maximum storage horizon extends into such month, as measured from the Operating Day.

(11) Notwithstanding the maximum hydroelectric Resource storage horizon, any hydroelectric Resource for which the hydro operator reasonably expects no usable storage within the Operating Day, then its Hydroelectric Offer Curve shall be the greater of (a) the most recent day-ahead peak price at the applicable electric pricing hub, and (b) $0/MWh. For purposes of this section, no usable storage will be defined as conditions under which generating less than the maximum output at all available units for all intervals of the Operating Day would not conserve additional water in any of the reservoirs of the hydroelectric Resource for use in a future period.

3.5 Mitigation Measures for Start-Up Offers and No-Load Offers

A Market Participant must submit a mitigated Start-Up Offer and a mitigated No-Load Offer for each resource in accordance with the mitigated offer development guidelines in the Markets+

Protocols. The mitigated Start-Up and No-Load Offers may be updated up to the close of the Day-Ahead Market for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead Market, the Start-Up and No-Load Offers may be updated until the RUC begins. The mitigated Start-Up and No-Load Offers submitted at the time the RUC begins will apply to the RUC on the day before the Operating Day unless an exception is allowed in Section 3.3(G) of this Attachment B.

A. The Start-Up and No-Load Offer conduct threshold is a 10% increase above the mitigated Start-Up or mitigated No-Load Offer, as applicable.

B. The Market Operator applies mitigation measures by placing a cap on the Start-Up or No-Load Offer of 10% above the applicable mitigated Start-Up or No-Load Offer if:

(1) The Resource's Start-Up or No-Load Offer exceeds the mitigated Start-Up or mitigated No-Load Offer, as applicable, by the applicable conduct threshold; and

(2) The Resource has market power as determined in Sections 3.2(1) or 3.2(3); and

(3) The Resource fails the Market Impact Test as described in Section 3.7(b)

C. For a Resource that has market power as determined in Section 3.2(2), the Market Operator applies mitigation measures by placing a cap on the Start-Up Offer or No-Load Offer of 10% above the mitigated Start-Up Offer or No-Load Offer, as applicable.

D. The mitigated Start-Up Offer must represent the cost per start as determined from start fuel usage and the costs related to that fuel usage, Performance Factor, cost of electricity for station use to start ("Station Service"), start-up VOM cost, start major maintenance cost, and start additional labor costs, if required above normal station staffing levels. Further guidelines for the mitigated Start-Up Offer are documented in Appendix G of the Markets+ Protocols.

The mitigated Start-Up Offer for Demand Response resources must be:

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Comment [SPP 47]: FLAGGING as this issue will be considered at the 1/11 MDWG.

Comment [SRP48]: SRP suggests a conduct threshold of 25% rather than 10% increase.

Comment [APS 49]: APS seeks to manage its mitigated offer to a similar offer to that in EIM. In EIM, Start-Up Cost and No-Load Costs offers are capped at 25% of the costs. This is important for regions that have gas production and storage on only one end of the delivery system and no production or storage on the other leading to significant price changes after the morning nomination cycle AND reflected in intraday gas prices.

Comment [JW50]: MMU reaching out to participants to discuss this and other items.

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1) For load that is shut down or curtailed, the cost to shut down or curtail the load for a given period, which varies with the number of deployments rather than the amount of response, and
2) For load that is not shut down or curtailed, the start cost of Behind-The-Meter Generation utilizing the mitigated Start-Up Offer calculation applicable to other generation Resources as defined above.

The mitigated Start-Up Offer for Variable Energy Resources must be zero.

E. The mitigated No-Load Offer must be the hourly fixed cost, represented in $/hr, required to operate the Resource at zero electricity output to the grid. The mitigated No-Load Offer can be calculated using either (1) the no-load fuel approach that includes no-load fuel (mmBtu/hour), Performance Factor, no-load VOM cost ($/mmBtu), total fuel related cost ($/mmBtu), and no-load major maintenance cost ($/hr); or (2) calculated using the no-load cost approach that includes heat input at Minimum Economic Capacity Operating Limit (mmBtu), Performance Factor, total fuel related cost ($/mmBtu), no-load VOM cost ($/mmBtu), incremental cost up to Minimum Economic Capacity Operating Limit ($/MWh), Minimum Economic Capacity Operating Limit (MW), and no-load major maintenance cost ($/hr). Further guidelines for the mitigated No-Load Offer are documented in Appendix G of the Markets+ Protocols.

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The mitigated No-Load Offer for Demand Response Resources utilizing Behind-The-Meter Generation must adhere to the same definition above as a generating Resource. For Demand Response Resources utilizing load reduction, the mitigated No-Load Offer must not exceed the quantifiable ongoing hourly costs associated with load reduction.

The mitigated No-Load Offer for Variable Energy Resources shall be zero.

F. The Market Participant must submit all inputs used in calculating mitigated Start-Up and mitigated No-Load Offers to permit the Market Monitor to verify submitted offers. Required information includes: heat rate curves, descriptions of how spot fuel prices and/or contract prices are used to calculate fuel costs, variable fuel transportation and handling costs, emissions costs, and VOM cost.

All cost data and cost calculation descriptions are subject to the review and approval of the Market Monitor to ensure reasonableness and consistency across Market Participants. Information to be provided by the Market Participant must include the following:

(1) For fuel costs, Market Participants must provide the Market Monitor with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants must submit VOM costs reflecting short-run marginal costs, exclusive of fixed costs.

(4) For start and no-load major maintenance cost, Market Participants may include these costs as a component of the mitigated Start-Up Offer and the mitigated No-Load Offer. Such cost must be based solely on resource-specific information derived from actual variable maintenance costs, when available, or estimated variable maintenance costs. The maintenance period for start major Maintenance cost must be tied to the number of starts, and the maintenance period for no-load major maintenance cost must be tied to the number of Resource run hours.

Further details associated with the development, validation and updating of these costs are included in Appendix G of the Markets+ Protocols.

G. Intra-day changes to the mitigated Start-Up and mitigated No-Load Offers are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past their commitment period, the Market Participant may submit updated mitigated Start-Up and mitigated No-Load Offers that reflect the procurement of higher cost fuel;

(2) A Resource must switch fuels due to unforeseen operating conditions; or

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Comment [SRP51]: SRP suggests adding an additional condition associated with fuel price volatility to mirror the procedure for the energy offer curve. This is in the event the market has the option to de-commit the resource in real-time.

(3) The Resource is an ESR.

(4) Based on actual ~~realized fuel costs~~ intra-day fuel costs

Intra-day changes to the mitigated Start-Up and mitigated No-Load offers must follow the mitigated offer development guidelines Appendix G of in the Markets+ Protocols and will be validated by the Market Monitor.

H. In all cases under this Section 3.3, cost data submitted for the development of mitigated offers, including opportunity cost data, is subject to the confidentiality provisions set forth in Section 10 of Attachment A of this Tariff.

3.5.1 Mitigation Measures for Transition State Offers

The mitigation measures in this section apply only to MCRs. A mitigated Transition State Offer must be submitted daily by the Market Participant in accordance with the mitigated offer development guidelines specified in the Markets+ Protocols for each potential transition state changes. The mitigated Transition State offer may be updated up to the close of the Day-Ahead Market before the Operating Day as defined in Section 3.4 of Attachment B of this Tariff for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead Market, the mitigated Transition State Offer may be updated until the Day-Ahead RUC process begins. The mitigated Transition State Offer submitted at the time the Day-Ahead RUC process begins will apply to the Day-Ahead RUC process on the day before the Operating Day and Intra-Day RUC processes on the Operating Day.

A. The Transition State Offer conduct threshold is a 10% increase above the mitigated Transition State Offer.

B. The Market Operator applies mitigation measures by placing a cap on the Transition State Offer of 10% above the mitigated Transition State Offer if:

(1) The Resource's Transition State Offer exceeds the mitigated Transition State Offer by the applicable conduct threshold; and

(2) The Resource has market power as determined in Sections 3.2(1) or 3.2(3); and

(3) The Resource fails the Market Impact Test as described in Section 3.7(b).

Comment [SPP 52]: RESOLVED in 1/2/2024 meeting

Comment [APS 53]: APS Proposal

Comment [SPP 54]: SPP Staff Asks APS: Are 'realized" costs equal to actual costs?

Comment [MMU55]: FERC 831 (a) Offer Cap Updates may implicate resources that are already committed – MMU to review this proposal in light of this Order

Comment [JW56]: MMU reaching out to participants to better understand the issue and examples of why what we have is not sufficient.

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C. For an MCR that has market power as determined in Section 3.2(3), the Market Operator applies mitigation measures by placing a cap on the Transition State Offer of 10% above the mitigated Transition State Offer.

D. The mitigated Transition State Offer for an MCR must represent the costs of moving from the current configuration to another configuration as determined from the fuel costs incurred during the transition, the costs related to that fuel usage, Performance Factor, and additional maintenance and labor costs incurred during the transition, including transition VOM cost and transition major maintenance cost. Further guidelines for the mitigated Transition State Offer are documented in Appendix G of the Markets+ Protocols.

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The Market Participant must submit documentation of the method and any cost data for calculating the mitigated Transition State Offer that is necessary to allow the Market Monitor to validate submitted offers. Further details associated with the development of these costs are included in the Markets+ Protocols.

E. Intra-day changes to the mitigated Transition State Offers are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past their commitment period, the Market Participant may submit an updated mitigated Transition State Offer that reflects the procurement of higher cost fuel; or

(2) A Resource must switch fuels due to unforeseen operating conditions.

Intra-day changes to the mitigated Transition State Offers must follow the mitigated offer development guidelines in Appendix G of the Markets+ Protocols and will be validated by the Market Monitor.

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F. In all cases under this Section 3.5.1, cost data submitted for the development of mitigated offers, including opportunity cost data, is subject to the confidentiality provisions set forth in Section 10 of Attachment A of the Tariff.

3.6 Mitigation Measures for Flexibility Reserve Product Offers

For each Flexibility Reserve Product offered, a mitigated offer must be submitted by the Market Participant in accordance with the mitigated offer development guidelines in the Markets+

Protocols. For MCRs for which a single configuration allows physical units to be swapped (e.g., Combustion Turbine 2 for Combustion Turbine 1), the costs used in the mitigated offer development for that configuration must be those of the least cost physical unit that is available and can be swapped in such configuration. The mitigated Flexibility Reserve Product Offers may be updated up to the close of the Day-Ahead Market for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead Market, the mitigated Flexibility Reserve Product Offers may be updated until the Day-Ahead RUC begins. For Resources committed by the Day-Ahead Market, the mitigated Flexibility Reserve Product Offers submitted as of the close of the Day-Ahead Market will apply to the Day-Ahead Market on the day before the Operating Day and the RTBM on the Operating Day unless an exception is allowed in Section 3.4(G) of this Attachment B; for all other Resources, the mitigated Flexibility Reserve Product Offers submitted at the time the Day-Ahead RUC begins will apply to the RTBM on the Operating Day.

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For each Flexibility Reserve Product offered, the conduct threshold is a 10% increase above the mitigated offer for the applicable Flexibility Reserve Product Offer.

A. The Market Operator applies mitigation measures by placing a cap on the Flexibility Reserve Product Offer of 10% above the applicable mitigated Flexibility Reserve Product Offer if:

(1) The Resource's Flexibility Reserve Product Offer exceeds the applicable mitigated offer by the conduct threshold; and

(2) The Resource has market power as determined in Sections 3.2(1) or 3.1(3); and

(3) The Resource fails the Market Impact Test as described in Section 3.7(b) is manually committed by the Markets+ Transmission Service Provider, Balancing Authority, or Reliability Coordinator.

B For a Resource that has market power as determined in Section 3.2(2), the Market Operator applies mitigation measures by placing a cap on the Flexibility Reserve Product Offer of 10% above the applicable mitigated Flexibility Reserve Product Offer.

C. ~~I~~Intra-day changes to the mitigated Flexibility Reserve Product Offers are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource that is supplying Flexibility Reserve Products remain online past their commitment period by the Day-Ahead Market or a RUC process, the Market Participant may submit an updated mitigated Flexibility Reserve Product Offer that reflects the procurement of higher cost fuel;

(2) A Resource must switch fuels due to unforeseen operating conditions; or

(3) Intra-day changes to the mitigated Offers are allowed after the RUC clears on the day before the Operating Day under the following condition:

a. The Resource incurs the uncompensated cost in Section 3.4(E)(3) of this Attachment B, for which the mitigated offer calculation is described in Appendix G of the Markets+ Protocols.

Intra-day changes to the mitigated Flexibility Reserve Product Offer must follow the mitigated offer development guidelines in Appendix G and Section 8.2.2 of the Markets+ Protocols and will be validated by the Market Monitor.

D. The Market Participant may include in the calculation of its mitigated Flexibility Reserve Product Offer an amount reflecting the Resource-specific opportunity costs if the Market Participant is able to demonstrate to the satisfaction of the Market Monitor that such costs are legitimate and verifiable and not otherwise included in market outcomes. To the extent such costs include run-time restrictions, such run-time restrictions must be updated as specified in the Markets+ Protocols, with more frequent updating to occur the fewer hours that remain available, consistent with the Markets+ Protocols. The formulas and instructions in the price forecast model for any such opportunity costs are determined by the Market Monitor and published in the Markets+ Protocols as part of the Mitigated Offer Development Guidelines, updated, as needed, by the Market Monitor. Opportunity costs for mitigated Flexibility Reserve Product Offers must not include Energy and Flexibility Reserve Product Markets revenues associated with forgone Energy or other types of Flexibility Reserve Product production to the extent that such costs are included in market outcomes.]

E. All cost data and cost calculation descriptions are subject to the review and approval of the Market Monitor to ensure reasonableness and consistency across Market Participants. The information must be sufficient for replication of the

mitigated Flexibility Reserve Product Offers and must include, among other data, the following information:

(1) For fuel costs, Market Participants must provide the Market Monitor with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants must submit VOM costs, calculated in adherence with the Appendix G of the Markets+ Protocols, reflecting short-run marginal costs, exclusive of fixed costs.

F. In all cases under this Section 3.4, cost data submitted for the development of mitigated offers, including opportunity cost data, is be subject to the confidentiality provisions set forth in Section 10 of Attachment A of this Tariff.

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3.7 Validation of Mitigated Resource Offers

If the Market Monitor determines that the Market Participant has incorrectly applied the formulas and definitions in Sections 3.4A to 3.4L, 3.5, 3.5.1, and 3.6 of this Attachment B and in the Markets+ Protocols or determines that a mitigated offer deviates from the approved mitigated offer methodology, or is otherwise unacceptable ~~calculated incorrectly~~, the Market Participant must submit the mitigated offer calculated by the Market Monitor going forward. The Market Monitor calculated mitigated offer must continue to be submitted until any dispute is resolved. The procedures for submitting and processing disputes related to mitigated offers are specified in the Markets+ Protocols. The Market Operator remedies mitigated offer disputes resolved in favor of the Market Participant by providing make whole payments, as necessary, to the Market Participant whose mitigated offer was improperly determined by the Market Monitor.

Comment [KS57]: Unacceptable v. incorrectly calculated, as the bid/ value is calculated by the MP

Comment [JW58]: MMU does not think the "calculated incorrectly' appropriately captures the issue and supports keeping the "otherwise unacceptable" language.

Comment [SPP59]: Accepted in part, rejected in part, based on 12/20 meeting

Comment [SPP 60]: RESOLVED in 1/2/2024 meeting

Each Market Participant is obligated to provide to the Market Monitor any cost data necessary to allow the Market Monitor to validate its mitigated Resource Offer.

The Market Monitor will keep such data confidential, and all cost data submitted under this Section 3.5, including any opportunity cost data, are subject to the confidentiality provisions set forth in Section 10 of Attachment A of this Tariff. The Market Monitor maintains the mechanism and procedures to allow Market Participants to submit such cost data on the Market Operator's website.

Additional Mitigation Measures for Resource Offer Parameters

The mitigation measures in this section apply to all Resource Offer parameters expressed in non-currency-based units and apply only in the presence of market power. A reference level for each applicable Resource Offer parameter that reflects the physical capability of the Resource is determined prior to the start of Markets+ by one or both of the following methods: (i) consultation between the Market Participant and the Market Monitor; and/or (ii) based on averages of Resource Offer parameters from similar Resources. This methodology for setting reference levels for Offer parameters applies to all Resources at the start of Markets+ and to all Resources that register subsequent to the start of Markets+. The Market Operator's output forecast for a wind and solar-powered Variable Energy Resource is used as the reference maximum output limit for the wind and solar-powered Variable Energy Resource.

The following thresholds are used by the Market Monitor to identify Resource Offers that may warrant mitigation and are determined with respect to the corresponding reference level:

1. Time-based Resource Offer parameters: An increase of three (3) hours, or an increase of six (6) hours in total for multiple time-based Resource Offer parameters.
2. Resource Offer parameters expressed in units other than time or dollars: One hundred percent (100%) increase for Resource Offer parameters that are minimum values, or a fifty percent (50%) decrease for Resource Offer parameters that are maximum values.
3. Minimum Economic Capacity Operating Limit, Minimum Discharge Limit, or Maximum Charge Limit, as applicable, threshold for Resources committed to address a Local Reliability Issue: twenty-five percent (25%) increase.

Comment [SRP61]: This would be new for us. This is not done in EIM.

Comment [SRP62]: Does this include capacity values too? Because this would not be enough of a range I think if that is the case. Ramp rates may also be another concern because they can vary quite a bit.

4. Maximum Charge Limit, as applicable, threshold for Resources committed to address a Local Reliability Issue: twenty-five percent (25%) decrease.

In the case that a Resource Offer fails the thresholds described above, the Market Monitor will determine the impact on prices or make whole payments. If an impact exceeds the LMP, MCP or make whole payment thresholds in Section 3.8, the Market Monitor will initiate a discussion with the Market Participant concerning an explanation of the parameter changes. The Market Monitor will inform the Market Operator of any potential issue. If the Market Operator, in consultation with the Market Monitor, concludes that the Market Participant has demonstrated the validity of the submitted Resource Offer parameter, no further action will be taken. If not, the Market Operator will replace the Resource Offer parameter with the corresponding reference level. Mitigation measures will remain in place until such time that the Market Participant demonstrates the validity of the Resource Offer parameter or the Market Participant notifies the Market Monitor that the Resource Offer parameter has been changed to a value that is within the tolerance range as described above, and the Market Monitor has verified that this change has occurred. In the event that the Market Participant submits a dispute, the mitigation measure will remain in place until the resolution of the dispute.

In all cases under this Section 3.8, cost data submitted for the development of mitigated offers, including opportunity cost data, is subject to the confidentiality provisions set forth in Section 10 of Attachment A of this Tariff.

3.9 Market Impact Test

If any Resource meets the conditions in Section 3.2 of this Attachment B, then the Market Operator compares a market solution with no mitigation measures to a market solution with mitigation measures applied. The Market Operator will apply mitigation measures to all such Resources when:

(1) An LMP or MCP at a Settlement Location exceeds the corresponding price from the market solution with mitigation measures applied by the applicable impact test threshold, or

(2) A make whole payment for any Resource exceeds the corresponding make whole payment from the market solution with mitigation measures applied by make whole payment impact test threshold.

The LMP, MCP, and make whole payment impact threshold is calculated as the product of (i) the MEC from the market solution with mitigation measures applied and (ii) the Slope Factor, where the impact threshold is between the minimum and maximum impact thresholds, inclusive.

(1) The Slope Factor determines how much the MEC affects the impact threshold between the minimum impact threshold and maximum impact threshold. The Slope Factor is 0.5; and

(2) The minimum impact threshold is $5 and the maximum impact threshold is $100.

4 Miscellaneous Provisions

4.1 Rights and Remedies

The Market Power Mitigation Plan does not restrict the Market Operator and Market Participants from asserting any rights they may have under state and federal regulation and laws, including initiating proceedings before the FERC regarding any matter which is subject to this Market Power Mitigation Plan.

Except as otherwise stated in this Market Power Mitigation Plan, disputes as to the implementation of, or compliance with, this Market Power Mitigation Plan are subject to the dispute resolution procedures under this Tariff or the SPP Bylaws as applicable or may be raised with the FERC.

ATTACHMENT C
Market Monitoring Plan

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1. Purpose and Objective

1.1 Purpose of the Plan

This plan is intended to provide for the monitoring of Markets and Services and submissions of recommendations to the FERC and the SPP Board of Directors.

1.2 Market Monitoring Plan ("Plan")

The Plan is developed, implemented and maintained by SPP's Market Monitor. The Market Monitor has the responsibility for implementing the Plan by (a) continuously monitoring Markets and Services, (b) recommending compliance and corrective actions per this Tariff, (c) collecting and retaining the data and information necessary for the performance of the Plan, (d) recommending updates to the monitoring plan contained within Attachment C to this Tariff, and (e) periodically reporting on Markets and Services.

1.3 Mission Statement and Objectives of the Market Monitor

1.3.1 Mission Statement

The mission of the Market Monitor is to (a) monitor and report on possible abuses of horizontal and vertical market power and gaming in Markets and Services by any Market Participant (b) identify market design flaws and recommend any changes in design to improve the operation of Markets and Services for the benefit of consumers and Market Participants and (c) monitor Market Participants' compliance with market rules.

1.3.2 Objectives

The Market Monitor will work to ensure that its functions and activities are implemented fairly and consistently, and that it protects and fosters competition while minimizing interference with open and competitive markets. The Market Monitor's preferred approach is to make recommendations to improve the operation of markets and to prevent the exercise of market power in advance rather than punishing offenders afterward.

The Market Monitor will evaluate existing and proposed market rules, Tariff provisions, and market design elements and recommend proposed rules and Tariff changes to the Market Operator, FERC, and other interested entities such as state commissions and Market Participants. The Market Monitor will limit distribution of its identifications and recommendations to the Market Operator and FERC in the event that the Market Monitor believes that broader

dissemination could lead to exploitation, with an explanation of why further dissemination should be avoided.

The Market Monitor will review the performance of the Markets and Services and provide an annual report on the state of the market as provided in Section 7 of this Attachment C.

The Market Monitor will recognize that entities otherwise identified as having market power may engage in conduct giving the impression of market power but, after analysis by the Market Monitor, may prove to be pro-competitive and efficient. In making this distinction, the Market Monitor will generally focus on an analysis of the identified conduct and associated market impacts, rather than seeking to determine the intent of the Market Participant (e.g., conducting profitability analyses that would require comprehensive information on all the physical and final positions of a participant).

1.4 Independence of the Market Monitor

The Market Monitor independently performs those activities necessary to provide impartial and effective market monitoring within the scope of the Plan. The Market Monitor may verify information with affected Market Participants prior to making recommendations or reports.

1.5 Resolution of Conflicts

In the event there is a conflict between this Attachment C and any other provision of this Tariff, this Attachment C will control.

2. Definitions

For purposes of this Plan, capitalized terms have the meanings specified below:

2.1 Confidential Information

The term defined under Section 1 to this Tariff.

2.2 Data and Information

Writings, documents and records of every type, including audio recordings and electronic files.

2.3 Interested Government Agencies

The FERC and any state regulatory commission or agency with relevant regulatory oversight responsibilities.

2.4 Markets and Services

The markets and services offered under the Markets+ tariff.

3. Market Monitor

The Market Monitor is responsible for implementing the Market Monitoring Plan as defined in this Tariff.

3.1 Staffing and Resources

The Market Monitor is an organization within SPP reporting to the Board of Directors, excluding any SPP management representatives serving on the Board of Directors. The Market Monitor will be comprised of employees of SPP with the necessary experience and qualifications to perform the duties of the Market Monitor. The duties and responsibilities of the Market Monitor are assigned by the Board of Directors. However, the Market Monitor's duties and responsibilities will not include purely administrative matters (e.g., enforcement of late fees and the untimely submission of outage reports and Meter Data). SPP management representatives on the Board of Directors will be excluded from the Board of Directors' oversight of the Market Monitor. SPP must establish and provide appropriate staffing and/or resources for the Market Monitor and must ensure that the Market Monitor has such adequate employees, funding and/or other resources, access to required information, and the full cooperation of SPP Staff, Organizational Groups, and other persons, as necessary, for the effective functioning of the Market Monitor and implementation of this Plan. The Market Monitor has full responsibility for implementing Attachment C.

3.2 Relationships and Notifications

As a general principle, the Market Monitor may obtain input from SPP staff, FERC, the Markets+ State Committee, and affected state regulatory authorities for the purpose of executing its duties.

In accordance with this Tariff, the Market Monitor must at any time bring any instances of market behavior that may require investigation (including, but not limited to, suspected Tariff violations, suspected violations of FERC-approved rules and regulations, suspected market manipulation, and inappropriate dispatch) to the attention of FERC's Office of Enforcement (or its successor organization) staff.

In the event the Market Monitor identifies a significant market design or policy problem that may require (a) a change to this Tariff or (b) referral to FERC, the Market Monitor must provide notification to the M+ Independent Panel Board of Directors, the President of SPP, and the

appropriate FERC staff, and other interested and relevant entities such as state regulatory commissions, as soon as practicable. In the event the Market Monitor believes broader dissemination could lead to exploitation, it may limit distribution of its identifications and recommendations to M+ Independent Panel, the Board of Directors, the President of SPP, and FERC with an explanation of why further dissemination should be avoided at that time.

The Market Monitor may also interface with FERC and other RTO and ISO market monitors in adjacent regions as needed for the purpose of addressing electricity market issues in a comprehensive manner.

3.3 Independence and Ethics Standards

The Market Monitor and its employees must abide by SPP's Standards of Conduct, which are appropriate for establishing the professional and financial independence of the Market Monitor.

Consistent with this requirement, the Market Monitor and its employees must:

(a) have no material affiliation with any Market Participant or any affiliate of a Market Participant;

(b) not serve as an officer, employee, or partner of a Market Participant;

(c) have no material financial interest in any Market Participant or any affiliate of a Market Participant (allowing for such potential exceptions as mutual funds and non-directed investments);

(d) not engage in any market transactions other than the performance of their duties under this Tariff;

(e) not be compensated, other than by SPP, for any expert witness testimony or other commercial services to SPP or to any other party in connection with any legal or regulatory proceeding or commercial transaction relating to SPP;

(f) not accept anything of value from a Market Participant in excess of a de minimis amount;

(g) advise their relevant supervisor (or, in the case of the Market Monitoring management, SPP's Board of Directors) in the event they seek employment with a Market Participant, and must disqualify themselves from participating in any matter that would have an effect on the financial interest of such Market Participant.

These restrictions are not exclusive of the other requirements specified in SPP's Standards of Conduct. In the event there is a conflict between this Attachment C and SPP's Standards of Conduct, this Attachment C will control.

The Market Monitor must certify compliance with such policies to the President of SPP. The Market Monitor must require any external consultants or experts to certify compliance with these policies.

4. Market Monitoring

4.1 Markets to be Monitored

The Market Monitor will monitor Markets and Services. The Market Monitor will not monitor bilateral energy, transmission or capacity markets and services not administered, coordinated or facilitated by SPP, except to assess the effect of these markets and services on Markets and Services, or the effects of Markets and Services on these unmonitored markets. Similarly, the Market Monitor will not monitor the energy, transmission, or capacity markets and services in regions adjacent to the Markets+ Footprint except to assess the effect of these markets and services on Markets and Services, or the effects of Markets and Services on these adjacent markets.

4.2 Market Monitoring Scope

The Market Monitor will monitor Markets and Services by reviewing and analyzing market data and information including, but not limited to:

(a) Resource registration data;

(b) Resource Offer data including non-price related offer parameters required for use in either the Day-Ahead Market, Reliability Unit Commitment processes and/or Real-Time Balancing Market;

(c) Demand Bids for the purchase of Energy in the Day-Ahead Market;

(d) Virtual Energy Bids for the purchase of Energy in the Day-Ahead Market and Virtual Energy Offers for the sale of Energy in the Day-Ahead Energy Market;

(e) Export Interchange Transaction Bids and Import Interchange Transaction Offers for the purchase and sale of Energy in the Day-Ahead Market and the Real-Time Balancing Market;

(f) Actual commitment and dispatch of Resources, including but not limited to Resource MW capability and output, MVAR capability and output, status, and outages;

(g) Locational Marginal Prices and zonal Market Clearing Prices at all Settlement Locations in or affecting any of Markets and Services;

(h) Markets+ participating Balancing Authority Area data, including but not limited to demand, area control error, Net Scheduled Interchange, actual total net interchange, and forecasts of operating reserves and peak demand;

(i) Conditions or events both inside and outside the Markets+ Footprint affecting the supply and demand for, and the quantity and price of, products or services sold or to be sold in Markets and Services;

(j) Information regarding transmission services and rights;

(k) Information regarding the nature and extent of transmission congestion in the region and, to the extent practicable, transmission congestion on any other system that affects Markets and Services, including but not limited to causes of, costs of and charges for transmission congestion, transmission facility loading, MVA capability, line status and outages;

(l) Settlement data for the Markets and Services;

(m) Any information regarding collusive or other anticompetitive or inefficient behavior in or affecting any of Markets and Services;

(n) Generation resource operating cost data for estimating resource incremental cost, including fuel input costs, heat rates where applicable, start-up fuel requirements, environmental costs and variable operating and maintenance expenses; and

(o) Any additional Resource and transmission facility outage data not otherwise provided for in this Section 4.2;

In addition to the monitoring of market Data and Information, the Market Monitor may communicate with SPP Staff and Market Participants at any time for the purpose of monitoring and assessing market conditions.

4.3 Referrals to FERC

(a) The Market Monitor will refer suspected market violations, as defined in 18 CFR 35.28(b)(8), to FERC's Office of Enforcement (or its successor organization) staff in accordance with the FERC's reporting protocols for referrals by market monitors as specified in 18 C.F.R. § 35.28(g)(3)(iv) in a timely manner. Any such referrals by the Market Monitor to FERC Staff will be on a confidential basis, and all information and documents included in such reports will not be released to any other party except to the extent FERC directs or authorizes such release, unless such information and documents are already in the public domain.

(b) The Market Monitor will refer any perceived market design flaws and recommended Tariff language changes to ~~the Commission~~FERC's Office of Energy Market Regulation or its successor office/organization in accordance with 18 C.F.R. § 35.28(g)(3)(v).

4.4 Monitoring for Potential Market Manipulation

The Market Monitor will monitor for potential instances of market manipulation as defined in 18 C.F.R. §1c.2.. The Market Monitor will report any market manipulation to FERC in a timely manner.

4.5 Monitoring for Potential Transmission Market Power Activities

The Market Monitor will monitor Markets and Services for the exercise of transmission market power by reviewing and analyzing data and information related to the availability of transmission facilities that impact access to services under this Tariff. The Market Monitor will monitor for activities particularly with respect to the withholding of transmission facilities or transmission capacity, including activities such as but not limited to, the following:

(a) Physical withholding by Transmission Owners by providing improper information related to the availability of transmission, such as information related to the capability or other modeling data used by SPP for use in system operations;

(b) Economic withholding by Transmission Owners through the use of methods and data for estimating costs of interconnection and system upgrades that is not comparable for affiliates and non-affiliates;

(c) Unavailability of transmission facilities through planned and unplanned maintenance outages that routinely exceed historical baselines; and

(d) Withholding of transmission capacity through excess reservations that are not actually used.

The Market Monitor will refer any instance(s) of the suspected exercise of transmission market power directly to FERC's Office of Enforcement (or its successor organization) utilizing the protocols for referrals to FERC for suspected instances of the exercise of market power that may be part of a suspected market violation, such as manipulation, in accordance with 18 C.F.R. § 35.28(g)(3)(iv). Where appropriate, the Market Monitor will also provide the FERC with an estimate of damages equal to (i) the effect on prices multiplied by (ii) the affected energy produced by the Transmission/Generation Owner. The Market Monitor may also request FERC to impose additional sanctions and penalties, which may consist of a fixed dollar amount based on each instance, or an amount up to (i) the effect on prices multiplied by (ii) the affected energy produced by Market Participants other than the Transmission/Generation Owner.

4.6 Monitoring for Market Participant Behavior Possibly Warranting Mitigation

The Market Monitor will monitor Markets and Services for potential abuse associated with the following categories of Market Participant behavior: (1) economic withholding; (2) uneconomic production; (3) physical withholding; and (4) uneconomic Virtual Bids and Virtual Offers. Abuse of these types of behaviors is prohibited. The mitigation measures for each of the behaviors identified in items (1) through (4) of this paragraph are described in Attachment B. When the Market Monitor determines that there is sufficient credible information about a

specific abusive practice, the issue will be referred to ~~the Commission~~FERC's Office of Enforcement (or its successor organization). Nothing in this section limits the Market Monitor's obligation to refer other suspected market violations to ~~the Commission~~FERC's Office of Enforcement, even where suspected behavior does not fall explicitly within the abovementioned categories or descriptions. ~~Compliance~~A failure to conduct ~~with~~ these above-mentioned categories of behavior does not preclude market manipulation as described in Attachment C, Section 4.4.

4.6.1 Uneconomic Production

~~. The Market Monitor will monitor the Markets+ for uneconomic production and will impose appropriate mitigation measures if such conduct is detected. Uneconomic production from an Resource that is increasing the output of ana Resource to levels that would otherwise be uneconomic in order to cause, and obtain benefits from, a transmission constraint.~~

The Market Monitor will monitor for cases where uneconomic production by a Resource causes congestion on transmission facilities or price separation between Reserve Zones that is not justified by reliability concerns. For an MSR, both charging and discharging are considered production. The provisions of this Section 4.6.1 do not apply to Demand Response Resources.

Powerex alternative version 1/4/2024

The Market Monitor will monitor the Markets+ for uneconomic production and ~~will~~ may recommend that the Market Operator impose appropriate mitigation measures if such conduct is detected. These recommendations may include recommendations to replace the market offer with the mitigated offer, or to override parameters. Uneconomic production is increasing the ~~output~~ injection or withdrawal of a Resource to levels that would otherwise be uneconomic in order to cause and obtain benefits from (1) congestion on a transmission constraint; or (2) price separation between Reserve Zones. ~~For an MSR, both charging and discharging are considered production.~~ The provisions of this Section 4.6.1 do not apply to Demand Response Resources.

Comment [PX JS63]: Not engaging in these categories of behavior does not preclude a referral to FERC for market manipulation as described in Attachment C, Section 4.4.

Comment [SPP 64]: See friendly Amendment

Comment [MMU65]: MMU suggested improvement. SPP Staff Agrees.

Comment [JW66]: MMU believes this language is needed in conjunction with other changes/exemptions.

Comment [SPP67]: This language was from CAISO and very clunky – SPP is OK with this edit.

Comment [KS68]:

Comment [MMU69]: Proposal by SPP MMU in addition to the accepted revisions above

Comment [JW70]: Proposal was "in lieu of" not addition to. Made redlines above.

Comment [MMU71]: MMU proposes the following edits to the Powerex version of 4.6.1.

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Comment [SJ72]: We propose to use this hybrid version that merges current version and MMU proposal and removes the phrase deleted in redline.

4.6.2 Monitoring for Virtual Energy Bids and Virtual Energy Offers

The Market Monitor will monitor the level of divergence between the Day-Ahead Market LMPs and the Real-Time Balancing Market LMPs. Section 4.6.3 defines the monitoring metric and thresholds to be used in determining the existence of excessive LMP divergence. In the case that there is excessive LMP divergence, the Market Monitor will determine if the LMP divergence is attributable to the Virtual Energy Bid and Virtual Energy Offer behavior of one or more Market Participants. If the Market Monitor identifies one or more Market Participants as having caused the excessive LMP divergence through Virtual Energy Bid and Virtual Energy Offer behavior, then the Market Monitor will recommend that the Market Operator apply the mitigation measures described in Section 5.4 of Attachment A.

4.6.3 Metric and Threshold Specifications

The Market Monitor computes the hourly LMP deviation between the Day-Ahead Market and Real-Time Balancing Market using the following formula: $[(LMP_{RTBM} / LMP_{DA\ Market}) - 1] * 100$. The average hourly LMP deviation is computed over a rolling four (4) week period or any other period that the Market Monitor determines is appropriate. If the rolling average is below negative ten percent (-10%) or in excess of ten percent (10%), then the divergence is considered excessive and additional analysis is required.

4.6.4 Physical Withholding

(1) Physical withholding and unavailability of facilities includes but is not limited to:

(a) Declaring that a Resource has been derated, forced out of service or otherwise been made unavailable for technical reasons that are untrue or that cannot be verified;

(b) Refusing to provide offers or schedules for a Resource when it would otherwise have been in the economic interest to do so without market power;

(c) Operating a Resource in real-time to produce an output level that is less than the Dispatch Target minus the Resource's Operating Tolerance defined in Section 6.4.1 of Attachment A to this Tariff and the Resource is not exempt from URD under Section 6.4.11 of Attachment A to this Tariff;

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(d) Derating a transmission facility for technical reasons that are not true or verifiable;

(e) Operating a transmission facility in a manner that is not economic and that causes a binding transmission constraint, binding reserve zone, Local Reliability Issue, or Emergency Condition; and

(f) Declaring that the magnitude of the capability of a Resource is reduced for reasons that are not true or verifiable. This capability includes but is not limited to the following:

(i) The capability to provide Energy;

(ii) The capability to provide Flexibility Reserve Products;

(iii) In the case of MSRs, the capability to charge and/or to discharge.

(2) Market Participant will not be deemed not to be physically withholding if:

(a) They are following the directions of the Balancing Authority, Reliability Coordinator, transmission service provider, or applicable reliability standards. ~~or managing contractual limitations~~;

(b) They are selling into another market at a higher price;

(c) The Market Participant is reducing the magnitude of the MSR's maximum capability, either charging or discharging, from its true and verifiable physical or environmental limitations in order to provide that capability for the duration of the minimum clearable commitment period.

(d) The Market Participant satisfies the must offer requirements as detailed in Section 5.1; or

(e) They are following water management request or directives pursuant to the legal authority and operational responsibilities of the hydro operator or hydro participant.

(f) The Market Participant is subject to the terms of a power purchase agreement, or other power supply agreement, that limits the availability of capacity or energy deliveries to Markets+ as a result of (i) the good faith exercise by the Market Participant of contractual or operational responsibilities thereunder, (ii) the technical or operational limitations of the resource or interconnected facilities, which limitations are beyond the control of the Market Participant to mitigate, or

Comment [KS73]: Split infinitive

Comment [SPP74]: Extremely broad.

Comment [KS75]: Powerex comments that water releases are contractual limitations, but that this could be refined

Comment [KS76]: ESRs: state of charge and cycle limitations as contractual limits -- MMU to determine FERC order on point regarding ESRs

Comment [KS77]:

Comment [JW78]: Integrated Marketplace Tariff acceptance (Docket No. ER12-1179 included requirement that: SPP must provide that Market Participants will not be determined to have physically withheld if they are selling into another market at a higher price.

Comment [SPP 79]: Due to FERC order with specific language, the proposed revisions cannot be accepted.

Comment [JW80]: As noted, MMU supports addition if in conjunction with proposed addition in 4.6.

Comment [KS81]: SPP prefers water management directives

Comment [MMU82]: What is the formal nature of "request"? Would the request or directive information be made available to the MMU?

Comment [SJ83]: New subsection jointly developed by Chelan, Powerex and SRP.

(iii) a request, order, or directive issued by a legal authority with jurisdiction over the resource or interconnected facilities.

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4.6.4.1 Thresholds for Identifying Physical Withholding of Resource Capacity

A Market Participant is deemed to be physically withholding capacity if the Market Participant is not deemed to be not physically withholding pursuant to Section 4.6.4 (2) and all of the following conditions exist:

(a) One or more transmission constraints are binding or a Reserve Zone is binding; and

(b) The Market Participant owns or controls one of more Resources that have market power as defined in Section 3.2 of Attachment B of this Tariff; and

(c) One of the following conditions apply:

(1) Such Resource(s) satisfy one of the conditions in Sections 4.6.4(a), 4.6.4(b), or 4.6.4(f) of this Attachment C and the total withheld capacity exceeds the lower of 5 percent of the total capability owned or controlled by the Market Participant or 200 MW; or

(2) Where the real-time output of each such Resource is less than the Dispatch Target minus the Resource's Operating Tolerance defined in Attachment A, Section 6.4.1 of this Tariff and the Resource is not exempt from Uninstructed Resource Deviation under Attachment A, Section 6.4.1.1 of this Tariff.

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4.6.4.2 Thresholds for Screening of Potential Physical Withholding of Transmission Facilities

A transmission facility fails the physical withholding screen if either of the following conditions is met:

(a) The transmission facility satisfies a condition in Section 4.6.4(d) or 4.6.4(e) of this Attachment C; or

(b) The Market Monitor identifies a pattern of scheduling outages resulting in increased market costs compared to an alternative and lower cost impact outage schedule.

4.6.4.3 Sanctions

The Market Monitor will record instances where Market Participants have failed the screens in Sections 4.6.4.1 and 4.6.4.2 of this Attachment C. The Market Monitor will notify FERC's Office of Enforcement, or successor organization, of suspected physical withholding behavior. In the event the Market Monitor determines there is credible evidence of a market violation, the Market Monitor will make a referral to FERC as described in Section 4.3 of this Attachment C.

5. Review of Market Activity

5.1 Requests

Any Market Participant or Interested Government Agency may raise any issue with the Market Monitor and request that the Market Monitor consider the issue in its monitoring and reporting. The Market Monitor may include this issue in its monitoring or reporting if it determines it is appropriate to do so. The Market Monitor should not monitor or report on any complaint pertaining to issues not related to Markets and Services or activities not monitored and overseen by the Market Monitor.

Any requests by Market Participants and Interested Government Agencies to the Market Monitor may be made confidentially. The Market Monitor will maintain the confidentiality to the extent practicable.

6. Compliance and Corrective Actions

6.1 Compliance

The Market Monitor will administer the Market Monitoring Plan as described in this Attachment C and will report any actual or potential abuse of market power or market design inefficiencies as part of its monitoring process. However, the Market Monitor's activities are limited to matters that (i) are expressly set forth in this Tariff; (ii) involve objectively-identifiable behavior; and (iii) do not subject the Market Participant to sanctions or other consequences other than those expressly approved by FERC and set forth in this Tariff.

As part of the monitoring process, the Market Monitor may issue a demand letter requesting Market Participants causing the issue to arise to change actions as the Market Monitor deems proper to achieve compliance and the Market Monitor may also engage in discussions with persons or entities other than Market Participants as necessary as part of any investigatory or compliance process.

6.2 Corrective Actions for Market Design

If the Market Monitor discerns any weaknesses or failures in market design and market rules, including the determination that Markets and Services are not resulting in just and reasonable prices or providing appropriate incentives for investment in needed infrastructure, the Market Monitor will advise the appropriate Organizational Group of SPP, the President of SPP, the MSC, appropriate state authorities, FERC, and relevant Market Participants. In the event the Market Monitor believes providing such information could lead to exploitation, it will restrict such notification to the President of SPP, the Chairman of the SPP Oversight Committee, and FERC, and will provide a justification for such limited notification.

Should SPP not respond within 60 days, the Market Monitor may recommend changes in market design and market rules to the Board of Directors, FERC, and the MSC as needed. If SPP responds, but does not recommend changes to market design and market rules that are acceptable to the Market Monitor, the Market Monitor will report to the Board of Directors and the appropriate regulatory body or bodies as needed, and then SPP may file a petition or submission seeking appropriate action from FERC or any other appropriate enforcement agency. The Market Monitor may make recommendations for changes to this Tariff as necessary to correct weaknesses or failures in Markets and Services.

In the event that any weaknesses or failures in market design require immediate corrective action to ensure just and reasonable prices, the Market Monitor may request the President of SPP to authorize an immediate FERC filing requesting implementation of a corrective action while the appropriate Organizational Group of SPP responds to the Market Monitor's notification as described above. The requested immediate corrective action should be the method least intrusive or disruptive to Markets and Services necessary to resolve the market weakness or failure as determined by the Market Monitor. Prior to making such a request to the President of SPP, the Market Monitor will make reasonable efforts to discuss with affected Market Participants and the staff of affected Interested Government Agencies the market weakness or failure potentially requiring immediate corrective action, unless the Market Monitor determines that such discussions would lead to exploitation.

7. Periodic Reports and Updates to SPP, Government Agencies, and Market Participants

7.1 Reports and Updates to the Board of Directors

7.1.1 State of the Market Reports

(1) The Market Monitor will publish an annual state of the market report providing details on the market for the previous year. As a part of its annual reports, the Market Monitor may make recommendations regarding any matter within its purview as defined in the Tariff. The Market Monitor will submit and present on its annual state of the market report to the Oversight Committee and Board of Directors.

(2) The Market Monitor will publish a quarterly state of the market report providing details on the market for the previous quarter. As part of its quarterly reports, the Market Monitor may make recommendations regarding any matter within its purview as defined in the Tariff. The Market Monitor will post the quarterly state of the market report on the Market Operator's website.

Any such reports may be subject to confidentiality provisions consistent with Section 8.1.

7.1.2 Market Monitor Activities Report

The Market Monitor will also prepare and submit to the Oversight Committee quarterly updates on Market Monitor activities emphasizing any issues of concern to the Market Monitor.

7.1.3 Report Comments

SPP and Market Participants may comment on any public reports made pursuant to this section, through the appropriate stakeholder process or directly to the Market Monitor. The independent Market Monitor maintains discretion to disregard any comments or suggestions with which it disagrees.

7.2 Reports to Government Agencies, the Market Operator, and Market Participants

After an annual review of the performance of the wholesale markets as discussed in Section 1.3.2 of this Attachment C, the Market Monitor will provide its annual State of the Market Report to FERC, the SPP Board of Directors, the Market Operator, state commissions, Market Participants, and other interested entities. The Market Monitor will also make available, as described below, the reports provided to the Board of Directors and other such reports as may be requested by the FERC or such authorities subject to protection of confidential, proprietary and commercially sensitive information and the protection of the confidentiality of ongoing monitoring activities.

7.2.1 The Market Monitor will submit such reports to the FERC and other affected regulatory authorities, including the Markets+ State Committees.

7.2.2 These Market Monitor reports are made available on the Market Operator's website.

7.2.3 The Market Monitor will hold conference calls related to these reports. Any interested party may attend these conference calls. The Market Monitor will make one or more of its staff members available for regular conference calls. Individual entities may request meetings to discuss these reports.

8. Data Access, Collection and Retention

8.1 Confidentiality

SPP and Market Participants may designate Data and Information as Confidential Information consistent with the terms of SPP's Membership Agreement and Section 10 of Attachment A. If the designation of Confidential Information appears to be unreasonable, the Market Monitor may challenge such designation of Confidential Information consistent with Section 10 of Attachment A.

The Market Monitor will provide Confidential Information to Interested Government Agencies consistent with the terms of Section 10.4 of Attachment A.

8.2 Access to Data and Information

The Market Monitor must have access to all market impacting Data and Information. This Data and Information will be gathered or generated by the Market Operator, participating Balancing Authority, or Market Participant. This Data and Information includes, but is not limited to the operational data, listed in Section 4 of this Plan, gathered or generated by all market impacting entities which may include the Market Operator, Balancing Authority, Reliability Coordinator, and transmission service provider. All Data and Information listed in Section 4 of this Plan must be retained for a minimum period of six years.

8.3 Access to Market Participant Data and Information

Market Participants must retain Data and Information listed below, and in Section 4 of this Plan as applicable, that is in the custody and control of Market Participants, for a minimum of six years and must promptly provide any such Data and Information to the Market Monitor upon request, unless such Data and Information is not required for sharing with the Market Monitor as detailed in this section.

Market Participants must provide the Data and Information to the Market Monitor, upon request, unless explicitly exempted in a Markets+ participant agreement. Requested Data and Information must be shared in a commonly used format along with a description of the data and format. Market Participants will not continuously share data on Resources beyond what is necessary to represent the resource's generation capability in the market optimization software for the applicable period. If necessary, due to proprietary format restrictions, the Market

Participant must provide the data to the Market Monitor in a non-proprietary format, such as CSV or XML format along with a description of the data and format. Market Participants may designate such Data and Information as Confidential Information, but such Data and Information must not be redacted or modified in any manner prior to delivery to the Market Monitor by the Market Participant.

~~Market Participants must provide the Data and Information to the Market Monitor, upon request, in a commonly used format along with a description of the data and format. If necessary, due to proprietary format restrictions, the Market Participant must provide the data to the Market Monitor in a non-proprietary format, such as CSV or XML format along with a description of the data and format. Market Participants may designate such Data and Information as Confidential Information, but such Data and Information must not be redacted or modified in any manner prior to delivery to the Market Monitor by the Market Participant.~~

Unless explicitly exempted in a Markets+ participant agreement, Market Participants must retain the following Data and Information for all parties affiliated with the Market Participant and provide it to the Market Monitor upon request:

(a) All Data and Information relating to the costs of operating a resource, including but not limited to, heat rates, start-up fuel requirements, fuel purchases, environmental costs, and operating and maintenance expenses;

(b) All Data and Information regarding opportunity costs of a resource, including but not limited to, regulatory, environmental, technical, or other restrictions that limit the run-time or other resource operating characteristics;

(c) All Data and Information relating to the operating status of a resource, including but not limited to logs showing the status of a resource, including information relating to an outage or derate;

(d) All Data and Information relating to the operating status of a transmission facility, a contingency, tap setting of a phase shifting transformer, or other operating consideration, including but not limited to an outage or derate of a transmission system component;

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Comment [SPP84]: Why was this deleted?

Comment [KS85]: Delinate HOW and WHY

Comment [SPP86]: Upon review – this is redundant and deletion is OK

Comment [SPP 87]:

Comment [SPP 88]:

Comment [JW89]: MMU may have concerns pending review of final language in participant agreement.

Comment [SRP90]: If this requires Market Participants to retain all information related to bids, resource data, outages, etc., SRP suggests adding a time frame for data retention.

(f) All Data and Information relating to the ability of a Market Participant or its affiliate to determine the pricing or output level of resource capacity owned by another entity, including but not limited to any document setting forth the terms or conditions of such ability;

(g) All Data and Information used in the course of business operations in arriving at a decision by a reserve sharing group member to call an operating reserve contingency and to request assistance;

If any additional Data and Information not listed above or in Section 4 of this Plan is required from Market Participants by the Market Monitor for the purpose of fulfilling its responsibilities, the Market Monitor may request such Data and Information from Market Participants, unless such Data and Information is explicitly excluded as a sharing obligation in this Section, or exempted in a Markets+ participant agreement. Such eligible Data and Information must be provided in a timely manner by Market Participants. If a Market Participant receiving a request for Data and Information not listed above or in Section 4 of this Plan believes that production of the requested Data and Information would impose a substantial burden or expense, or would require the party to produce information that is not relevant to achieving the purposes or objectives of this Plan, the Market Participant receiving the request should promptly notify the Market Monitor. If the Market Monitor determines that the request can be narrowed or otherwise modified to reduce the burden or expense of compliance, the Market Monitor may modify the request. No party that is the subject of a data request will be required to produce any summaries, analyses, or reports of the data that do not exist at the time of the data request, other than a description of the data.

Comment [KS91]: MMU and SPP staff to confirm timing of filed agreement

If the Market Monitor determines that the requested Data and Information has not or will not be provided in a timely manner, the Market Monitor may (a) follow the dispute resolution procedures under this Tariff or under the SPP Markets+ Bylaws as applicable or (b) make a filing with the appropriate regulatory or enforcement agency to compel the production of the requested information.

8.4 Data Created by Market Monitor

Any data created by the Market Monitor, including any reconfiguration of Data and Information under this section, will remain within the Market Monitor's exclusive control. Such data may be shared at the Market Monitor's sole discretion and on a non-discriminatory basis, subject to the confidentiality provisions specified in this Attachment C and Section 10 of Attachment A of the M+ Tariff.

9. Miscellaneous Provisions

9.1 Rights and Remedies

This Plan does not restrict SPP and Market Participants from asserting any rights they may have under state and federal regulation and laws, including initiating proceedings before the FERC regarding any matter which is subject to this Plan.

9.2 Disputes

Disputes as to the implementation of, or compliance with, this Plan are subject to the dispute resolution procedures under this Tariff or under the SPP Markets+ Bylaws as applicable or subject to review by FERC.

10. Review of Market Monitor

The activities of the Market Monitor will be reviewed from time to time by the Board of Directors.

From: Meyers,Andrew P (BPA) - MTM-3
Sent: Thursday, May 30, 2024 10:45 AM
To: Carrie Simpson; Jim Gonzalez
Cc: Mantifel,Russell (BPA) - MTM-3
Subject: RE: [EXTERNAL] RE: Markets TX Scenario Analysis

Let me check the final report and see if that detail is public

Andy Meyers
apmeyers@bpa.gov
(w) 503-230-3014 | (c) (b)(6)
Bonneville Power Administration
Market Initiatives
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

From: Carrie Simpson <csimpson@spp.org>
Sent: Thursday, May 30, 2024 10:13 AM
To: Jim Gonzalez <jgonzalez@spp.org>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Cc: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] RE: Markets TX Scenario Analysis

Question for BPA – is it public that E3 modeled the PTP rights of Powerex in WMEG study?

From: Jim Gonzalez <jgonzalez@spp.org>
Sent: Thursday, May 30, 2024 12:00 PM
To: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Carrie Simpson <csimpson@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] RE: Markets TX Scenario Analysis

What time frame would the study be for? If the scraping would be for what is effective now, I don't see that effort substantially increasing from the 600/200 numbers E3 already used based on some of the research we've been doing. If you are thinking of looking out a few years in the 2028ish timeframe when the Boardman to Hemingway line is supposed to be in service there might be some additional confirmed TSRs to help better connect. Even then, I don't know that it would go up more than a couple hundred MW.

The 2 GW bidirectional capacity scenario seems like it would cover benefit of incremental transfer capability for the prospective footprint. I think you could take the results of the exiting scenarios compared to that scenario and extrapolate out some production-cost savings for incremental transfer capability without spending the time and money to have E3 run them.

Let me know if you want to discuss other assumptions for your scenarios. Happy to help if it would be beneficial.

Jim

From: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Sent: Wednesday, May 29, 2024 8:00 PM
To: Jim Gonzalez <jgonzalez@spp.org>; Carrie Simpson <csimpson@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] RE: Markets TX Scenario Analysis

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Hi Jim,

We are having E3 run a hypothetical scenario of increase TX from BPA to NV. Capacity is 2000 MWs bidirectional. With this additional study are you saying that we don't need to pursue scraping OASIS sites as we had been discussing?

Thanks,
Andy

Andy Meyers
apmeyers@bpa.gov
(w) 503-230-3014 | (c) (b)(6)
Bonneville Power Administration
Market Initiatives – Policy Lead
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

From: Jim Gonzalez <jgonzalez@spp.org>
Sent: Wednesday, May 29, 2024 2:12 PM
To: Carrie Simpson <csimpson@spp.org>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Cc: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: [EXTERNAL] RE: Markets TX Scenario Analysis

I think those values represent a good floor for consideration based on what is confirmed now for long-term service on the various TSPs for third-party contributed rights.

We have been trying to come up with some assumptions for additional capability beyond that based on some upcoming transmission projects, specifically the Boardman to Hemingway line, but I think you are already looking at some scenarios with additional transmission buildout to increase transfer capability between the PNW and DSW so you probably already have some of that covered.

jim

From: Carrie Simpson <csimpson@spp.org>
Sent: Wednesday, May 29, 2024 12:10 PM
To: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: RE: Markets TX Scenario Analysis

Interesting. I wonder if this distinction in itself is another contributor to the differences in Brattle and WMEG. I'll defer to Jim on whether those values are indicative of what we anticipate being contributed.

From: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Sent: Wednesday, May 29, 2024 11:49 AM
To: Carrie Simpson <csimpson@spp.org>; Jim Gonzalez <jgonzalez@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** Markets TX Scenario Analysis

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Hi Carrie & Jim,

I wanted to follow up on a conversation with have been having with E3. We have discussed with them the concept of the study. They had an interesting comment on something that both Russ and I had forgotten. While Powerex was not a WMEG member they provided some gen, load, and transmission data to E3 for inclusion in the study modeling and results. Jack indicated that "*we have already assumed 600 MW N->S and 200 MW S->N going through CA/NV to connect NW & SW together using 3rd party rights*".

I am curious about your thoughts on this. I know that Powerex has some additional capacity with IPCO, PAC, and PGE that may facilitate additional roads to the desert southwest. However, I am curious if the already included values are sufficient? If not, then we can continue with the study with E3. Then the next step is pulling together the transmission capacity numbers we want E3 to use in the model for the roads between PNW and DSW. If the previously included values are sufficient then we would not pursue the scenario any further.

Let us know if you want to discuss at all.

Thanks,
Andy

Andy Meyers
apmeyers@bpa.gov
(w) 503-230-3014 | (c) (b)(6)
Bonneville Power Administration
Market Initiatives – Policy Lead
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

From: Ahmad, Omaya <Omaya.Ahmad@aps.com>
Sent: Tuesday, July 16, 2024 12:27 PM
To: Zahnow, Jessica Lynn; Hayes,Matthew C (BPA) - MTM-3; Spires, Jeff; Josh Robertson; Hakala, Tuuli; Walter, Kent C; Mantifel,Russell (BPA) - MTM-3
Cc: Ching, Vincent; Haines, Philip - Marketing; Marcie L Martin; Holman, Mark; Aitken, Meredith
Subject: Re: [EXTERNAL] Markets+ Issue Alerts

Agree with Jessica. I don't know if this is strong enough to illuminate fairness across participating states, but here's a redline for page 2.

The Markets+ Governance framework fully achieves this objective through these key features:

1. A ~~fully independent~~ board / panel independent of market participants and stakeholders with authority over all aspects of the market;

Contrast this with the first 2 EDAM points on page 3, which I think are strong:

1. The starting point for EDAM and EIM is a market design and tariff developed under the California ISO's existing governance framework. The Pathways Initiative does not propose to replace this initial market design with a stakeholder-driven design.
2. Both EDAM and EIM were built as extensions of a legacy institutional framework with embedded dependencies on, and obligations to, California state agencies, which the Pathways initiative does not propose to eliminate.

From: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>
Sent: Tuesday, July 16, 2024 10:39 AM
To: Ahmad, Omaya <Omaya.Ahmad@aps.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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PSE supports Omaya/APS's additions. Josh Jacobs had feedback asking for more detail on why Pathways timing won't provide a viable solution, and Omaya's edits address that well. One other thing Josh points out is that two things we hear out of our commission is, "we don't want to be governed out of Little Rock", and "interested parties don't have a strong voice in M+".

While we don't agree, does anyone have thoughts about an artful way to address these concerns?

Jessica Zahnow
State & Regional Policy – Regional Markets
Phone: (b)(6)

PUGET SOUND ENERGY

From: Ahmad, Omaya <Omaya.Ahmad@aps.com>
Sent: Monday, July 15, 2024 5:00 PM
To: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: Re: [EXTERNAL] Markets+ Issue Alerts

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I made a few additions that are almost entirely on page 3.

- Spelled-out the value of SPP's consensus approach to stakeholder engagement
- Going off Matt's suggestion: opened a spot for others to add examples of where CAISO's governance has left us frustrated
- Added more to the Pathways discussion

Feel free to cut down as needed.

Thanks,
Omaya

From: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>
Sent: Monday, July 15, 2024 4:53 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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ACDC@aps.com.

Thanks for a productive meeting this morning. Before moving forward BPA is going to need some more internal conversation on how this first paper and the overall strategy fits into our public process. We should be able to get something definitive tomorrow.

Apologizes for not flagging this today as it is something I should have known would be a required step.

Thanks,

Matt

-----Original Appointment-----
From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, July 12, 2024 12:15 PM
To: Spires, Jeff; Josh Robertson; Zahnow, Jessica Lynn; Hakala, Tuuli; Kent.Walter@aps.com; Mantifel,Russell (BPA) - MTM-3
Cc: Ching, Vincent; Haines, Philip - Marketing; Hayes,Matthew C (BPA) - MTM-3; Ahmad, Omaya; Marcie L Martin; Holman, Mark; Aitken, Meredith
Subject: [EXTERNAL] Markets+ Issue Alerts
When: Monday, July 22, 2024 9:00 AM-10:00 AM (UTC-08:00) Pacific Time (US & Canada).
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From: Kristen Darden <kdarden@spp.org>
Sent: Monday, August 14, 2023 2:48 PM
To: Fina, Giuseppe (Joe); Chris Nolen
Cc: Emon Mahony; Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] Upcoming MDWG Meetings

Joe and Chris –

First off let me say - great work at the M+ Legal sub-group! If you were not able to dial-in during the 8/10 MDWG meeting held at BPA last week, I am thrilled to report the MDWG unanimously approved (without any discussion) Attachment A Section 10 (Confidentiality Provisions) and Attachment F (NDA Agreements), given your team's thorough review. Given this, I want to go ahead and reach out to start lining out some items that you would be comfortable with putting on the upcoming MDWG agendas for approval: 8/29, 9/20, and 10/10.

Anything you have ready you would like to pass on to us?

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, October 31, 2023 8:10 AM
To: Wiencke, Mary; Mantifel,Russell (BPA) - MTM-3
Cc: Kim O'Guinn; Drew McGilvray; Carrie Simpson
Subject: [EXTERNAL] RE: October 26th Joint MDWG & MTWG Summary of Motions, Action Items, and Future Meetings

Ah yes – I'm sorry. Nevermind!

From: Mary Wiencke <mwiencke@publicgeneratingpool.com>
Sent: Tuesday, October 31, 2023 10:01 AM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Kim O'Guinn <koguinn@spp.org>; Drew McGilvray <dmcgilvray@spp.org>; Carrie Simpson <csimpson@spp.org>
Subject: **External Email** RE: October 26th Joint MDWG & MTWG Summary of Motions, Action Items, and Future Meetings

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I am going to be at the Markets+ leadership forum tomorrow.

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, October 31, 2023 7:43 AM
To: Mary Wiencke <mwiencke@publicgeneratingpool.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Kim O'Guinn <koguinn@spp.org>; Drew McGilvray <dmcgilvray@spp.org>; Carrie Simpson <csimpson@spp.org>
Subject: RE: October 26th Joint MDWG & MTWG Summary of Motions, Action Items, and Future Meetings

Hey Mary!

By any chance would you be able to provide the update during the 11/1 MDWG tomorrow versus 11/3? We are scheduled to meet 12-5 CPT.

From: Mary Wiencke <mwiencke@publicgeneratingpool.com>
Sent: Monday, October 30, 2023 6:13 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Kim O'Guinn <koguinn@spp.org>; Drew McGilvray <dmcgilvray@spp.org>; Carrie Simpson <csimpson@spp.org>
Subject: **External Email** RE: October 26th Joint MDWG & MTWG Summary of Motions, Action Items, and Future Meetings

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Yes, anytime after noon PT would be great. Thank you!

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, October 30, 2023 2:45 PM
To: Mary Wiencke <mwiencke@publicgeneratingpool.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Kim O'Guinn <koguinn@spp.org>; Drew McGilvray <dmcgilvray@spp.org>; Carrie Simpson <csimpson@spp.org>
Subject: RE: October 26th Joint MDWG & MTWG Summary of Motions, Action Items, and Future Meetings

Hey Mary –

Yes we are planning on having GHG on the agenda 11/3, so that the MDWG can hopefully provide some guidance from the failed motion during the previous MGHGTF meeting, for moving forward to the 11/7-8 MPEC meeting. You would be available after 12PT (2CPT)?

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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From: Mary Wiencke <mwiencke@publicgeneratingpool.com>
Sent: Monday, October 30, 2023 1:54 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Kim O'Guinn <koguinn@spp.org>
Subject: **External Email** RE: October 26th Joint MDWG & MTWG Summary of Motions, Action Items, and Future Meetings

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Hi Kristen/Russ –

Do you know as to whether GHG will be on the MDWG meeting agenda this Friday and if so do you have a sense of what time? I have some things scheduled that I will need to juggle if I will need to be available. If there is flexibility anything after noon would be better – though don't want to be late in the agenda to risk getting pushed again if we need to discuss before next week's MPEC.

Thanks,
Mary

From: Kristen Darden <kdarden@spp.org>
Sent: Sunday, October 29, 2023 7:38 PM
To: Mary Wiencke <mwiencke@publicgeneratingpool.com>
Subject: October 26th Joint MDWG & MTWG Summary of Motions, Action Items, and Future Meetings

Good evening MDWG and MTWG stakeholders and participants –

Let me just say "**THANK YOU**" for a great, successful meeting. We accomplished a lot during our meeting, and I am extremely proud of the progress we made. I look forward to seeing a lot of you again next week

during the 11/7-8 MPEC meeting (*If you have not registered for that meeting, here is the link. In-person registration closes tomorrow, Monday 10/30, by 8:00 a.m., CPT).

Attached is the draft summary of the 10/26 joint MTWG and MDWG meeting motions, action items, and future meetings. Please review and let me know if you have any edits.

Thank you again and have a wonderful evening!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, February 13, 2024 2:37 AM
To: Miller,Todd E (BPA) - LP-7; Doot,Erika A (BPA) - LP-7; Kelli Schermerhorn; Chris Nolen; Rachel Kane
Cc: Mantifel,Russell (BPA) - MTM-3; Chong Tim,Marcus H (BPA) - L-7; Kirby,Elizabeth A (BPA) - MTM-3; Eaton,Sara L (BPA) - PTMA-5; Chan,Allen C (BPA) - LT-7; Meyers,Andrew P (BPA) - MTM-3; Truong,Mai N (BPA) - TSB-TPP-2
Subject: RE: [EXTERNAL] RE: Additional BPA Comments on Draft M+ Tariff

Thank you for sending BPA's comments over, Todd.

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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From: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>
Sent: Monday, February 12, 2024 6:39 PM
To: Kristen Darden <kdarden@spp.org>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby, Libby <eakirby@bpa.gov>; Eaton, Sara <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong, Mai <mntruong@bpa.gov>
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Kristen,

Sorry for the late email. BPA reviewed Attachments I and J and has some additional suggestions/questions for cleaning up these sections of the tariff. In the attached BPA's suggested edits and comments are on pages 536-545. Each edit has an explanatory comment. Thank you for considering BPA's edits.

-Todd

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, February 12, 2024 8:46 AM
To: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Subject: [EXTERNAL] RE: Additional BPA Comments on Draft M+ Tariff

Thank you for sending over, Erika. We will review internally today.

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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From: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Sent: Friday, February 9, 2024 6:55 PM
To: Kristen Darden <kdarden@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel, Russ <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby, Libby <eakirby@bpa.gov>; Eaton, Sara <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong, Mai <mntruong@bpa.gov>
Subject: **External Email** RE: Additional BPA Comments on Draft M+ Tariff

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Hi Kristen, Kelli, Rachel and Chris,

Attached is a second set of BPA comments on the draft M+ tariff. We may send you a few additional comments on attachments this weekend.

Thank you for your prompt review and responsiveness to our comments. We appreciated your feedback and incorporation of our previous comments.

Please let me know if you have any questions.

Have a nice weekend,
Erika

From: Doot,Erika A (BPA) - LP-7
Sent: Thursday, February 8, 2024 11:06 AM
To: Kristen Darden <kdarden@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Subject: RE: [EXTERNAL] RE: Additional BPA Comments on Draft M+ Tariff

Hi Kelli & Kristen,

I will have another set of comments for you on Attachment A section 6.2 and after. I am waiting to finalize with my SMEs just after the MDWG.

Thanks,
Erika

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, February 8, 2024 6:31 AM
To: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Subject: [EXTERNAL] RE: Additional BPA Comments on Draft M+ Tariff

Erika –

I apologize for the delay. Thank you for sending over BPA's comments. We have responded within the attached. We did incorporate a portion of the comments. We noted within the document which comments were incorporated. We will also address these during the meeting today. Please let us know if you have any questions on our responses.

Thank you.

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Sent: Tuesday, February 6, 2024 7:08 PM
To: Kristen Darden <kdarden@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel, Russ <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby, Libby <eakirby@bpa.gov>; Eaton, Sara <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong, Mai <mntruong@bpa.gov>
Subject: **External Email** Additional BPA Comments on Draft M+ Tariff

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - eadoot@bpa.gov and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Hi Kristen, Kelli, Chris & Rachel,

Based on Kristen's email today, I thought you would appreciate BPA sending comments on the draft tariff for MDWG discussion.

We will likely have another set or two, but I thought it would be helpful if you could start running them down.

Please let me know if you have any questions.

Thanks,
Erika

Erika Doot
Attorney-Advisor
Bonneville Power Adminstration
(503) 230-4329

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From: Carman Ruder <cruder@spp.org>
Sent: Thursday, November 9, 2023 8:46 AM
To: Mantifel,Russell (BPA) - MTM-3
Cc: Carman Ruder
Subject: [EXTERNAL] MCRTF Tariff Consolidated Comments
Attachments: For use 2_Markets Congestion Rent Tariff Sections-APS(wrc)_BPA(wrc)_PWX_NV_SNPD_OPUC.docx

MCRTF Stakeholders,

Please see attached for the redlined tariff that includes comments from Stakeholders. This consolidated version is being reviewed in today's meeting.

Thank you,

Carman Ruder | Lead Market Design Analyst, Western Services Development | cruder@spp.org | (b)
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

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or send a blank email to leave-124618-234283.ab060f4db6e56ad7a74d8702edd00012@spplist.spp.org

Definitions

Congestion Rent

Revenue collected by the Market Operator resulting from binding transmission constraints in the Day-Ahead Market that will be allocated to Congestion Rent Eligible Transmission Service Reservation Holders , ~~and~~ Markets+ Transmission Service Providers and/or Markets+ Transmission Contributors.

Comment [WC1]: The defined term is TSR Holder.

Conditional Firm Point-To-Point Transmission Service

The reservation and transmission of capacity and energy on a conditional firm basis from a Point(s) of Receipt to a Point(s) of Delivery. This service is equivalent to Firm Point-To-Point Transmission Service except that, under certain system conditions or under a number of hours in real-time, this service will be curtailed ahead of Firm Point-To-Point Transmission Service, as further defined in FERC Order 890 and in each Transmission Service Provider's OATT.

Comment [WC2]: Agree

Congestion Rent Eligible Transmission Service Reservation(TSR)

The MW reservation quantity of Firm Point-to-Point Transmission Service, Conditional Firm Point-To-Point Transmission Service, Network Integration Transmission Service, and/or Legacy Transmission Service of at least monthly increment, spanning at least a calendar month and ~~is~~ available for use by Markets+.

Comment [MK(E3]: This doesn't clarify 6NN or 7FN

Comment [BK4]: What does this refer to... the term of the reservation contract? Is "spanning at least a calendar month" added here to clarify the meaning of "at least monthly increment"? Or do they mean two different things? Please clarify this language.

Designated Network Resource

Any designated generating resource owned, purchased or leased by a Network Customer for the purposes of serving Network Load, as further defined in each Markets+ Transmission Service Provider's Open Access Transmission Tariff~~OATT~~.

Firm Point-To-Point Transmission Service

The reservation and transmission of capacity and energy on a firm basis from a Point(s) of Receipt to a Point(s) of Delivery, as further defined in each Markets+ Transmission Service Provider's Open Access Transmission Tariff~~OATT~~.

Legacy Transmission Service

Transmission service that existed on a Markets+ Transmission Service Provider's system prior to the effective date of that Markets+ Transmission Service Provider's Open Access Transmission Tariff that is equivalent to Network Integration Transmission Service or Firm Point-To-Point Transmission Service.

Markets+ Transmission Contributor *(Definition approved by MTWG and MDWG)*

Any Market Participant that voluntarily provides its transmission service rights on a non-participating transmission service provider's system for Markets+ optimization.

Markets+ Transmission Service Provider *(Definition approved by MTWG and MDWG)*

Any transmission service provider in the Markets+ Footprint that executes the agreement for a Markets+ Transmission Service Provider in Markets+ and contributes Markets+ Transmission Capability.

Markets+ Transmission User *(Definition approved by MTWG and MDWG)*

Any Market Participant offering or bidding load, generation, interchange, or virtual transactions within Markets+.

Maximum Economic Capacity Operating Limit

An economic MW level used for constraining Energy dispatch that includes reductions to account for the Operating Reserve identified in the Ancillary Service Plan.

Network Customer

An entity receiving Network Integration Transmission Service under ~~each~~ a Markets+ Transmission Service Provider's Open Access Transmission Tariff~~OATT~~.

Network Integration Transmission Service (NITS)

The reservation and transmission of capacity and energy on a firm basis between Designated Network Resources and Network Load, as further defined in each Markets+ Transmission Service Provider's Open Access Transmission Tariff~~OATT~~.

Network Load

Comment [TM5]: Should this be before the OATT for GF reservations instead of before M+ TSP Tariff?

Comment [WC6]: I assumed that the OATT and M+TSP OATT were the same thing?

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Comment [TM7]: Why do we include virtuals? A virtual doesn't "use" transmission.

Comment [WC8]: I believe Virtual Transactions, once they are implemented 6months post go-live, are charged the MTU rate.

Comment [AC9]: Is this based on resource offer curves or a fixed amount? What about for VERs?

Comment [TM10]: What's the ancillary service plan?

Comment [WC11]: How much Operating Reserve is being carried on the Resource. This capacity will impact what is left on the Resource for Energy dispatch. For example, a 500 MW Resource that is carrying 50 MW of regulation would have an Econ Max of 450 MW.

Comment [TM12]: This should say "a" not "each"

Comment [WC13]: Agree

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Comment [BK14]: Should define acronym here and then use NITS throughout.

The load that a Network Customer designates for Network Integration Transmission Service under a Markets+ Transmission Service Provider's ~~tariff~~OATT.Open Access Transmission Tariff~~tariff~~. The Network Customer~~'s~~~~Customer's~~ Network Load will include all load served by the output of any Designated Network Resources identified by the Network Customer.

Network Service Distribution Cap

The monthly ~~eligible~~ cap on MW ~~cap~~ for which a a Network Integration Transmission Service NITS customer~~TSR Holder~~ is eligible for Congestion Rent. The MW cap is equal to the actual load used for Network Integration Transmission Service monthly billing for the applicable Congestion Rent allocation month~~.~~ by each respective Markets + Transmission Service Provider.~~,~~ Markets+ Transmission Service Providers that bill on a 12 coincident peak or similar basis may use the monthly coincident peak value for each month.

Point-to-Point Transmission Service Distribution Cap

The monthly ~~eligible~~ cap on MW ~~cap~~ for which a Firm Point-to-Point Transmission Service TSR Holder is eligible for Congestion Rent. ~~a Market Participant~~ The MW cap equals the Firm Point-to-Point Transmission Service reserved by the Market Participant for Markets+ usage for the month.

Transmission Constraint Shadow Price

The reduction in production cost, in $/MWh, that is realized by increasing the MW limit of a binding transmission constraint by 1 MW.

Congestion Rent Eligible Transmission Service Reservation (~~TSR~~CRETSR) Holder

A Market Participant with a Congestion Rent Eligible Transmission Service Reservation.

Comment [BK15]: For consistency with previous definition.

Comment [TM16]: NITS customer is probably better than NITS TSR Holder

Comment [WC17]: TSR Holder is the defined term and the entity that receives the Congestion Rent. Just trying to be consistent between NITS and PTP regarding use of TSR Holder definition.

Comment [BK18]: These edits attempt to define what the term means, not just how its value is set. The previous language "monthly eligible MW cap" was not clear. Open to other suggestions.

Comment [BK*P19]: Same comment as above.

Comment [MK(E20]: Is the defined term Markets + Market Participant? Or just Market Participant?

Comment [TM21]: Since this is Markets + usage and not volume reserved on a Markets + TSP does that mean if someone doesn't make the full reservation available to Markets + every day of the month their monthly reservation for congestion rent is reduced?

Comment [WC22]: No. Its always the Reserved MW amount. Maybe we delete "for Marrkets+ usage".

Comment [EL(P523]: Since not all TSR holders will be eligible to collect congestion rent, it seems cleaner to qualify the definition

Comment [WC24]: This TSR Holder definition only includes TSR Holder's with Congestion Rent Eligible Transmission Service Reservation.

Comment [MTC25]: Aligns with section 7.16 title

Comment [WC26]: Prefer not to change definition as TSR Holder is used frequently throughout the Tariff language.

Comment [MK(E27]: Is the defined term Markets + Market Participant? Or just Market Participant?

Section 7.16: Congestion Rent Eligible Transmission Service Reservation Verification

The Market Operator, in collaboration with Markets+ Transmission Service Providers and Market Participants within the Markets+ Footprint, will use the following procedure to verify each Market Participant's Congestion Rent Eligible Transmission Service Reservations.

1) Markets+ Transmission Service Providers and Markets+ Transmission Contributors will make available on their respective Open Access Same-time Information System (OASIS) the Market Participant's firm transmission service reservation information for service increments that are monthly, yearly, or longer, and that span the upcoming operational month, including:

    a) Transmission Service Provider

    b) Reservation Number

    ~~a)~~c) MW Quantity;

    ~~b)~~d) Markets+ Transmission User;

    ~~c)~~e) Term;

    ~~d)~~f) Type (Firm Point-to-Point Transmission Service, Conditional Firm Point-to-Point Transmission Service, Network Integration Transmission Service, Legacy Transmission Service);

    ~~e)~~g) Source;

Comment [AC28]: Do we need to address redirects and resales?

Comment [AC29]: I'm not familiar with NT TSRS. Need to include DNR(s) and MWs?

~~f)~~h) Sink;

~~g)~~i) Point-of-Receipt (POR); and

~~h)~~j) Point-of-Delivery (POD).

2) A resale of a Congestion Rent Eligible Transmission Service Reservation ~~an eligible transmission reservation~~ to a different transmission customer that does not span the entire duration of the upcoming month, or that is arranged after the verification process has occurred, will not be considered in the congestion rent allocation process. The congestion rent associated with the TSR will be allocated to the Markets+ Transmission User that previously held the rights for the entire month.

3) A redirect of a Congestion Rent Eligible Transmission Service Reservation ~~an eligible transmission reservation~~ to a different POR or POD that does not span the entire duration of the upcoming month, or that is made after the verification process has occurred, will not be considered in the congestion rent allocation process. The congestion rent associated with the TSR will be allocated based on the last valid POR and POD that spanned the entire month.

~~2)~~4) If a Markets+ Transmission Service Provider or Markets+ Transmission Contributor is unable to provide information related to Legacy Transmission Service on OASIS, the Markets+ Transmission Service Provider or Markets+ Transmission Contributor will notify the Market Operator and the Markets+ Transmission User, and the Market Operator will coordinate the exchange of Legacy Transmission Service information.

~~3)~~5) The Market Operator will obtain the transmission service reservation information as specified under subsections (1) and (2) above during the month preceding the operating month as defined in the Markets+ Protocols and:

a) Provide such information to each identified ~~Market Participant~~ TSR Holder for verification/correction.

b) Unless the Market Participant communicates a ~~suspected~~ potential error during the verification period as defined in the Markets+ Protocols, the

Comment [MTC30]: What about Off-system? Source/Sink on OASIS means something different than Source/Sink in M+. Do we want this to say something more specific about the source /sink as known in the network model?

Comment [WC31]: The Source and Sink do need to map to valid settlement locations within the Markets+ Footprint. SPP envisioned this mapping to occur as part of the verification process.

Comment [MTC32]: Same idea as source/sink - POR/POD means something else on OASIS and different for MOD 29 vs. MOD 30.

Comment [MK(E33]: Will there be a verification with the TSP as to validate data?

Comment [MK(E34]: MP or TSP?

Comment [MTC35]: Should this say TSR Holder instead of Market Participant? Is the Market Participant both the TSR holder and the TSP, who is doing the validation? One or the other, both?

Comment [WC36]: Agree. Should be TSR Holder. The TSR Holder is doing the validation.

Comment [MK(E37]: Or both

Market Operator will deem the transmission service reservation information provided to be valid.

c) If a Market Participant identifies a suspected error with the transmission service reservation information, the Market Participant will contact the Market Operator. The Market Operator will communicate its determination of the validity of the transmission service reservation to the Market Participant, including the correction of any error.

~~4)~~6) For Firm or Conditional Firm Point-to-Point Transmission Service TSR Holders, the TSR MW is equal to the Point-to-Point Transmission Service Distribution Cap.

~~5)~~7) For Network Integration Transmission Service (NITS) –TSR Holders, the total TSR MW~~s~~~~MWs~~ from each Designated Network Resource (DNR) to Network Load is calculated by the Market Operator ~~based upon the TSR Holder's~~equal to the Network Service Distribution Cap using the following procedure:

a) To the extent that Designated Network ResourceThe DNR MW capacity and Point of Receipt~~OR~~ POR and/or the Network Load Point POD will be provided from the Markets+ Transmission Service Provider's OASIS as described under Subsection 1) above. During the verification period, if the above information cannot be provided through OASIS, the Market Operator will coordinate with the applicable Markets+ Transmission Service Provider and NITS TSR Holders to obtain and maintain a record of each Designated Network Resource's MW capacity and Point-of Delivery~~OD~~ Receipt and associated Network Load's Point-of-Delivery for that NITS TSR Holder.~~To the extent that DNR MW capacity and POR and/or the Network Load POD cannot be obtained from the Markets+ Transmission Service Provider's OASIS as described under Subsection 1) above, the Market Operator, through coordination during the verification period with the applicable Markets+~~

Comment [WC38]: Good catch. Agree.

Comment [BK39]: What is meant by this? Should this be "Congestion Rent Eligible Transmission Service Reservation"?

Comment [BK40]: Same comment as above.

Comment [AC41]: Can a single DNR serve multiple NT customers? How would the offer curves of the resources be allocated? Maybe that is covered by 5)a)

Comment [WC42]: I like this change.

~~Transmission Service Provider and NITS TSR Holders, will obtain and maintain a record of each Designated Network Resource's MW capacity and Point of Receipt and associated Network Load's Point of Delivery for that~~ Network Integration Transmission Service~~NITS TSR Holder.~~ For Designated Network Resources that are located outside of the Markets+ Transmission Service Provider's system that is serving Network Load inside of the Markets+ Transmission Service Provider's system, the Point of Receipt will be at the import location of delivering energy to the Markets+ Transmission Service Provider's system.

b) Based on the information obtained in Subsection 5(a) and for each hour of the Operating Day, the Market Operator will systematically select each Network Integration Transmission Service~~NITS~~ TSR Holder's source to sink paths from its Designated Network Resources~~DNRs~~ to its Network Loads as follows;

i. A merit order stack is created from the lowest cost Designated Network Resources~~DNRs~~ to the highest cost Designated Network Resources~~DNRs~~, where the Designated Network Resources~~DNR~~ cost is equal to the incremental cost, in $/MWh, to operate each Designated Network Resource~~DNR~~ at its Maximum Economic Capacity Operating Limit in effect at the time of the Day-Ahead Market close. Such incremental cost will be calculated using the submitted Mitigated Energy Offer Curve for each ~~DNR.~~Designated Network Resource~~DNR~~. Designated Network Resource~~DNR. DNR~~s with a Commit Status of Self or Reliability Must Run will be positioned at the bottom of the merit order stack with zero cost.

ii. Starting with the lowest cost DNR Designated Network Resource~~DNR~~ in the merit order stack created in Section 7.16(5)(b)(i) of this Attachment A, the Market Operator will

Comment [MTC43]: What if we have better modeling of the off system resource? It has to be the POR of import location?

Comment [WC44]: Agree. We could add that here or include as a Protocol detail.

Comment [AC45]: The stacking should be on a segment by segment basis, not a resource-by-resource basis, correct? This could be read to mean that the $/MWh for the last segment of the offer curve is used.

Comment [CA46]: The approved proposal stated that SPP *may* incorporate mitigated offers; this states that it *will* be based on mitigated offers.

Comment [GC47]: Once Green House Gas design is approved, we will have discussion on whether or not to include that adder here.

Comment [MTC48]: This is fine for reliability must run - but a "reliability" status for only running during reliability events should not be positioned at bottom. Also, what does "bottom" mean, one could argue what it means.

Comment [WC49]: "Reliability Status" is not being included in Markets+. A Resource in RMR status is basically the same as Self-Schedule except it is eligible for Make-Whole Payment. Bottom of the Stack means "lowest cost".

Comment [BK50]: Is this accurate? Suggest adding this to 1) clarify that the bottom of the stack is the lowest cost, and 2) that self schedule and must run resources will show up as the "lowest cost DNR" selected in the next section.

Comment [BK51]: This assumes Self and Must Run have zero cost. See comment above.

select ~~DNR~~s to Network Load paths from the merit order stack until the total MW capacity of the Designated Network Resource~~DNR~~s DNRs selected is equal to the ~~NITS TSR Holder's~~ Network Integration Transmission Service ~~TSR H~~holder's Network ServiceDistribution ~~Nomination~~ Distribution Cap. Such selected Designated Network Resource~~DNR~~ to Network Load paths will be used for Congestion Rent allocation purposes as described under Section 9.2.13 of this Attachment A.

Comment [CA52]: What if offered MWs differs from MWs associated with MW of NT service for a given DNR? Offered MW could be less than NT MW in the case of an ourage or VER with low forecast; or could be greater in the case of a shared rsource or if customer had less NT service from the DNR than it's capacity. Should the MWs selected from a DNR be the minimum of the two values (offered MWs or NT service MWs)? Or maybe this level of detail belongs in protocols?

Comment [MTC53]: Why is this Nomination instead of Distribution Cap as it is called in 7.16 subsection 5? Where is the nomination cap set that allows for the 4CP, monthly billing etc.?

Comment [BK55]: Is this correct? Nomination Cap is not defined.

Comment [WC54]: Mistake. Should be Distribution Cap.

Section 7.17: Coordinated Interchange Scheduling Limits

1) For a coordinated scheduling limit applied at a single location and involving one or more Markets+ Transmission Service Providers and/or Markets+ Transmission Contributors on each side of the constraint, the Market Operator will separate the congestion rent available for allocation on the binding constraint into an Export Share and an Import Share. The Export Share will be associated with transmission service to schedule and deliver energy to the coordinated scheduling location and will be distributed in the same manner as set forth in this Attachment A. The Import Share will be associated with transmission service to schedule and receive energy from the coordinated scheduling location and will be allocated in the same manner as set forth in this Attachement A.
2) The Market Operator will allocate 50% of the Ceongestion Rrent Aavailable Ffor Aallocation on the binding constraint to the Export Share and 50% to the Import Share, provided that the applicable Markets+ Transmission Service Providers and/or Markets+ Transmission Contributors associated with a coordinated scheduling limit may mutually agree and instruct the Market Operator to use a different sharing ratio that better reflects the particular arrangement associated with the constraint.
3) The Market Operator will maintain a list of all the coordinated scheduling limits that will be activated in Markets+ in the Market Protocols.

Section 9.2.13: Day Ahead Congestion Rent Available for Allocation Amount

The Market Operator calculates the Congestion Rent on each binding transmission constraint for each hour in the Day-Ahead Market as follows:

1) The Congestion Rent Available For Allocation on each binding transmission constraint in each hour is calculated as follows:

Congestion Rent Available for Allocation =
(Hourly Transmission Constraint Shadow Price of that constraint)

* (Hourly Day-Ahead Market Flow).).

a) Hourly Day-Ahead Transmission Constraint Shadow Price is calculated by the Day-Ahead Market solution and is defined in the Markets+ Tariff.

b) Hourly Day-Ahead Market Flow is the hourly ~~Day-Ahead Market F~~flow~~Flow~~ quantity across that binding Transmission Constraint calculated by the Day-ahead Market solution ~~associated with that binding Transmission Constraint.t~~Transmission c~~C~~onstraint.

Section 9.2.14: Day Ahead TSR Holder Congestion Rent Distribution

The Market Operator distributes the Congestion Rent collected to each TSR Holder for each hour in the Day-Ahead Market as follows:

1) A TSR Holder's Total Congestion Rent Allocation in an hour is calculated as follows:

TSR Holder's Total Congestion Rent Allocation = the sum of that TSR Holder's Congestion Rent Allocations for all binding transmission constraints.

a) TSR Holder Congestion Rent Allocation = TSR Holder Congestion Rent Allocation Factor multiplied by the Congestion

Comment [EL(P556]: Will this be a defined term in the tariff?

Comment [WC57]: That was not the intent. I think FERC is familiar with terminology we but could define it if needed.

Comment [EL(P558]: Did not see this in the definition section

Comment [WC59]: Its defined within this Settlements Section. This is typical since we don't want list out all of billing determinants in the definitions section.

Comment [AC60]: Signs of elements in the various formulas is a little confusing. Can SPP walk through this and/or verify that signs are correct?

Comment [MK(E61]: In prevailing flow?

Comment [EL(P562]: Did not see Day-Ahead Market Flow defined in this tariff language or in the broader tariff. draft markets plus tariff public 091523.pdf (spp.org)
Assume that opted out transmission would be excluded from DAM flow

Comment [WC63]: Defined under Section 9.2.13(1)(b)

Comment [AC64]: Can we define this in a way that doesn't use the term in the definition?

Comment [EL(P565]: Defined term?

Comment [WC66]: No. This should be lower case.

Comment [BK67]: Is "distribution" the right term here? Or should it be "allocation"? "Distribution" implies payment, but this section does not discuss payment. It discusses allocation amounts.

Comment [BK68]: Is this subsection redundant with the preceding language? Consider deleting.

Comment [MK(E69]: The group agreed this is not pro rata. Yet this definition looks like it could still be pro rata

Rent Available for Allocation for that binding transmission constraint multiplied by (-1)

b) If the Total of all TSR Holders' Positive MW Impacts in the Binding Flow Direction on that binding transmission constraint is greater than or equal to the Hourly Day-Ahead Market Flow on that binding transmission constraint,

Then

TSR Holder Congestion Rent Allocation Factor =

(TSR Holder's Positive MW Impact in the Binding Flow Direction on that binding transmission constraint) /

(Total ~~of all TSR Holders' Positive MW Impacts~~Transfer Capability of that binding transmission constraint in the Binding Flow Direction on the same binding transmission constraint).

c) If the ~~T~~total of all TSR Holders' Positive MW Impact in the Binding Flow Direction on that binding transmission constraint is less than the Hourly Day-Ahead Market Flow on that binding transmission constraint

Then

TSR Holder Congestion Rent Allocation Factor =

(TSR Holder's Positive MW Impact in the Binding Flow Direction on that binding transmission constraint /

Hourly Day-Ahead Market Flow on that binding transmission constraint).

d) TSR Holders' Positive MW Impact in the Binding Flow direction on the binding constraint =

TSR Holder's Reserved MW Quantity *

Comment [EL(P570]: Confirm that this is somehow tied to MCC being a negative value? CR Factor should be a positive number and the CR Available Allocation should be positive number, but don't see that term defined anywhere

Comment [WC71]: This multiply by (-1) is get the sign convention correct for Settlements. Negative values are credits. The CR Available for Allocation is the value calculated under Section 9.2.13. Need to add this Section reference here.

Comment [MK(E72]: Disagree with this language.

Comment [MK(E73]: This looks like pro rata. That is not the case. How are we carving out unsold capacity beyond what was reserved by TSR rights holders?

Comment [BK74]: Do we need this new term? Or is it the same as the "Congestion Rent Eligible Transmission Service Reservation"?

Percentage flow impact in the binding flow direction on the binding constraint, calculated as part of the Day-Ahead Market solution, for that TSR Holder's Congestion Rent Eligible Transmission Service Reservation.

i. For PTP TSR Holders, TSR Reserved MW Quantity is equal to the Point-To-Point Service Distribution Cap;

ii. For NITS TSR Holders, TSR Reserved MW Quantity is equal to the MW amounts identified under Section 7.1.6(5)(b)(ii) of this Attachment A.

Section 9.2.15: Day Ahead Excess Congestion Rent ~~Excess~~ Distribution ~~Amount~~

For each hour in the Day Ahead Market, ~~T~~thc~~The~~ Market Operator quantifies and distributes any excess Congestion Rent collected to the applicable Markets+ Transmission Service Providers for distribution to its transmission customers according to its OATT tariff ~~for each hour in the Day-Ahead Market~~ as follows:

1) A Markets+ Transmission Service Provider's Total Congestion Rent Allocation in an hour is calculated as follows:

Markets+ Transmission Service Provider's Total Congestion Rent Allocation = the sum of that Markets+ Transmission Service Provider's Congestion Rent Allocations for all binding transmission constraints associated with that Markets+ Transmission Service Provider, multiplied by (-1).

a) Markets+ Transmission Service Provider's Congestion Rent Allocation = Excess Congestion Rent for that binding transmission constraint associated with any unsold capacity the Markets+ Transmission Service Provider puts into the market in that hour. For elements of a constraint associated with more than one Markets+ Transmission Service Provider, the Market Operator will allocate the Excess Congestion Rent for the constraint based on the

Comment [BK75]: Don't understand. In particular, please clarify "percentage flow impact".

Comment [BK76]: If "Reserved MW Quantity" means the same thing as "Congestion Rent Eligible Transmission Service Reservation", then these amounts were already determined in 7.16 (4) and (5) and shouldn't need to be repeated here.

Comment [MK(E77]: NV Energy feels strongly that if there is a derate or not enough dollars in the bucket to pay out PTP and NT on a path that the customers who schedule on their reservation in that hour should first be protected, then the customer who did not schedule in that hour.

If we cannot get there. NV Energy would like to see IN ALL DAM flow scenarios, that the customer gets a percentage of the CR based on their pro rata allocation of the MW for the Rights holders as compared to the Total Transfer Capability. This way the unsold gets the CR associated with unsold capacity as well so the TSP can hold customers who scheduled harmless.

Comment [BK78]: Same comment as above re: "distribution" vs. "allocation".

Comment [BK79]: Should this say "Excess" instead, referring to the term later defined?

Comment [MK(E80]: Don't love this term, but tried to help define what this is a little more

percentage of market available capacity associated with each Markets+ Transmission Service Provider.

b) Excess Congestion Rent = (Congestion Rent Available for Allocation in that hour), Plus

(the sum of all TSR Holder Congestion Rent Allocations for that binding constraint associated with the Markets+ Transmission Service Provider in that hour)

i. Congestion Rent Available for Allocation is equal to the value calculated under Section 9.2.13(1) of this Attachment A.

ii. TSR Holder Congestion Rent Allocation is equal to the value calculated under Section 9.2.14(1)(a) of this Attachment A.

2) If the applicable Transmission Service Provider associated with a binding constraint is not a Markets+ Transmission Service Provider, the Market Operator will distribute any excess Congestion Rent to the applicable Markets+ Transmission Contributor.

Comment [MTC81]: Should this be minus?

Comment [WC82]: No. It's a little confusing. Its plus here because the TSR Congestion Rent Allocations is a negative number. (See Section 9.2.14(1)(a), there is multiply by (-1) to get the settlement sign convent4ion correct, negative values are credits.)

Formatted: List Paragraph, Indent: Left: 0", First line: 0"

From: Miller,Todd E (BPA) - LP-7
Sent: Monday, February 12, 2024 4:39 PM
To: Kristen Darden; Doot,Erika A (BPA) - LP-7; Kelli Schermerhorn; Chris Nolen; Rachel Kane
Cc: Mantifel,Russell (BPA) - MTM-3; Chong Tim,Marcus H (BPA) - L-7; Kirby,Elizabeth A (BPA) - MTM-3; Eaton,Sara L (BPA) - PTMA-5; Chan,Allen C (BPA) - LT-7; Meyers,Andrew P (BPA) - MTM-3; Truong,Mai N (BPA) - TSB-TPP-2
Subject: RE: [EXTERNAL] RE: Additional BPA Comments on Draft M+ Tariff
Attachments: markets plus tariff_public_012624.docx

Kristen,

Sorry for the late email. BPA reviewed Attachments I and J and has some additional suggestions/questions for cleaning up these sections of the tariff. In the attached BPA's suggested edits and comments are on pages 536-545. Each edit has an explanatory comment. Thank you for considering BPA's edits.

-Todd

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, February 12, 2024 8:46 AM
To: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Subject: [EXTERNAL] RE: Additional BPA Comments on Draft M+ Tariff

Thank you for sending over, Erika. We will review internally today.

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Sent: Friday, February 9, 2024 6:55 PM
To: Kristen Darden <kdarden@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel, Russ <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby, Libby <eakirby@bpa.gov>; Eaton, Sara <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong, Mai <mntruong@bpa.gov>
Subject: **External Email** RE: Additional BPA Comments on Draft M+ Tariff

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Hi Kristen, Kelli, Rachel and Chris,

Attached is a second set of BPA comments on the draft M+ tariff. We may send you a few additional comments on attachments this weekend.

Thank you for your prompt review and responsiveness to our comments. We appreciated your feedback and incorporation of our previous comments.

Please let me know if you have any questions.

Have a nice weekend,
Erika

From: Doot,Erika A (BPA) - LP-7
Sent: Thursday, February 8, 2024 11:06 AM
To: Kristen Darden <kdarden@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Subject: RE: [EXTERNAL] RE: Additional BPA Comments on Draft M+ Tariff

Hi Kelli & Kristen,

I will have another set of comments for you on Attachment A section 6.2 and after. I am waiting to finalize with my SMEs just after the MDWG.

Thanks,
Erika

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, February 8, 2024 6:31 AM
To: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Subject: [EXTERNAL] RE: Additional BPA Comments on Draft M+ Tariff

Erika –

I apologize for the delay. Thank you for sending over BPA's comments. We have responded within the attached. We did incorporate a portion of the comments. We noted within the document which comments were incorporated. We will also address these during the meeting today. Please let us know if you have any questions on our responses.

Thank you.

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C (b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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From: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Sent: Tuesday, February 6, 2024 7:08 PM
To: Kristen Darden <kdarden@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel, Russ <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby, Libby <eakirby@bpa.gov>; Eaton, Sara <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong, Mai <mntruong@bpa.gov>
Subject: **External Email** Additional BPA Comments on Draft M+ Tariff

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Please click the "Report Phish" button if you are unsure about this email.

Hi Kristen, Kelli, Chris & Rachel,

Based on Kristen's email today, I thought you would appreciate BPA sending comments on the draft tariff for MDWG discussion.

We will likely have another set or two, but I thought it would be helpful if you could start running them down.

Please let me know if you have any questions.

Thanks,
Erika

Erika Doot
Attorney-Advisor
Bonneville Power Adminstration
(503) 230-4329

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Southwest Power Pool, Inc.
Markets+ ~~Plus~~ Tariff

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1 Definitions

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A - Definitions

Aggregator of Retail Customers (ARC)

A Market Participant that registers demand response on behalf of one or more eligible retail customers, for which the participant is not such customers' Load Serving Entity~~,~~ and intends to offer that demand response directly into Markets+.

~~**Ancillary Service Plan**~~

~~A plan submitted by a Market Participant with regulation service and contingency reserve service obligations to meet its next day obligations and current day obligations.~~

~~**Allowance**~~

~~A tradeable instrument created by and used for compliance in an emission trading program.~~

Asset Owner

An aggregation of assets defined by a Market Participant through the Market Operator's registration process. ~~that is eligible to be represented by the Market Participant through any combination of Resource and load.~~

Asset Owner Reserve Zone Load Ratio Share

The sum of an Asset Owner's ~~Reported Load~~Billable Metered Load, Self-Charging MSRs, and Export Interchange Transactions in a Reserve Zone divided by the sum of all Asset Owners' ~~Reported Load~~Billable Metered Load, Self-Charging MSRs, and Export Interchange Transactions in all Reserve Zones for a given hour.

Authorized Agency

A state public utility commission that regulates, within the Markets+ Footprint, the distribution or supply of electricity to retail customers or is legally charged with monitoring the operation of wholesale or retail markets serving retail suppliers or customers; (ii) the Markets+ State Committee or

any successor organization formed to act as a regional state committee within Markets+; or (iii) a state agency that has both access to documents in the possession of a state public utilities commission pursuant to state statute and the ability to protect those documents in accordance with Attachment F and Attachment A, Section 11. ~~of this Tariff~~Markets+ Tariff.

Authorized Requestor

An individual who has executed the Non-Disclosure Agreement found in Attachment F and Attachment A, Section 11 ~~of this Tariff~~Markets+ Tariff and is authorized by an Authorized Agency to receive and discuss Confidential Information.

B - Definitions

Balancing Authority (BA)

The ~~A~~ responsible entity that integrates resource plans ahead of time, maintains load-interchange-generation balance within a Balancing Authority Area, and supports interconnection frequency in real time. ~~in order to:~~

Balancing Authority Area

The collection of generation, transmission, and loads within the metered boundaries of a Balancing Authority. A Balancing Authority maintains load-resource balance within this area.

Behind-the-Meter Generation

~~A~~ Ggeneration ~~unit~~ that is connected on the load side of a load Meter Settlement Location and is used by the load Market Participant that is the registered owner of that Meter Settlement Location to serve all or part of its capacity, energy, or ancillary service needs.

Bid

A commitment to pay a specific maximum price for a quantity of Energy that includes a Demand Bid, a Virtual Energy Bid, or an Export Interchange Transaction Bid.

Billable Metered Load

The Reported Load adjusted as described under Attachment A, Section 9.3.1.1 ~~of Attachment A~~.

Business Day

A day on which the Federal Reserve System is open for business.

C – Definitions

Calendar Day

Any day including Saturday and Sunday.

Combined Interest Resource

A Resource registered to reflect shared interest of multiple Asset Owners and modeled as one commercial Resource. Credits and charges for these Resources are allocated post market using the submitted interest share percentages.

Commercial Model

A representation of the attributes of and the relationships among and between Market Participants, Asset Owners, Resource and load assets, and Price Nodes for use in Markets+.

Commit Time

The time specified by the Market Operator in a Market Commitment at which a Resource is to be synchronized and operating at or above its Minimum Economic Capacity Operating Limit. For ~~a~~n Market Storage Resource (MSR)~~MSR~~, this is the time specified by the Market Operator in a Market Commitment at which the Resource should be connected and at or above its Minimum Discharge Limit or its Minimum Charge Limit.

Common Bus

A single bus to which two or more Resources registered by the same Market Participant are connected in an electrically equivalent manner where such Resources may be treated as interchangeable for certain compliance monitoring purposes.

Composite Energy Offer Curve

A Market Operator-calculated Energy Offer Curve for a Fast-Start Resource arrived at by modifying each price point on the Energy Offer Curve for each market interval of the Minimum

Run Time by adding amortized start-up and no-load costs.

Conditional Firm Point-To-Point Transmission Service

The reservation and transmission of capacity and energy on a conditional firm basis from specified Point(s) of Receipt to specified Point(s) of Delivery. This service is equivalent to Firm Point-To-Point Transmission Service except that, under certain system conditions or under a number of hours in real-time, this service will be curtailed ahead of Firm Point-To-Point Transmission Service, as further defined in each transmission service provider's governing documents, such as its Open Access Transmission Tariff (OATT).

Confidential Information

Information containing or revealing:

(1) Any proprietary or commercially or competitively sensitive information, trade secret or information regarding a plan, specification, pattern, procedure, design, device, list, concept, policy, or compilation relating to the present or planned business of a Market Participant, which is designated as confidential by that Market Participant when supplying the information to the Market Operator, whether conveyed orally, electronically, in writing, through inspection, or otherwise; or

(2) Any software, products of software, or other vendor information that ~~SPP~~ the Market Operator is required to keep confidential under its agreements.

Confidential Information does not include Critical Energy Infrastructure Information ("CEII") materials as designated by FERC, which must be obtained in accordance with FERC regulations.

Congestion Rent

Revenue collected by the Market Operator resulting from binding transmission constraints in the Day-Ahead Market that will be allocated to Congestion Rent Eligible Transmission Service Reservation (CRETSR) Holders and Markets+ Transmission Service Providers.

Congestion Rent Eligible Transmission Service Reservation (CRETSR)

The MW quantity of Firm Point-to-Point Transmission Service, Conditional Firm Point-To-Point Transmission Service, Network Integration Transmission Service, and/or Legacy Transmission Service of a monthly or longer service increment that spans the full applicable calendar month, that has not been opted out, and is available for use by Markets+.

Congestion Rent Eligible Transmission Service Reservation (CRETSR) Holder

A Market Participant with a Congestion Rent Eligible Transmission Service Reservation.

~~**Control Status**~~

~~A parameter communicated electronically to the Market Operator by a Market Participant at any time during an Operating Hour indicating a Resource's ability to follow Dispatch Targets.~~

Coordinated Interchange Scheduling Limit

A constraint activated in Markets+ that establishes the maximum allowable net scheduled interchange between two Participating Balancing Authority Areas at a specified location within the Markets+ Footprint.

Critical Load

Load that is: (1) critical to delivering natural gas, fuel oil, or other necessary fuels to generators; or (2) identified as critical by an applicable regulatory authority.

D - Definitions

Data Error

The following will be considered a ~~A~~ Ddata Eerror: ~~will be the following:~~

(i) Data received by the Market Operator from an independent source, including data produced by a system or submitted by a third party, that is inaccurately modified by the Market Operator during the execution of a market function; or

(ii) Data received by the Market Operator from an independent source, including data produced by a system or submitted by a third party, that is patently incorrect and is used by the Market Operator during the execution of a market function; or

(iii) Incorrect data produced and used by Market Operator during the execution of a market function.

Day-Ahead

The time period starting at 0001 and ending at 2400 on the day prior to the Operating Day.

Day-Ahead Market

The market for Energy and Flexibility Reserve Products that is conducted on the day prior to the Operating Day.

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Day-Ahead Market Commitment Period

The contiguous period of time between a Resource's Day-Ahead Market Commit Time and Day-Ahead Market Shutdown Time.

Demand Bid

A proposal by a Market Participant associated with a physical load to purchase a fixed or ~~price sensitive~~price-sensitive amount of Energy at a specified location and period of time in the Day-Ahead Market.

Demand Bid Curve

A Demand Bid specified as megawatt MW and dollars per MWh megawatt hour with up to ten (10) price/quantity pairs.

Demand Curve

A series of quantity/price points used to set Locational Marginal Prices and Market Clearing Prices when there is a shortage of Energy or Flexibility Reserve Products.

Demand Response Load

A registered measurable load that is capable of being reduced at the instruction of the Market Operator and subsequently may be increased at the instruction of the Market Operator.

Dispatchable Demand Response Resource (DRR)

A controllable load available for dispatch by the Market Operator that can reduce the withdrawal of Energy from the transmission grid, and for which an Energy Offer Curve has been submitted.

Desired Dispatch

A MW value calculated from a Resource's Real Time Balancing Market ~~(RTBM)~~ Energy Offer Curve between the M~~m~~inimum Economic Capacity ~~o~~Operating ~~l~~Limit and the M~~m~~aximum Economic Capacity ~~o~~Operating L~~l~~imit that first exceeds the Dispatch Locational Marginal Price at the Resource. A Dispatchable Variable Energy Resource's Desired Dispatch will be no greater than the Resource's Real-Time Capability, if available, or the lesser of the M~~m~~aximum Economic Capacity ~~o~~Operating L~~l~~imit and the ~~Transmission Provider~~ Market Operator output forecasted for that Resource.

Designated Network Resource (DNR)

Any designated generating resource owned, purchased, or leased by a Network Customer for the purposes of serving Network Load, as further defined in each Markets+ Transmission Service Provider's governing documents, such as its Open Access Transmission Tariff (OATT).

Dispatch Interval

Each of the twelve five-minute (5) intervals within ~~th~~ean Operating Hour~~The interval for which the Market Operator issues Market Commitments for Markets+~~ in the Real Time Balancing Market. ~~The Dispatch Interval is five (5) minutes.~~

Dispatch Locational Marginal Price (DLMP)

The price for Energy at a given Price Node that results from the co-optimization of Energy and Flexibility Reserve Products, based on the Bids, Energy Offers, and Flexibility Reserve Product Offers submitted by the Market Participants. The DLMP does not include ~~Fast-Start Resource e~~Composite Energy Offer Curves, as described in Attachment A, Section 3.1.

Dispatch Target

The communicated Resource target Energy ~~megawatt~~ MW output level at the end of the Dispatch Interval.

Dispatchable Demand Response Resource ~~(DRR)~~

A controllable load available for dispatch by the Market Operator that can reduce the withdrawal of Energy from the transmission grid, and for which an Energy Offer Curve has been submitted.

Dispatchable Resource

A Resource for which an Energy Offer Curve has been submitted and that is available for dispatch by the Market Operator.

Dispatchable Variable Energy Resource (DVER)

A Variable Energy Resource registered in Markets+ that is capable of being dispatched by the Market Operator.

E – Definitions

Electric Storage Resource (ESR)

A resource capable of receiving electric energy and storing it for later injection of electric energy to the grid. A resource that is either (1) physically incapable of injecting electric energy to the tTransmission sSystem due to its design or configuration or (2) contractually barred from injecting electric energy to the tTransmission sSystem is excluded from this definition.

~~**Electric Storage Resource Loss Factor**~~

~~The factor that represents round-trip efficiency related to the amount of Energy an ESR loses from charge to discharge. This loss factor is the ratio of (1) the Energy the ESR is able to inject via discharge to (2) the Energy withdrawn in order to store that charge.~~

Electrical Node (Enode)

A physical node represented in the Network Model where electrical equipment and components are connected.

Emergency Condition

A condition or situation determined by a Reliability Coordinator, Balancing Authority, or Transmission Operator within the Markets+ Footprint that is imminently likely to cause damage to or a materially adverse effect on the reliability or security of the Bulk Electric System.

Emergency Condition Commitment

A Balancing Authority, Reliability Coordinator, or Transmission Operator commitment issued to address an Emergency Condition within the Markets+ Footprint. These commitments are initiated during an Operating Day and are based on projected local reliability requirements, operational considerations, and generation and transmission outages that were not anticipated prior to the Operating Day.

Energy

An amount of electricity that is bBid or oOffered, produced, purchased, consumed, sold, or transmitted over a period of time, which is measured or calculated in ~~megawatt hour~~MWhs.

Energy Offer Curve

A set of monotonically non-decreasing price/quantity pairs that consists of ~~megawatts~~ MWs and dollars per ~~megawatt hour~~MWh with up to ten (10) price/quantity pairs.

Energy Schedule

-A set of hourly energy injection and withdrawal values, in ~~megawatts~~ MW per hour, submitted by Market Participants.

Export Interchange Transaction

A Market Participant schedule for exporting Energy out of the Markets+ Footprint.

Export Interchange Transaction Bids

A proposal by a Market Participant to purchase a ~~fixed~~ self-scheduled or ~~price sensitive~~ dispatchable amount of Energy for delivery outside of the Markets+ Footprint at a specified External Interface and for a period of time.

External Interface

-A Settlement Location representing a physical interconnection point(s) between a Balancing Authority Area within the Markets+ Footprint and a Balancing Authority Area external to the Markets+ Footprint.

External Resource

A Resource located outside of the Markets+ Footprint that is included in a Markets+ Balancing Authority Area through an External Resource Pseudo-Tie.

External Resource Pseudo-Tie

An ~~non-physical~~ electrical interconnection point ~~between Balancing Authorities,~~ where ~~by~~ all or a portion of an External Resource ~~in one Balancing Authority Area~~ is considered to be in ~~another~~ Balancing Authority Area within the Markets+ Footprint.

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Fast-Start Resource (FSR)

A Resource with the following submitted offer parameters for a Day-Ahead Market or Real-Time Balancing Market interval: (1) a ~~Start~~start-~~Up~~-up Time offer of ten (10) minutes or less; and (2) a Minimum Run Time offer of sixty (60) minutes or less. Market Storage Resources (MSR) must also have a Minimum Discharge Time offer of sixty (60) minutes or less to qualify as a Fast-Start Resource. Multi-Configuration Resources (MCR) must also have a Group Minimum Run Time offer of sixty (60) minutes or less to qualify as a Fast-Start Resource.

Federal Energy Regulatory Commission (FERC)

An independent, federal agency that regulates the interstate transmission and wholesale sale of natural gas, oil, and electricity.

Firm Point-To-Point Transmission Service

The reservation and transmission of capacity and Energy on a firm basis from specified Point(s) of Receipt to specified Point(s) of Delivery, as further defined in each transmission service provider's governing documents, such as its Open Access Transmission Tariff (OATT).

Flexibility Reserve Product Offer

The price at which a Resource has agreed to sell offline Flexibility Reserve Products. Flexibility Reserve Product Offers do not apply to online Flexibility Reserve Products.

Flexibility Reserve Products

Flexibility Reserve Products include Short-Term Flex Up, Short-Term Flex Down, and Mid-Term Flex Up.

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GHG Pricing Program

A state regulatory program that has established an emission trading program or carbon tax that covers the electricity industry.

GHG Pricing Zone

An area within the Markets+ Footprint subject to a GHG Pricing Program.

GHG Load

The registered load within a GHG Pricing Zone that bears the cost of complying with a GHG Pricing Program. A cleared Virtual Energy Bid at a Settlement Location within a GHG Pricing Zone will be included as part of the GHG Load.

GHG Reduction Program

A state regulatory program that mandates reductions in GHG emissions from electricity serving load without pricing GHG emissions.

Good Utility Practices

Any of the practices, methods, and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, safety, and expedition. Good Utility Practices is not intended to be limited to the optimum practice, method or act to the exclusion of all others, but rather to be acceptable practices, methods or acts, generally accepted by the region.

Greenhouse Gas (GHG)

Carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF6), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and/or other gases as defined by the applicable GHG Pricing Program or GHG Reduction Program.

~~**Group Minimum Down Time**~~

~~For an Multi-Configuration Resource, the minimum length of time a defined group of configurations must remain offline following transition to a different defined group of configurations.~~

Group Minimum Run Time

For a~~n~~ Multi-Configuration Resource~~MCR~~, the minimum length of time a defined group of configurations must run from the time the group is put online to the time the group is shut down.~~.~~

29331329

High_-Priority Export Interchange Transaction

An Export Interchange Transaction that is backed by committed export supply. Committed export supply includes Market Participant's Resource Adequacy Program obligations to load outside the Markets+ Footprint. Committed export supply also includes source specific sales to load outside the Markets+ Footprint where the portion of the export that is hHigh pPriority is the portion that is supported by an identified Resource's available surplus capacity. High Priority Export Interchange Transactions will be included in the Market Participant's mMust oOffer oObligation.

High_-Priority Import Interchange Transaction

An Import Interchange Transaction that is backed by committed import supply. High Priority Import Interchange Transactions may be used to meet a Market Participant's mMust-oOffer oO bligation.

Hybrid Storage Market Resource (HSMR)

Generating resource(s) and ESR(s) located behind the same point of interconnection that are registered together in Markets+ as a single Resource.

Import Interchange Transaction

-A schedule for importing Energy into the Markets+ Footprint.

Import Interchange Transaction Offer

A proposal by a Market Participant to provide Energy from a source external to a Markets+ Balancing Authority Area at a specified External Interface and period of time.

Information Request

A written request for disclosure of Confidential Information pursuant to Attachment A, Section ~~10.4~~11 ~~of Attachment A to the Tariff~~Markets+ Tariff.

Instantaneous Load Capacity

-The achievable change in real power output required to account for differences between the average load and the projected instantaneous load.

Interchange Transaction

Any Energy transaction that is crossing the boundary of the Markets+ Footprint and requires checkout with one or more Balancing Authority Areas external to the Markets+ Footprint. This includes any Import Interchange Transaction, Export Interchange Transaction, or Through Interchange Transaction.

Internal GHG Resource

A Resource defined by the GHG Pricing Program as being within the GHG Pricing Zone that

must include a Specified GHG Adder in its Resource Offer.

29331329

J - Definitions

Jointly Owned Unit (JOU)

A Resource that is:

1) Owned by more than one Market Participant; or
2) A Resource for which (a) one or more entities, at least one of which is a Market Participant, have contractual rights or financial obligations and (b) which the Market Participant registers as a Jointly Owned Unit.

K - Definitions

SPP Public Information

Legacy Transmission Service

Transmission service that existed on a transmission service provider's system prior to the effective date of that transmission service provider's governing documents such as its Open Access Transmission Tariff (OATT) that is equivalent to Network Integration Transmission Service (NITS) or Firm Point-To-Point Transmission Service.

Load Responsible Entity (LRE)

A Market Participant with registered load in Markets+.

Load Serving Entity (LSE)

A distribution utility or an electric utility that has a service obligation, where a service obligation, as defined in Section 217(a) of the Federal Power Act, means a requirement applicable to, or the exercise of authority granted to, an electric utility under federal, state, or local law, or under long-term contracts to provide electric service to end-users or to a distribution utility.

Local Reliability Issue

A local voltage or reliability issue necessitating a Local Reliability Issue Commitment or other instruction issued by a Balancing Authority, ~~or~~ Reliability Coordinator, or Transmission Operator.

Local Reliability Issue Commitment

A Balancing Authority, Reliability Coordinator, or Transmission Operator commitment

issued to address a Local Reliability Issue within the Markets+ Footprint. These commitments are initiated prior to or during an Operating Day and are based on projected local reliability requirements, operational considerations, and generation and transmission outages.

~~**Local Settlement Area**~~

~~A geographic area equivalent to a Balancing Authority participant area~~

Locational Marginal Price

The marginal price of Energy at a given Price Node as calculated by the Market Operator's Simultaneous Co-optimization Methodology.

M – Definitions

Marginal Congestion Component

The calculated portion of the Locational Marginal Price at a Settlement Location representing transmission congestion costs between that Settlement Location and a reference location as calculated under Attachment A, ~~-~~Section 3.2.2. ~~of this Attachment A~~.

Marginal Energy Component

The ~~compound~~calculated~~-~~ Locational Marginal Price at a r~~R~~eference b~~B~~us.

Marginal GHG Price

The marginal cost of Specified Source Resources complying with a GHG Pricing Program when their Energy is attributed to a GHG Pricing Zone.

Marginal Loss Component

The calculated portion of the Locational Marginal Price at a Settlement Location representing marginal loss costs between that Settlement Location and a reference location as calculated under Attachment A, Section 3.2.1. ~~of this Attachment A~~.

Market Clearing Price

The price used for settlement of a Flexibility Reserve Product in each Reserve Zone.

Market Commitment

The results of the~~The~~ Day-Ahead Market or Reliability Unit Commitment processes ~~results~~ communicated by the Market Operator to a Market Participant to (1~~i~~) either start up or shut down a specified Resource and/or (2~~ii~~) transition ~~an~~ Multi-Configuration Resource (MCR) from one configuration to another.

Market Monitor

The entity that monitors Markets+ in accordance with this Markets+ Tariff. ~~Market Monitor established under the Tariff~~Markets+ Tariff.~~.~~

Market Operator

Southwest Power Pool, Inc. (SPP) in its role as the~~The~~ entity that operates Markets+ in accordance with this ~~Tariff~~Markets+ Tariff, ~~Sout hwest Power Pool, Inc.~~

Market Participant (MP)

An entity ~~that generates, transmits, distributes, purchases, or sells electricity in Markets+. Market Participant expressly including any entity offering Resources for sale into Markets+~~ that executes the Market Participant ~~Service~~ Agreement ~~specified~~ in Attachment E ~~to this Tariff~~Markets+ Tariff, or on whose behalf an unexecuted Market Participant ~~Service~~ Agreement has been filed at FERC.

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Market Storage Resource (MSR) An ESR or HSMR that registers consistent with the requirements under Attachment A, Section 4.2.2.

Markets+ Footprint

The ~~geographic~~ region defined by the ~~Balancing Authorities~~Balancing Authority Areas participating in Markets+. ~~under this Tariff~~Markets+ Tariff.

Markets+ Internal Energy Schedule Settlement Adjustment

An accounting mechanism that reflects the physical transfer of Eenergy based on an Eenergy ~~schedule~~ Schedule with the source and the sink inside the Markets-+ Ffootprint.

Markets+ Tariff

The Tariff describing Markets+, including all schedules or attachments thereto, as amended from time to time and approved by FERC.

Markets+ Transmission Capability

Any transmission capability that has been identified by either Markets+ Transmission Service Providers or Markets+ Transmission Contributors as available to Markets+ for use in the Day-Ahead Market and in the Real-Time Balancing Market, regardless of whether the capacity has been reserved or scheduled.

Any transmission capacity that has been identified to the Market Operator as a Markets+ Transmission Capacity Opt-Out will not be considered available for Markets+ Transmission Capability.

Markets+ Transmission Capacity Opt-Out

Transmission capacity rights owned by a transmission customer on a participating Markets+

Transmission Service Provider's system that is not available for Markets+ Transmission Capability or transmission capacity rights owned by a Markets+ Transmission Contributor that it designates as unavailable for Markets+ Transmission Capability.

Markets+ Transmission Contributor

Any Market Participant that voluntarily provides its transmission service rights on a non-participating transmission service provider's system for Markets+ optimization.

Markets+ Transmission Service Provider

Any transmission service provider in the Markets+ Footprint that executes the agreement for a Markets+ Transmission Service Provider in Markets+ and contributes Markets+ Transmission Capability.

Error! Filename not specified.
Emon Mahony9:17 AM

Markets+ Transmission User

Any Market Participant offering or bidding load, generation, interchange, or Vvirtual Tt ransactions within Markets+.

Maximum Economic Capacity Operating Limit

An economic MW level used for constraining Energy dispatch that includes reductions to account for ~~the O~~operating ~~R~~reserve. ~~identified in the Ancillary Service Plan.~~

Maximum Charge Limit

The maximum MW level that a~~n~~ MSR is able to withdraw from the grid during normal

operating conditions.

Maximum Charge Time

The maximum duration of time that a~~n~~n MSR is able to withdraw from the grid.

Maximum Discharge Limit

The maximum MW level that a~~n~~n MSR is able to inject into the grid used during normal operating conditions.

Maximum Discharge Time

The maximum duration of time that a~~n~~n MSR is able to inject into the grid.

~~**Maximum Emergency Charge Limit**~~

~~The maximum MW level that ann MSR is able to withdraw from the grid during an Emergency Condition.~~

~~**Maximum Emergency Discharge Limit**~~

~~The maximum MW level that ann MSR is able to inject into the grid during an Emergency Condition.~~

Maximum State of Charge

The maximum State of Charge that should not be exceeded.

Meter Agent

-An entity responsible for collecting load and Resource data associated with identified Meter Settlement Locations within a Settlement Area for the purpose of Eenergy accounting that impacts market settlements. Meter Agent may refer to a Market Participant performing the Meter Agent function on its own behalf, or to a Meter Agent designated by the Market Participant to act on its behalf in accordance with the ~~Tariff~~Markets+ Tariff.

Meter Data

Real power measurement of Resources, loads, or tie-line flows between Settlement Areas and external Balancing Authority Areas, including pseudo-ties, and any other electrical quantities required for market settlement.

Meter Data Submittal Location

One or more Meter Settlement Locations contained within a single Settlement Area for which Meter Data is submitted to the Market Operator by the Meter Agent for settlement purposes.

Meter Settlement Location

The effective point at which a Market Participant's registered load and Resources interchange Energy within the Markets+ Footprint.

Mid-Term Flex Up

A Flexibility Reserve Product, procured by the Market Operator from the portion of a dispatchable and participating Resource's capability that is reserved for potentially increasing net obligations for future Dispatch Intervals.

Minimum Charge Limit

The minimum MWs level an MSR is able to withdraw from the grid during normal operating conditions.

Minimum Charge Time

The minimum duration of time an MSR is able to withdraw from the grid.

Minimum Discharge Limit

The minimum MW level that an MSR is able to inject into the grid during normal operating conditions.

Minimum Discharge Time

The minimum duration of time that an MSR is able to inject into the grid.

Minimum Economic Capacity Operating Limit

A ~~megawatt~~ MW level at or above a Resource's Minimum Capacity Operating Limit used for Energy dispatch at a minimum level during normal operating conditions.

~~**Minimum Emergency Charge Limit**~~

~~The minimum MW level that an MSR is able to withdraw from the grid during an Emergency Condition.~~

~~**Minimum Emergency Discharge Limit**~~

~~The minimum MW level that an MSR is able to inject into the grid during an Emergency Condition.~~

Minimum Run Time

The minimum length of time a Resource must run from the time the Resource is put online to the time the Resource is shut-down.

Minimum State of Charge

The minimum State of Charge that should be maintained.

Min-to-Off Time

The time for a Resource to de-synchronize from the grid starting from the Resource's Minimum Economic Capacity Operating Limit, Minimum Discharge Limit, or Minimum Charge Limit, as applicable.

Multi-Configuration Resource (MCR)

A combined cycle Resource registered consistent with the offer submission option as defined under ~~Section 4.2.9 of this~~ Attachment A, Section 4.2.9.

~~**Multi-Day Reliability Advisory Process**~~

~~A non-binding, informational study that provides a commitment and pricing forecast based on the latest available forecast and commitment data.~~

N – Definitions

~~**Net Benefits Test**~~

~~A calculation that measures the threshold price at which the benefits of dispatching Demand Response Load outweigh the costs.~~

Network Customer

An entity receiving Network Integration Transmission Service under one or more Markets+ ~~t~~T ransmission s~~S~~ervice p~~P~~rovider's governing documents, such as its Open Access Transmission Tariff (OATT).

Network Integration Transmission Service (NITS)

The reservation and transmission of capacity and energy on a firm basis between Designated Network Resources and Network Load, as further defined in each Markets+ Transmission Service Provider's governing documents, such as its Open Access Transmission Tariff (OATT).

Network Load

The load that a Network Customer designates for Network Integration Transmission Service under a Markets+ Transmission Service Provider's governing documents, such as its Open Access Transmission Tariff (OATT). The Network Customer's Network Load will include all load served by the output of any Designated Network Resources identified by the Network Customer.

Network Model

A representation of the transmission, generation, and load elements of the interconnected transmission systems within the Markets+ Footprint.

Network Service Distribution Cap

The monthly maximum MW for which a CRETSR Holder is eligible to receive Congestion Rent associated with its Network Integration Transmission Service. The MW cap is equal to a monthly load used for Network Integration Transmission Service billing for the applicable Congestion Rent allocation month by each respective Markets+ Transmission Service Provider.

No-Load Offer

The compensation request in a Resource Offer, in dollars, by a Market Participant representing the hourly fee for operating a ~~synchronized~~ Synchronized Resource at zero (0) ~~megawatt~~ MW output. For a generating unit, No-Load Offers are generally representative of the fuel expense required to maintain synchronous speed at zero (0) ~~megawatt~~ MW output. For a Dispatchable Demand Response Resources, No-Load Offers are generally representative of a combination of the fuel expense required to maintain synchronous speed at zero (0) ~~megawatt~~ MW output for Behind-t~~T~~he-Meter Generation and the ongoing hourly costs associated with manufacturing process changes associated with a reduction in load consumption. For an MSR, No-Load Offers are the cost to maintain a State of Charge when the MSR has a zero (0) MW output (i.e., the Resource is operating under a "~~No~~no-~~Load~~load" condition).

Non-Conforming Load

Load that is process driven that does not follow a predictable pattern.

Non-Dispatchable Variable Energy Resources (NDVER)

A Variable Energy Resource registered in the Markets+ Footprint that is not capable of being incrementally dispatched by the Market Operator.

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O – Definitions

Offer

A commitment to sell a quantity of Energy at a specific minimum price that includes a Resource Offer, a Virtual Energy Offer, or an Import Interchange Transaction Offer.

Operating Day

A daily period beginning at midnight Pacific Prevailing Time (PPT).

Operating Hour

A sixty (60) minute period of time beginning at the top of the hour, typically expressed as hour-ending.

Operating Tolerance

The ~~megawatt~~ MW range of actual Resource output above and below the Resource's average Dispatch ~~Instruction~~ Target over the Dispatch Interval where the Resource will not be subject to charges associated with Uninstructed Resource Deviation.

Out-of-Merit Energy (OOME)

An instruction from a Reliability Coordinator, Balancing Authority, or ~~a Markets+~~ Transmission Operator~~,~~ to address an Emergency Condition or Local Reliability Issue.

P - Definitions

Pacific Prevailing Time (PPT)

As established by national time standards, either Pacific Standard Time or Pacific Daylight Time.

Participating Balancing Authority

A Balancing Authority that has executed a Markets+ Balancing Authority Agreement.

Participating Balancing Authority Area

~~The collection of~~ All- generation, transmission, and load within the metered boundaries of a Participating Balancing Authority.

~~**Plant Minimum Down Time**~~

~~For an MCR, the minimum length of time required following complete desynchronization that the entire combined cycle plant must remain offline prior to a subsequent synchronization.~~

Plant Minimum Run Time

For an MCR, the minimum length of time the combined cycle plant must run from the time the plant is committed to the time the plant is shut down.

-Point-of-Delivery (POD)

A location that the transmission service provider specifies on its transmission system where an Interchange Transaction leaves or a Load-Serving Entity receives its Eenergy.

Point-of-Receipt (POR)

A location that the transmission service provider specifies on its transmission system where an Interchange Transaction enters or a generator delivers its output.

Point-to-Point Service Distribution Cap

The monthly maximum MW for which a CRETSR Holder is eligible for Congestion Rent associated with each of its Firm Point-to- Point Transmission Service or Conditional Firm Point-to-Point Transmission Service Congestion Rent Eligible Transmission Service Reservations. The monthly cap for a Firm or Conditional Firm Point-to-Point Congestion Rent Eligible Transmission Service Reservation is equal to its eligible reserved MW quantity.

Portal

Internet interface between the Market Operator and ~~its~~ Markets+ participants.

Price Node (Pnode)

A node in the Commercial Model where Locational Marginal Prices are calculated.

Q - Definitions

29331329

R – Definitions

Ramp-Rate-Down

A curve specifying MW/minute ramp rates applicable between Resource operating ranges that is used to dispatch Resources in the down direction. For MSRs, Ramp-Rate-Down is the rate at which an MSR can move from zero output to Maximum Charge Limit, which is represented as a negative (-) value for the MW breakpoint. This rate also represents the rate at which the MSR can move from Maximum Discharge Limit to zero output.

Ramp-Rate-Up

A curve specifying MW/minute ramp rates applicable between Resource operating ranges that is used to dispatch Resources in the up direction. For MSRs, Ramp-Rate-Up is the rate at which an MSR can move from zero output to Maximum Discharge Limit. This rate also represents the rate at which the MSR can move from the Maximum Charge Limit, which is represented as a negative (-) value for the MW breakpoint, to zero output.

Real-Time Balancing Market (RTBM)

The market ~~operated~~ facilitated by the Market Operator continuously in real-time to balance the system. ~~through deployment of Energy and to clear Flexibility Reserve Products.~~

Real-Time Capability

The amount (MW) of real power output the Resource is capable of instantaneously producing, excluding any dispatch, deployment, or curtailment instructions.

Real-Time Load Ratio Share

The sum of a Market Participant's Billable Metered Load, Self-Charging MSRs, and Export Interchange Transactions at all Settlement Locations within the Balancing Authority Area divided by the sum of all Market Participants' Billable Metered Load, Self-Charging MSRs, and Export Interchange Transactions at all Settlement Locations within the Balancing Authority Area for a given hour.

~~Reference Bus~~

~~The location on the Transmission System within the Markets+ Footprint relative to which all mathematical quantities will be calculated.~~

Reliability Coordinator

The entity that is the highest level of authority who is responsible for the Reliable Operation of the Bulk Electric System, has the Wide Area view of the Bulk Electric System, and has the
operating tools, processes and procedures, including the authority to prevent or mitigate emergency operating situations in both next-day analysis and real-time operations. The Reliability Coordinator has the purview that is broad enough to enable the calculation of Interconnection Reliability Operating Limits, which may be based on the operating parameters of transmission systems beyond any Transmission Operator's vision.

Reliability Unit Commitment (RUC)

The processes performed by the Market Operator to assess R~~r~~esource and Flexibility Reserve Product capacity adequacy ~~adequacy~~ and to communicate Market Commitments of Resources to the appropriate Market Participants as necessary.

SPP Public Information

Reliability Unit Commitment Period

The contiguous period of time between a Resource's Reliability Unit Commitment Commit Time and Reliability Unit Commitment Shutdown Time.

Reported Load

The ~~actual megawatt~~MWh~~-hour~~ quantity withdrawn from the transmission grid at a Meter Data Submittal Location, as submitted by the Meter Agent. For Meter Data Submittal Locations not submitted by the Meter Agent, State Estimator values for those locations are used.

Reserve Zone

A zone, containing a specific group of ~~Price Nodes~~Pnodes, for which minimum and maximum Flexibility Reserve Product requirements are calculated.

Resettlement

The settlement of an Operating Day subsequent to the posting of the S120 Scheduled Settlement Statement for that Operating Day.

Residual Load

~~The unaccounted Energy for load calculated by taking t~~The sum of (1~~a~~) injections at each Meter Data Submittal Location within the Settlement Area and (2~~b~~) withdrawals at each Meter Data Submittal Location within the Settlement Area and (3~~c~~) the sum of all Energy into and out of a Settlement Area.

SPP Public Information

Resource

Assets registered in Markets+ that inject Energy into, or reduce the withdrawal of Energy from, the transmission grid, ~~or reduce the withdrawal of Energy, from the transmission grid, and may be self-dispatched or directly dispatched by the Market Operator.~~

Resource Adequacy Program

The Western Resource Adequacy Program.

Resource Offer

A Resource's Start-Up Offer, No-Load Offer, Energy Offer Curve, Transition State Offer, physical operating parameters, ~~and~~ Flexibility Reserve Product Offer, and GHG ~~parameters~~ components.

SPP Public Information

S – Definitions

S7 Scheduled Settlement Statement

As defined in Attachment A, Section ~~9.9(1)~~10.1(1). ~~of Attachment A to this Tariff~~Markets+ ~~Tariff~~.

S53 Scheduled Settlement Statement

As defined in Attachment A, Section ~~9.9(2)~~10.1(2). ~~of Attachment A to this Tariff Markets+ Tariff~~.

S120 Scheduled Settlement Statement

As defined in Attachment A, Section ~~9.9(3)~~10.1(3). ~~of Attachment A to this Tariff~~Markets+ ~~Tariff~~.

Scarcity Price

-The Locational Marginal Price and Market Clearing Price levels determined through the use of Demand Curves when there are insufficient Energy or Flexibility Reserve Products.

Scarcity Pricing

The calculation of Scarcity Prices in accordance with Attachment A, Sections 3.2 and 3.6.~~.1 of~~

SPP Public Information

~~this Attachment A.~~

Scheduled Settlement

The mandatory settlement of an Operating Day that is posted on a prescribed schedule.

Scheduled Settlement Statement

-The statement produced from a Scheduled Settlement.

Self-Charging

Withdrawing Energy from the ~~T~~transmission ~~S~~system without a Market Operator Dispatch Target.

Service Flow Constraint (SFC)

An operating constraint limit that respects each Markets+ Transmission Contributor's and each Markets+ Transmission Service Provider's transmission capability. Service Flow Constraints will be continuously activated in the Simultaneous Co-optimization Methodology to constrain the least cost dispatch to the transmission capability made available for use in Markets+.

Setpoint Target

SPP Public Information

SPP Public Information
SPP Internal Only

SPP Internal Only
SPP Internal Only

SPP Internal Only

The real-time target ~~megawatt~~ MW output signal calculated for a specific Resource by the Market Operator for a specified period within a Dispatch Interval.

Settlement Area

An area within a single Balancing Authority for which interval metering can account for the net injections, net withdrawals, and net interchange associated with that area.

Settlement Invoice

A weekly summary of Markets+ net daily charges and payments by Asset Owner and Operating Day that is generated for each Market Participant and contains data for all of the Operating Days settled, either on a Scheduled Settlement or Resettlement basis, during the invoice period. For each Operating Day, only the net amounts (current total less previously invoiced) contribute to the invoice amounts.

Settlement Location

A location comprised of one or more Meter Data Submittal Locations for calculation of settlements in the Day-Ahead Market and Real-Time Balancing Market. ~~The five (5) types of Settlement Locations are: Resource (including pseudo-tied resources), Load (including pseudo-tied loads), Trading Hub, Resource Hub, and External Interface.~~

SPP Public Information

SPP Public Information
SPP Internal Only

SPP Internal Only
SPP Internal Only

SPP Internal Only

Settlement Statement

A daily summary of the Markets+ total daily charges and payments by charge type, Market Participant, Asset Owner and Operating Day which is generated for each Market Participant and contains data for all of the Operating Days settled, either on a Scheduled Settlement or Resettlement basis. For each Operating Day, the current, previous and net amounts are included on the statement.

Shadow Price

A price for a commodity that measures the marginal value of the commodity.

Short-Term Flex Down

A Flexibility Reserve Product, procured by the Market Operator from a Resource capable of following Dispatch Targets, that is reserved to provide downward flexibility during periods in which net obligations decrease in future Dispatch Intervals.

Short-Term Flex Up

A Flexibility Reserve Product, procured by the Market Operator from a Resource capable of following Dispatch Targets, that is reserved to provide upward flexibility during periods in which net obligations increase in future Dispatch Intervals.

Shutdown Time

The time specified by the Market Operator or a local ~~t~~Transmission Oo~~p~~perator in a Market Commitment at which a Resource is to begin de-synchronization procedures.

SPP Public Information

SPP Public Information
SPP Internal Only

SPP Internal Only
SPP Internal Only

SPP Internal Only

Simultaneous Co-optimization Methodology

An algorithm capable of committing, clearing, dispatching, and pricing Energy and Flexibility Reserve Products on a co-optimized basis that minimizes overall costs, including those costs associated with GHG Pricing Programs, while enforcing multiple security constraints.

Software Error

Software ~~results~~ execution inconsistent with the requirements of Attachment A. ~~to this Tariff Markets+ Tariff.~~

Specified GHG Adder

A Resource Offer component submitted by a Market Participant that is composed of monotonically non-decreasing megawatt ("MW") quantity and price pairs, which must both be set to zero or a positive number. The Specified GHG Adder is cost-based and is calculated using an emission factor and an allowance price. Specified GHG Adders are subject to the mitigated offer methodology requirements found in Attachment B.

Specified Source Resource

A Resource that is external to the GHG Pricing Zone, has attested that it meets the established regulatory criteria of a GHG Pricing Program, and has submitted a Resource Offer with a Specified GHG Adder. A physical resource may register in Markets+ as one or more Specified Source Resources.

Start-Up Offer

SPP Public Information

SPP Public Information
SPP Internal Only

SPP Internal Only
SPP Internal Only

SPP Internal Only

The compensation required by a Market Participant to bring an off-line Resource on-line or to reduce consumption of a Dispatchable Demand Response Resource.

Start-Up Time

The time required to start a Resource and reach the Minimum Economic Capacity Operating Limit, Minimum Discharge Limit, or Minimum Charge Limit, as applicable, following receipt of a Market Commitment.

State Estimator

A standard industry tool that produces a power flow model based on available real-time metering information, information regarding the current status of lines, generators, transformers, and other equipment, bus load distribution factors, and a representation of the electric network, to provide a complete description of system conditions, including conditions at busses for which real-time information is unavailable.

State of Charge

The amount of Energy stored expressed in ~~megawatt~~MWh~~-hour~~s.

State of Charge Forecast

The projected State of Charge for the beginning of each market interval used in the Day-Ahead Market and the RUC.

SPP Public Information

SPP Public Information
SPP Internal Only

SPP Internal Only
SPP Internal Only

SPP Internal Only

Surplus Threshold

The quantity of Energy that must be exceeded for the GHG Pricing Zone to have access to the excess Energy.

Synchronized Resource

A Resource that is electrically connected to the grid as evidenced by the closing of the Resource circuit breaker._

Sync-to-Min Time

The time required for a Resource's output to reach Minimum Economic Capacity Operating Limit, Minimum Discharge Limit, or Minimum Charge Limit, as applicable, following synchronization to the grid.

SPP Public Information

SPP Public Information
SPP Internal Only

SPP Internal Only
SPP Internal Only

SPP Internal Only

T – Definitions

~~**Third Party Request**~~

~~Any request or demand by any entity upon an Authorized Requestor or an Authorized Agency for release or disclosure of Confidential Information. A Third Party Request will include, but will not be limited to, any subpoena, discovery request, request pursuant to state freedom of information or public records access statutes or regulations, or other request for Confidential Information made by any: (i) federal, state or local government subdivision, department, official, agency or court, or (ii) arbitration panel, business, company, entity or individual. This provision is subject to any applicable exception under Attachment A, Section 10 of Attachment A to the this TariffMarkets+ Tariff.~~

Through Interchange Transaction

A Market Participant schedule submitted between two External Interfaces for use in the Day-Ahead Market or Real-Time Balancing Market for moving Energy through the Markets+ Footprint.

Trading Hub

A Settlement Location consisting of an aggregation of ~~Price Nodes~~Pnodes developed for financial and trading purposes.

Transition State Offer

An offer representing the cost to move an MCR to another configuration.

Transition State Time

An operating parameter representing the time required to move an MCR to another configuration.

SPP Public Information
SPP Public Information
SPP Internal Only
SPP Internal Only
SPP Internal Only
SPP Internal Only

Transmission Constraint Shadow Price

The reduction in production cost, in $/MWh, that is realized by increasing the MW limit of a binding transmission constraint by 1 MW.

Transmission Operator

The entity responsible for the reliability of its ~~"local"~~ transmission system, and that operates or directs the operations of the transmission ~~f~~Facilities.

Type 1A Energy

Energy from a Specified Source Resource with an agreement to supply ~~the~~ a GHG Pricing Zone. Type 1A Energy is only available to be attributed to ~~a~~ that GHG Pricing Zone.

Type 1B Energy

Energy from a Specified Source Resource with an agreement to supply ~~the~~ a GHG Pricing Zone. Type 1B Energy is available to be attributed to ~~a~~ that GHG Pricing Zone or an area outside a GHG Pricing Zone.

Type 2 Energy

Energy from a Specified Source Resource that is in excess of the Specified Source Resource's Surplus Threshold. Type 2 Energy is available to be attributed to a GHG Pricing Zone or an area outside a GHG Pricing Zone.

U – Definitions

Uncommitted Export Interchange Transaction

An Export Interchange Transaction that is not a High-Priority Export Interchange Transaction.

Uncommitted Import Interchange Transaction

An Import Interchange Transaction that is not a High-Priority Import Interchange Transaction.

Uninstructed Resource Deviation (URD)

The ~~megawatt~~ MW amount by which a Resource's actual output in a Dispatch Interval is above or below that Resource's average Setpoint Target over a Dispatch Interval.

Unspecified GHG Adder

A price applied to an Unspecified Source Import calculated using an emission factor set according to a methodology established by the GHG Pricing Program and an indexed allowance price.

Unspecified Source Import

Energy attributed to a GHG Pricing Zone when the Energy cannot be assigned to a particular Resource.

SPP Public Information

V – Definitions

Variable Energy Resource

A device for the production of electricity that is characterized by an eEnergy source that: (1) is renewable; (2) cannot be stored by the facility owner or operator; and (3) has variability that is beyond the control of the facility owner or operator.

Violation Relaxation Limit (VRL)

The values described under -Attachment A, Appendix 1. ~~Section 7.9 of Attachment A to this Tariff~~Markets+ ~~Tariff~~.

Virtual Energy Bid

A proposal by a Market Participant to purchase Energy at a specified price, Settlement Location, and period of time in the Day-Ahead Market that is not associated with a physical load.

Virtual Energy Offer

A proposal by a Market Participant to sell Energy at a specified price, Settlement Location, and period of time in the Day-Ahead Market that is not associated with a physical Resource.

Virtual Transactions

Virtual Transactions include Virtual Energy Offers and Virtual Energy Bids.

W - Definitions

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XYZ – Definitions

29331329

2 Regulatory Filings

Nothing contained in the ~~Tariff~~Markets+ Tariff or any MP~~Service~~ Agreement will be construed as affecting in any way the right of SPP, acting by and through authorization from the SPP Board of Directors, to make application to ~~the Commission~~FERC for a change in rates, terms and conditions, charges, classification of service, MP~~Service~~ Agreement, rule or regulation under Section 205 of the Federal Power Act and pursuant to ~~the Commission's~~FERC's rules and regulations promulgated thereunder.

Nothing contained in the ~~Tariff~~Markets+ Tariff or any MP~~Service~~ Agreement will be construed as affecting in any way the ability of any party receiving service under the ~~Tariff~~Markets+ Tariff to exercise its rights under the Federal Power Act and pursuant to ~~the Commission's~~FERC's rules and regulations promulgated thereunder.

3 Force Majeure and Indemnification

3.1 Force Majeure

An event of Force Majeure means any act of God, labor disturbance, act of the public enemy, war, insurrection, cyberattack, riot, pandemic, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation, or restriction imposed by governmental military or lawfully established civilian authorities, or any other cause beyond a party's control. A Force Majeure event does not include an act of negligence or intentional wrongdoing by the party claiming Force Majeure. Neither Market Operator nor the Market Participant will be considered in default as to any obligation under this ~~Tariff~~Markets+ Tariff if prevented from fulfilling the obligation due to an event of Force Majeure. However, a party whose performance under this ~~Tariff~~Markets+ Tariff is hindered by an event of Force Majeure will make all reasonable efforts to perform its obligations under this ~~Tariff~~Markets+ Tariff. A Market Participant that has experienced a Force Majeure event must notify the Market Operator as soon as practicable and identify the Force Majeure event and the obligations affected by the event. If the Market Operator has experienced a Force Majeure event, it must notify all Market Participants as soon as practicable and identify the Force Majeure event and the obligations affected by the event. Notwithstanding the foregoing, the physical inability to perform because of an event of Force Majeure will not relieve the party of any financial obligations incurred under this ~~Tariff~~Markets+ Tariff or as a result of the Force Majeure event, unless such financial obligation is waived or excused under this ~~Tariff~~Markets+ Tariff.

3.2 Liability

(a) SPP will not be liable, whether based on contract, indemnification, warranty, tort, strict liability or otherwise, to any Market Participant, third party, or other person, for any damages whatsoever, including, without limitation, direct, incidental, consequential, punitive, special, exemplary, or indirect damages for any actions or omissions by SPP in performing its obligations as Market Operator under this ~~Tariff~~Markets+ Tariff or any

agreement hereunder, including, but not limited to, any act or omission that results in an interruption, deficiency or imperfection of service, except to the extent such act or omission by SPP is found to result from its gross negligence or intentional wrongdoing, in which case SPP will only be liable for direct damages.

(b) A Markets+ Transmission Service Provider will not be liable for damages to any Markets+ Transmission User for actions or omissions by such Markets+ Transmission Service Provider or SPP in performing its obligations under this ~~Tariff~~Markets+ Tariff or any agreement hereunder, except to the extent such act or omission by such Markets+ Transmission Service Provider is found to result from its gross negligence or intentional wrongdoing.

(c) A Markets+ Transmission User, third party, or other person may not seek to enforce any claims under this ~~Tariff~~Markets+ Tariff or any agreements entered into under this ~~Tariff~~ Markets+ Tariff against the directors, members, managers, shareholders, officers, employees or agents of SPP or a Markets+ Transmission Service Provider, and such individuals will have no personal liability for obligations of SPP or a Markets+ Transmission Service Provider solely by reason of their status as directors, members, managers, shareholders, officers, employees or agents of SPP.

(d) In the event that SPP is required to pay any money damages, compensation, or attorney's fees and costs to a Market Participant, third party, or other person, for any actions or omissions by SPP in performing its obligations as Market Operator under this ~~Tariff~~Markets+ Tariff or any agreement hereunder, including, but not limited to, any act or omission that results in an interruption, deficiency or imperfection of service, SPP will be allowed to recover any such amounts pursuant to the procedures in this ~~Tariff~~ Markets+ Tariff.

(e) In no event will a Markets+ Transmission Service Provider be liable to any Markets+ Transmission User for any incidental, consequential, punitive, special, exemplary or indirect damages, attorney's fees and costs, loss of revenues or profits, arising out of, or

connected in any way with the performance or non-performance under this ~~Tariff~~ Markets+ Tariff or any MP~~Service~~ Agreement thereunder.

3.3 Indemnification

The Market Participants will at all times indemnify, defend, and save SPP, and any of its agents, consultants, directors, officers, or employees, harmless from any and all damages, losses, claims, including claims and actions relating to injury to or death of any person, or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from SPP's performance of obligations under this ~~Tariff~~Markets+ Tariff as Market Operator, except in cases of gross negligence or intentional wrongdoing by SPP or its agents, consultants, directors, officers, or employees.

3.4 Limitation on Claims

Except as may be required to comply with applicable ~~Federal Energy Regulatory Commission~~ FERC orders, no claim seeking an adjustment in the billing for any service, transaction, or charge under the ~~Tariff~~Markets+ Tariff may be asserted if more than one (1) year has elapsed since the Operating Day at issue. SPP will make no adjustment to billing with respect to any service, transaction, or charge under this ~~Tariff~~Markets+ Tariff if more than one (1) year has elapsed since the Operating Day at issue.

4 Creditworthiness

The SPP Creditworthiness procedures are specified in Attachment H.

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5 Dispute Resolution Procedures

5.1 Internal Dispute Resolution Procedures

Any dispute between a Market Participant(s) and the Market Operator involving service under the ~~Tariff~~Markets+ Tariff (excluding applications for rate changes or other changes to the ~~Tariff~~ Markets+ Tariff, or to any Market Participant ~~Service~~ Agreement entered into under the ~~Tariff~~ Markets+ Tariff, which will be presented directly to ~~the Commission~~ FERC for resolution) will be referred to a designated senior representative of the Market Operator and a senior representative of the Market Participant for resolution on an informal basis as promptly as practicable. In the event the designated representatives are unable to resolve the dispute within thirty (30) days (or such other period as the parties may agree upon) , such dispute may be submitted to arbitration by mutual agreement and resolved in accordance with the arbitration procedures set forth below.

5.2 External Arbitration Procedures

Any arbitration initiated under the ~~Tariff~~Markets+ Tariff will be conducted before a single neutral arbitrator appointed by the parties. If the parties fail to agree upon a single arbitrator within ten (10) days of the referral of the dispute to arbitration, each party will choose one arbitrator who will sit on a three-member arbitration panel, except that if more than two parties are involved, the parties will agree on procedures to choose these two arbitrators. If the parties are unable to agree, then the American Arbitration Association will be asked to appoint the arbitrator(s). The two arbitrators so chosen will within twenty (20) days select a third arbitrator to chair the arbitration panel. In either case, the arbitrators will be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and will not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) will provide each of the parties an opportunity to be

heard and, except as otherwise provided herein, will generally conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association and any applicable ~~Commission~~ FERC regulations or regional transmission group rules.

5.3 Arbitration Decisions

Unless otherwise agreed, the arbitration will be conducted in accordance with the Commercial Arbitration Rules of the American Arbitration Association. The arbitrator(s) will be authorized only to interpret and apply the provisions of the ~~Tariff~~Markets+ Tariff and any Market Participant ~~Service~~ Agreement entered into under the ~~Tariff~~Markets+ Tariff and will have no power to modify or change any of the above in any manner. The decision of the arbitrator(s) will be final and binding upon the parties, and judgment on the award may be entered in any court having jurisdiction; provided, however, that final decisions with the federal government (including Power Marketing Agencies) as one of the parties are nonbinding. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act and/or the Administrative Dispute Resolution Act. The final decision of the arbitrator must also be filed with ~~the Commission~~ FERC if it affects jurisdictional rates, terms, and conditions of service or facilities.

5.4 Costs

Each party will be responsible for its own costs, including its attorney's fees and costs, incurred during the arbitration process and for the following costs, if applicable:

(i) the cost of the arbitrator chosen by the party or parties to sit on the three-member panel and its equal share of the cost of the third arbitrator chosen; or

(ii) its equal share of the cost of the single arbitrator jointly chosen by the parties.

5.5 Rights Under the Federal Power Act

Nothing in this ~~Tariff~~Markets+ Tariff will restrict the rights of any party under the Federal Power Act.

II. SPECIAL RULES ON USE OF ~~TARIFF~~MARKETS+ TARIFF

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6 Application of Non-Rate Terms and Conditions

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6.1 Subject to State Laws and Regulations and Public Power Rate Schedules

The participation in this Markets+ Tariff by a Market Participant that is not a public utility under the Federal Power Act, but rather is a public-power entity, is subject in all respects to the laws and regulations of the state of its creation and to rate schedules adopted by its governing board under state law. FERC has exclusive jurisdiction to interpret the provisions of this Markets+ Tariff and how the provisions apply to such public-power entity(ies). However, in the event that the governing board of such public-power entity(ies), subject to state court review, determines that a conflict exists between the applicable state law, regulations, or rate schedules, and provisions of this Markets+ Tariff as interpreted by FERC, such state law, regulations, or rate schedules shall govern with respect to the application of this Markets+ Tariff to such public-power entity(ies).

6.2 Applicability to Rural Electric Cooperatives

The participation in this Markets+ Tariff by a Market Participant that is an electric cooperative that receives financing under the Rural Electrification Act of 1936 (7 U.S.C. 901 et seq.) is subject in all respects to the laws and regulations of the state of its creation and to rate schedules adopted by its governing board under state law. FERC has exclusive jurisdiction to interpret the provisions of this Markets+ Tariff and how the provisions apply to such entity. However, in the event that the governing board of such entity, subject to state court review, determines that a conflict exists between the applicable state law, regulations, or rate schedules, and provisions of this Markets+ Tariff as interpreted by FERC, such state law, regulations, or rate schedules shall govern with respect to the application of this Markets+ Tariff to such entity.

6.3 Long-Term Transmission Contracts in the Pacific Northwest

Nothing in this Tariff shall alter or interfere with the rights an entity has under 16 U.S.C. §§ 824q, 824r.

6.4 Participation by Western Area Power Administration Subject to Federal Legal Requirements

The following federal participation provisions are required for Western Area Power Administration to participate in Markets+.

(a) Subject to Acts of Congress, Regulations, and Certain Contractual Obligations

The participation by the United States through Western Area Power Administration (WAPA) in this Markets+ Tariff is subject in all respects to acts of Congress and to regulations of the Secretary of Energy established thereunder, to rate schedules promulgated by the Secretary of Energy, and certain contractual requirements. Nothing in this Markets+ Tariff shall compel WAPA to violate or exceed its statutory authority, applicable regulations, rate schedules, or certain contractual requirements, as determined by WAPA or a forum of competent jurisdiction. If any provision of this Markets+ Tariff is inconsistent with any obligation imposed on WAPA by federal law, regulation, rate schedule, or such contracts as described above, the Markets+ Tariff provision shall be inapplicable. This reservation includes, but is not limited to, the statutory limitations upon the authority of the Secretary of Energy to submit disputes arising under this Markets+ Tariff to arbitration. In the event of a conflict between these federal participation provisions in this Part II, Section 6.4 of this Markets+ Tariff and any other provision of this Markets+ Tariff, these federal participation provisions shall have precedence with respect to the application of this Tariff to WAPA.

(b) Contingent Upon Appropriations and Authorization

Where activities provided for in this Markets+ Tariff extend beyond the current fiscal year, continued expenditures by the United States through WAPA are contingent upon Congress making the necessary appropriations required for the continued performance of the obligations of the United States under this Markets+ Tariff. In case such appropriation is not made, the Parties hereby release the United States from its contractual obligations under this Markets+ Tariff and from all liability due to the failure of Congress to make such appropriation.

(c) Employment Practices; Contractor Agreement

For the purpose of this federal participation provision, the term "Contract" shall mean this Markets+ Tariff and the term "Contractor" shall mean a Party having transactions with WAPA. During the performance of this Contract, the Contractor agrees to the provisions set forth in Part II, Section 6.4 and its subdivisions. In addition, the Contractor will include the following provisions in every subcontract or purchase order involving WAPA unless exempted by rules, regulations, or order of the Secretary of Labor.

(i) Equal Opportunity Employment Practices

Section 202 of Executive Order No. 11246, 30 Fed. Reg. 12319 (1965), as amended by Executive Order No. 12086, 43 Fed. Reg. 46501 (1978), which provides, among other things, that the Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin, is incorporated by reference in the Contract by reference to same as if the specific language had been written into the Contract, except that Indian Tribes and tribal organizations may apply Indian Preference to the extent permitted by federal law.

(ii) Contract Work Hours and Safety Standards

The Contract, to the extent that it is of a character specified in Section 103 of the Contract Work Hours and Safety Standards Act ("Act"), 40 U.S.C. § 3701, as amended or supplemented, is subject to the provisions of the Act, 40 U.S.C. § 3701-3708, as amended or supplemented, and to regulations promulgated by the Secretary of Labor pursuant to the Act.

(iii) Use of Convict Labor

The Contractor agrees not to employ any person undergoing sentence of imprisonment in performing the Contract except as provided by 18 U.S.C. § 3622(c), as amended or supplemented, and Executive Order No. 11755, 39 Fed. Reg. 779 (1973), as amended or supplemented.

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(d) Statutory Obligations

WAPA was established on December 21, 1977, pursuant to Section 302 of the Department of Energy Organization Act, Public Law 95-91, dated August 4, 1977. By law, WAPA markets hydropower resources to meet statutory obligations. WAPA's transmission system was built primarily to enable the delivery of federal power to satisfy those obligations. Use of transmission facilities that WAPA owns, operates, or to which it has contract rights for delivery of federal long-term firm capacity and energy to project use and firm electric service customers is a WAPA responsibility under the terms and conditions of marketing criteria and electric service contracts implementing statutory obligations to market federal power. Capacity in WAPA transmission facilities under the WAPA tariff and Markets+ Tariff is solely for the use of available transfer capability, as that term is defined in WAPA's tariff, in excess of the capability WAPA requires for the delivery of long-term firm capacity and energy to statutory obligations and otherwise committed both currently and in the future under transmission agreements. Nothing in this Markets+ Tariff will interfere with WAPA's transmission capacity and deliveries of statutory obligations. WAPA retains the available transfer capability, as that term is defined in WAPA's tariff, from its resources to deliver to its statutory obligations.

(e) Federal Projects

The individual hydroelectric projects from which WAPA markets power and energy and owned and controlled by the U.S. Department of Army, Corps of Engineers or the U.S. Bureau of Reclamation. These projects are operated to satisfy multiple purposes such as irrigation, navigation, flood control fish and wildlife, and recreation, as well as power production. Any operation of, and maintenance, modification or addition to such projects is subject to the express approval of either the U.S. Department of Army, Corps of Engineers or the U.S. Bureau of Reclamation. WAPA's transmission systems are integrated with switchyard facilities owned and operated by the U.S. Department of Army, Corps of Engineers or U.S. Bureau of Reclamation. Any operation of, and maintenance, modification, or addition to such facilities, including the funding of such activities, is subject to the requirements and express approval of the U.S. Department of Army, Corps of Engineers or U.S. Bureau of Reclamation. WAPA

shall communicate and coordinate with the U.S. Department of Army, Corps of Engineers or the U.S. Bureau of Reclamation on any operation of, and maintenance, modification, or addition to the U.S. Department of Army, Corps of Engineers or the U.S. Bureau of Reclamation facilities, whichever is applicable, as requested by the Market Operator.

(f) Environmental Review Obligations

As a federal agency, WAPA must comply with various environmental and natural resource laws regulating the construction, operation and maintenance of its transmission facilities, including but not limited to the National Historic Preservation Act, 16 U.S.C. § 470 to 470x-6, the National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321-4347, the Endangered Species Act, 16 U.S.C. §§ 1531-1544, and the Archaeological Resources Protection Act of 1979, 16 U.S.C. § 470aa-470mm (2006); and regulations and Executive Orders implementing these laws, as they may be amended or supplemented, as well as any other existing or subsequent applicable laws, regulations and Executive Orders. In the event any action related to WAPA's participation and activities under this Markets+ Tariff requires environmental compliance review prior to WAPA taking such action, this Markets+ Tariff shall not be construed as restricting WAPA's absolute right to conduct and complete the environmental reviews it deems necessary in its sole discretion before making a decision regarding whether and how to proceed with such action. Market Operator acknowledges WAPA's environmental review could result in a decision not to take action or to delay action.

(g) Advance Funding

In the absence of appropriated funds, WAPA requires advance deposit of funds when it is required to perform any work for third parties. As such, WAPA must receive an advance deposit of funds pursuant to federal law prior to WAPA committing to perform any work pursuant to the Markets+ Tariff.

(h) Liability

WAPA, in the capacity as a Market Participant under this Markets+ Tariff, cannot indemnify,

defend, and hold other Parties harmless pursuant to the Anti-deficiency Act, 31 U.S.C. § 1341, et seq., as amended or supplemented. WAPA's liability as a Market Participant is determined in accordance with the Federal Tort Claims Act, 28. U.S.C. § 1346(b), 2401(b), 2402, 2671, 2672, 2674-2680, as amended or supplemented.

(i) WAPA Rate Review

WAPA's transmission service rates and revenue requirements shall only be reviewed in accordance with Delegation Order No. S1-DEL-RATES-2016 from the Secretary of Energy to the Federal Power Marketing Agencies and the Federal Energy Regulatory Commission (FERC or Commission), as superseded or amended, and in accordance with the regulations implementing the review authority found in 10 C.F.R. Part 903 and 18 C.F.R. Part 300, as superseded or amended.

(j) Inapplicability of Section 6.1 to a Federal Power Marketing Agency

Section 6.1 of this Markets+ Tariff shall not apply to WAPA.

(k) No Expansion of Jurisdiction, Waiver Of Defenses, Liability For Penalties, Or Inconsistent Obligations

WAPA has not waived or conceded any defense, including sovereign immunity, intergovernmental immunity, or lack of subject matter jurisdiction in any action against it by an Enforcement Authority, nor has WAPA accepted any liability, responsibility, or obligation to pay any civil monetary penalties or fines imposed by an Enforcement Authority to which it would not have been subject in the absence of this Markets+ Tariff. "Enforcement Authority" means the Commission, Electric Reliability Organization (ERO), or Regional Entities with enforcement authority pursuant to a delegation from an ERO or Commission for the purpose of proposing and enforcing reliability standards. The Market Operator does not concede or accept responsibility for any portion of a penalty or fine attributable to the actions or omissions of WAPA. The Market Operator will identify the amount of any penalty or fine that Market Operator allocates to WAPA or that the Market Operator determines is attributable to WAPA and will identify that amount to FERC as uncollectable and not otherwise owed by the Market

Operator.

(l) Net Billing

Payments due WAPA may be offset against payments due SPP. For services included in net billing procedures, payments due one Party in any month shall be offset against payments due the other Party in such month, and the resulting net balance shall be paid to the party in whose favor such balance exists. The Parties shall exchange such reports and information that either party requires for billing purposes. Net billing shall not be used for any amounts due which are in dispute.

(m) Bill Crediting

Payments to WAPA by SPP shall be paid by SPP to a third party when so directed by WAPA. Any third party designated to receive payment and the amount to be paid to that party will be so identified in writing to SPP. The payment to the third party shall be due and payable by the payment due date specified on WAPA's bill. When remitting payment to a designated third party, SPP shall indicate that such payment is being made on behalf of WAPA. WAPA shall credit SPP for the amount paid as if payment had been made directly to WAPA.

(n) Assignment

Any agreement related to participation under this Markets+ Tariff in which WAPA is a Party shall inure to the benefit of and be binding upon the Parties and their respective successors and assigns, but shall not be assigned by any Party, except to successors to all or substantially all of the electric properties and assets of such Party, without the written consent of the other Parties. Such written consent shall not be unreasonably withheld.

WAPA and SPP acknowledge that FERC, in the context of its jurisdiction over SPP's rates, may review WAPA's revenue requirement and rates to the extent they comprise or affect the rates charged by SPP or other members. In this case, such review shall be consistent with Delegation Order No. S1-DEL-RATES-2016, as superseded or amended, from the Secretary of Energy to the Power Marketing Administrations and FERC, including the regulations

implementing this review authority. If FERC does not accept WAPA's revenue requirement or rates, WAPA may terminate any agreements related to participation under this Markets+ Tariff subject to the termination provisions of those agreements. In such event, WAPA and SPP agree to meet and confer prior to any termination of such agreements.

(o) Pricing

WAPA shall possess the unilateral right or option, as applicable, to file with FERC, or submit to SPP for filing with FERC, pursuant to Section 205 of the Federal Power Act and federal statutory and regulatory requirements, including Delegation Order No. S1-DEL-RATES-2016, 10 CFR Part 903 and 18 CFR Part 300, as amended or superseded, modifications to change the rates or rate structure for transmission service, including filing a fixed revenue requirement and supporting data or a rate formula template for its cost of service revenue requirements.

(p) Controlled Unclassified Information

In connection with its participation in Markets+, WAPA may disclose to Market Operator information that is "Controlled Unclassified Information" ("CUI") as defined in DOE Order 471.1. Market Operator will handle CUI in accordance with Executive Order No. 13556, 75 Fed. Reg. 68675 (2010), 32 CFR part 2002, Department of Energy Order 471.7 (2022), and the CUI Registry, as amended or supplemented. Market Operator further acknowledges, consistent with the requirements of Order 471.7, paragraph 4.c(12) that misuse of CUI is subject to penalties established in applicable laws, regulations, and government-wide policies, and will promptly report to WAPA any non-compliance with CUI handling requirements.

(q) WAPA and its Regional Divisions and Operating Units

Any references to WAPA within this Markets+ Tariff shall apply to each of its regional divisions or operating units. Notwithstanding the definition of Affiliate contained elsewhere in this Markets+ Tariff, and although they may be treated as Affiliates for Markets+ Tariff administration purposes, WAPA and its regional divisions and operating units who are Market Participants under this Markets+ Tariff are not Affiliates for any other purposes, and preserve any and all arguments, and do not waive or concede any defenses, that they are not Affiliates,

SPP Public Information

including but not limited to in any actions of an enforcement authority. WAPA and its regional divisions and operating units are not Affiliates of any other Federal Power Marketing Administrations.

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6.5 Participation by Bonneville Power Administration

This Section contains provisions applicable to the participation of the Bonneville Power Administration ("Bonneville") in Markets+.

(a) Statutory, Regulatory, and Contractual Requirements

Bonneville's participation shall be subject to all applicable acts of Congress, regulations, and certain contractual requirements. Nothing in this Markets+ Tariff shall compel Bonneville to violate or exceed its statutory authority, applicable regulations, or certain contractual requirements, as determined by Bonneville or a forum of competent jurisdiction. If any provision of this Markets+ Tariff is inconsistent with any obligation imposed on Bonneville by federal law, regulation, or such contracts as described above, the Markets+ Tariff provision shall be inapplicable. Bonneville shall not incur any liability by failing to comply with a provision of this Markets+ Tariff that is determined to be inapplicable to Bonneville under this section; provided, however, Bonneville shall use its best efforts to comply the terms and conditions of this Markets+ Tariff to the extent legally permissible.

(b) Bonneville's Rate Schedules and Revenue Requirements

Bonneville's rate setting process is governed by several statutes. Section 7(a)(1) of the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act) directs Bonneville's Administrator to establish, and periodically review and revise, rates for the sale and disposition of electric energy and capacity and for the transmission of non-federal power. 16 U.S.C. § 839e(a)(1). Bonneville meets this requirement by conducting a rate proceeding. In addition to the Northwest Power Act, Bonneville is responsible for establishing rates pursuant to the Bonneville Project Act. 16 U.S.C. § 832, et seq., the Federal Columbia River Transmission System Act, 16 U.S.C. § 838, et seq., and the Flood Control Act of 1944, 16 U.S.C. § 825, et seq. Pursuant to the Northwest Power Act, Bonneville's rates become effective upon confirmation and approval by FERC. 16 U.S.C. § 839e(a)(2) & (k). Nothing in this Markets+ Tariff shall interfere with these statutory requirements.

BPA shall establish the revenue requirement for its transmission function. BPA shall also establish rate schedules for BPA's transmission services. To the extent needed by Market Operator, BPA will provide data and information regarding its revenue requirements and rate schedules as inputs Market Operator may use in setting its charges and rates for Markets+ transactions. However, Market Operator may not alter the transmission revenue requirement and rate schedules established by BPA and confirmed and approved by FERC under the Northwest Power Act.

(c) No Expansion of Jurisdiction, Waiver of Defenses, Liability For Penalties, Or Inconsistent Obligations

By application of this Markets+ Tariff, Bonneville has not waived or conceded any defense, including sovereign immunity, intergovernmental immunity, or lack of subject matter jurisdiction in any action against it by an Enforcement Authority, nor has Bonneville accepted any liability, responsibility, or obligation to pay any civil monetary penalties or fines imposed by an Enforcement Authority to which it would not have been subject in the absence of this Markets+ Tariff. "Enforcement Authority" means FERC, an Electric Reliability Organization (ERO), or Regional Entities with enforcement authority pursuant to a delegation from an ERO or FERC for the purpose of proposing and enforcing reliability standards. The Market Operator does not concede or accept responsibility for any portion of a penalty or fine attributable to the actions or omissions of Bonneville. The Market Operator will identify the amount of any penalty or fine assessed to the Market Operator attributable to Bonneville and will identify that amount to the Enforcement Authority as uncollectable and not otherwise owed by the Market Operator.

(d) Liability

Bonneville, in the capacity as a Market Participant under this Markets+ Tariff, does not indemnify, defend, and hold other parties harmless subject to the limitations of the Anti-Deficiency Act, 31 U.S.C. § 1341, et seq., as amended or supplemented. Bonneville's tort liability is determined in accordance with the Federal Tort Claims Act, 28. U.S.C. § 1346(b), 2401(b), 2402, 2671, 2672, 2674-2680, as amended or supplemented.

(e) Controlled Unclassified Information

In connection with its participation in Markets+, Bonneville may disclose to Market Operator information that is "Controlled Unclassified Information" ("CUI") as defined in DOE Order 471.1. Market Operator will handle CUI in accordance with Executive Order No. 13556, 75 Fed. Reg. 68675 (2010), 32 CFR part 2002, Department of Energy Order 471.7 (2022), and the CUI Registry, as amended or supplemented. Market Operator further acknowledges, consistent with the requirements of Order 471.7, paragraph 4.c(12) that misuse of CUI is subject to penalties established in applicable laws, regulations, and government-wide policies, and will promptly report to Bonneville any non-compliance with CUI handling requirements.

(f) Disputes Involving Bonneville/Arbitration

If Bonneville is a party to a dispute under this Markets+ Tariff, the procedures set forth in Section 5 for the resolution of claims and arbitration of disputes are subject to any limitations imposed on Bonneville by law, including but not limited to the authority of Bonneville to effect a remedy.

6.6 Non-Jurisdictional Status, Regulatory Filings, No Waiver of Jurisdictional Immunity

Market Participants that are non-jurisdictional utilities ("Non-Jurisdictional Market Participants") as described in Section 201(f) of the Federal Power Act, 16 U. S. C. 824(f) are not required to take any action or participate in any filing, proceeding, or appeal that would confer FERC jurisdiction on those Non-Jurisdictional Market Participants that does not otherwise exist. Any order, decision, rule or regulation issued by FERC to Market Operator or any other Market Participants relating to matters exempt from FERC jurisdiction under Section 201(f) of the Federal Power Act shall not apply directly or separately to the Non-Jurisdictional Market Participants. Nothing in this Markets+ Tariff or any agreement related to participation under this Markets+ Tariff, or the participation of Non-Jurisdictional Market Participants in Markets+ waives any objection to or otherwise constitutes a consent to, the jurisdiction by FERC that does not otherwise exist over Non-Jurisdictional Market Participants or their transmission or energy services, facilities and rates.

ATTACHMENT A
Markets+

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1. Introduction

This Attachment sets forth the Bidding, Offering, and dispatching responsibilities of the Market Operator and Market Participants relating to Markets+, and sets forth the operation, pricing, and settlement of the Day-Ahead Market and the Real-Time Balancing Market ("RTBM"). All time references in this Attachment A will be the Pacific Pprevailing Ttime. ~~as specified in the Markets+ Protocols.~~ Figure 1 shows the relationships and general timing sequence between the various market processes.

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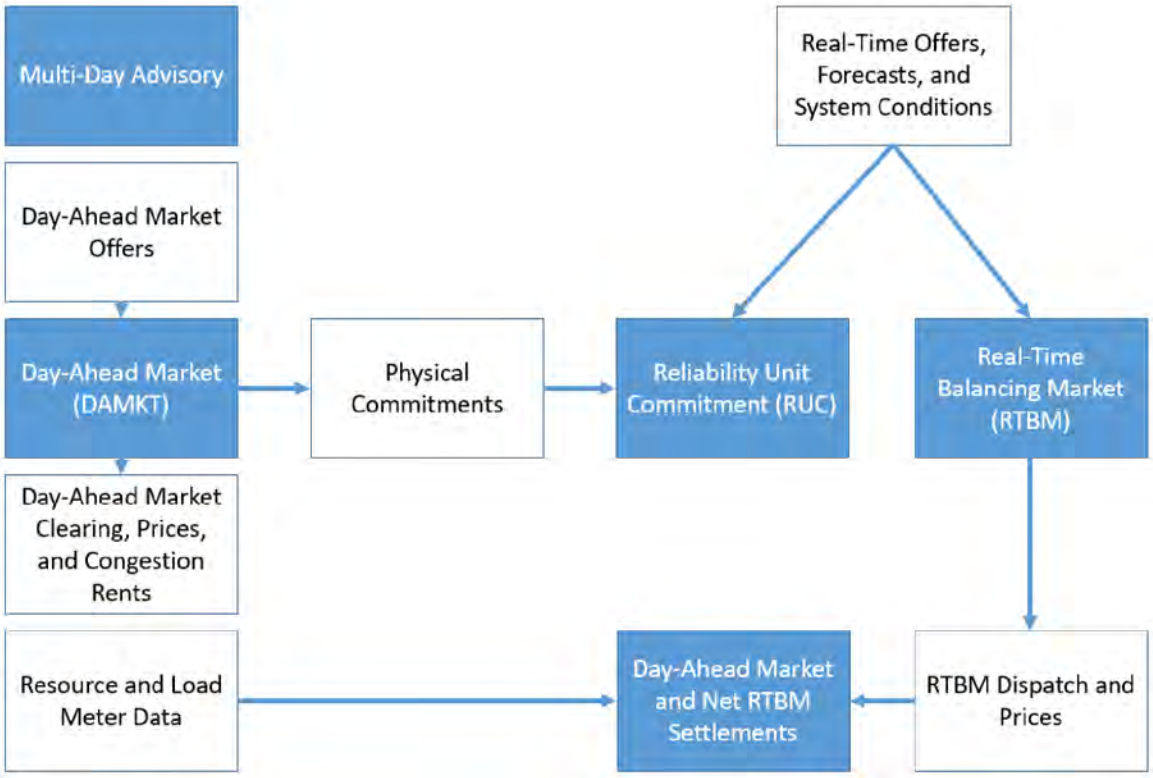

2. Day-Ahead and Operating Day Activities

2.1 Day-Ahead Activities

The Market Operator will conduct the Day-Ahead Market as described in the subsections below. Offers and Bids must be submitted by the close of the Day-Ahead Market, which is 10:00 PPT Day-Ahead. The Market Operator will post the Day-Ahead Market results from the dispatch solution no later than 13:30 PPT Day-Ahead. The Market Operator may extend these times as necessary, and will notify Market Participants of any such timing delays. The Market Operator will post the Day-Ahead Market LMP and MCP results from the pricing solution after the posting of the dispatch solution results.

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2.1.1 Day-Ahead Market Inputs

Inputs to the Day-Ahead Market will include the following:

(1) Day-Ahead Market Resource Offers, Demand Bids, Virtual Energy Offers, and Virtual Energy Bids;

(2) Through Interchange Transactions;

(3) Export Interchange Transaction Bids;

(4) Import Interchange Transaction Offers;

(5) Balancing Authority Operating Reserve Requirements;

(6) Flexibility Reserve Products requirements (market~~system~~-wide and Reserve Zone minimum and maximum);

(7) Transmission s~~S~~ystem topology consistent with the Network Model in place for the upcoming Operating Day;

(8) Scheduled Outages (Resource and Transmission);

(9) Service Flow Constraints;

~~(10) [GHG info needed];~~

(~~11~~10) Instantaneous Load Capacity requirements; and

(~~12~~11) Local Reliability Issue Commitments.

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2.1.2 Day-Ahead Market Execution

The Market Operator will employ a Simultaneous Co-optimization Methodology to perform the following tasks to clear the Day-Ahead Market for each hour of the upcoming Operating Day, while recognizing t~~T~~ransmission s~~S~~ystem security constraints, Service Flow Constraints, and the Resource operating parameter constraints submitted as part of the Day-Ahead Market Offers:

(1) Commit Offered Resources, Import Interchange Transaction Offers, and Virtual Energy Offers to meet the Demand Bids, Virtual Energy Bids, Export Interchange Transactions Bids, Instantaneous Load Capacity requirements, and Flexibility Reserve Products requirements on a least-cost basis.

(2) Using the Resource commitment results, clear Resource Offers, Virtual Energy Offers, and Import Interchange Transaction Offers to meet Demand Bids, Virtual Energy Bids, Export Interchange Transaction Bids, and Flexibility Reserve Products requirements on a least-cost basis.

2.1.2.1 Clearing During Capacity Shortage

(1) In the event of a Flexibility Reserve Product(s) shortage in any hour, the Market Operator will implement Scarcity Pricing.

(2) In the event a capacity shortage results in an inability to meet fifty percent (at least 50%) of the Mid-Term Flex Up requirement, the s~~S~~elf-s~~S~~cheduled Demand Bids, s~~S~~elf-s~~S~~cheduled High Priority Export Interchange Transactions, s~~S~~elf-s~~S~~cheduled Uncommitted Export Interchange Transactions, and Resources' charge MWs in any hour, the Market Operator will:

(a) First reduce the ~~S~~s~~S~~elf-~~S~~s~~S~~cheduled Uncommitted Export Interchange Transactions on a pro-rata basis based on the MW amounts until such time that the Mid-Term Flex-Up requirement is restored and administratively set LMPs as described under Section 3.6.1(4)~~6.4(4)~~;

(b) If the reduction of all Uncommitted Export Interchanges Transaction does not restore the

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Mid-Term Flex-Up requirement, reduce sSelf-sScheduled Demand Bids, sSelf-sScheduled High Priority Export Interchange Transactions, and Resources' charge MWs on a pro-rata basis based on the MW amounts to match the available capacity.

(3) If a transmission constraint cannot be relieved due to a shortage of capacity in any hour, the sSelf-sScheduled Demands Bids will clear on a pro-rata basis based upon the impact on relieving the constraint.

2.1.2.2 Clearing During Excess Generation Conditions

If the sum of sSelf-sScheduled Demand Bids, sSelf-sScheduled Uncommitted Export Interchange Transaction Bids, and sSelf-sScheduled High Priority Export Interchange Transaction Bids in any hour are less than the sum of the minimum outputs of the committed Resources, sSelf-sScheduled Uncommitted Import Interchange Transaction BidsOffers, and sSelf-sScheduled High Priority Import Interchanges Transaction Bids Offers in that hour, then the Market Operator will implement Scarcity Pricing to the extent that the Flexibility Reserve Products requirements cannot be maintained, and sequentially:

(a1) Reduce sSelf-sScheduled Uncommitted Import Interchanges Transaction Bids Offers pro-rata based on MW amounts;

(b2) Reduce Sself-Sscheduled High Priority Import Interchange Transactions Bids Offers pro-rata based on MW amounts; then

(c3) Relax enforcement of Resource minimum limits on a pro-rata basis to clear Resource Offers to meet Demand Bids, Uncommitted Export Interchange Transaction Bids, High Priority Export Interchange Transaction.; and

(d) Implement Scarcity Pricing to the extent that the Flexibility Reserve Products requirements cannot be maintained.

2.1.3 Day-Ahead Market Results

The Market Operator will notify each Market Participant of the Day-Ahead Market results for each hour of the Operating Day.

A. The following results are communicated to each Market Participant for only its specific Resources, no later than the posting of the Day-Ahead Market:

(1) Cleared Resource quantities for Energy and Flexibility Reserve Products;

(a) Cleared Offers for Energy associated with Resource Offers represent a Market Commitment.

(b) Resources committed by the Market Operator in the Day-Ahead Market that incur one or more start-up costs within the Operating Day as a result of the Market Commitment are guaranteed to receive revenues that are at least equal to the Resource Offer costs for the cleared amount of Energy and Flexibility Reserve Products.

(c) Cleared attributed GHG MWh quantities for Internal GHG Resources and Specified Source Resources.

(d) Cleared attributed Import Interchange Traanaction MWh by GHG zone; and

(e) Unspecified Source Imports by GHG zone.

(2) Cleared Virtual Energy Offers;

(3) Cleared Import Interchange Transaction Offers;

(4) Cleared Demand Bids;

(5) Cleared Virtual Energy Bids;

(6) Cleared Export Interchange Transaction Bids; and

(7) Cleared Through Interchange Transactions.

B. The following dispatch solution results are communicated to all Market Participants prior to the posting of the pricing solution results:

(1) Dispatchable Locational Marginal Prices (DLMPs) for each Settlement Location, the ~~marginal~~ Marginal Energy eComponent ("MEC") of the DLMP, the Marginal Congestion Component ("MCC") of the DLMP and the Marginal Loss Component ("MLC") of the DLMP for each Settlement Location; and

(2) MCPs for Flexibility Reserve Products.

C. The following pricing solution results are communicated to all Market Participants after the posting of the dispatch solution results:

(1) LMPs for each Settlement Location, the ~~marginal Energy component ("MEC")~~ of the LMP, the ~~Marginal Congestion Component ("MCC")~~ of the LMP and the ~~Marginal Loss Component ("MLC")~~ of the LMP for each Settlement Location;

(2) Marginal GHG Price by GHG zone; and

(2) MCPs for Flexibility Reserve Products.

2.2 Reliability Unit Commitment

The Market Operator will begin the RUC processes no earlier than forty-five (45) minutes following the posting of the Day-Ahead Market results to assess capacity adequacy during the Day-Ahead period and the remainder of the current Operating Day.

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2.2.1 Reliability Unit Commitment Inputs

Inputs to the RUC will include the following:

(1) RTBM Resource Offers;

(2) Approved Export Interchange Transactions;

(3) Approved Import Interchange Transactions;

(4) Approved Through Interchange Transactions;

(5) Flexibility Reserve Products requirements (~~system~~market-wide and Reserve Zone minimum and maximum);

(6) Market Operator load forecast;

(7) Transmission ~~s~~System topology consistent with Network Model in place for the upcoming RUC study period;

(8) Service Flow Constraints;

(9) Resource commitment schedules;

(10) The Market Operator's wind and solar Resource MWh output forecast;

(11) Actual and approved scheduled ~~t~~Transmission ~~s~~System outages as documented in the Transmission Provider's outage scheduler;

(12) Instantaneous Load Capacity requirements;

(13) Balancing Authority overrides;

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~~(14)~~ (14)

Local Reliability Issue Commitments; and

(~~15~~15) Emergency Condition Commitments.

Unit Commitment Execution

The Market Operator will employ a Simultaneous Co-optimization Methodology with the objective of committing Resources to meet the Market Operator load forecast, Uncommitted Export Interchange Transactions, High Priority Export Interchange Transactions, Instantaneous Load Capacity requirements, and Flexibility Reserve Products requirements less Uncommitted Import Interchange Transactions and High Priority Import Interchange Transactions over the study period such that commitment costs are minimized while recognizing t~~T~~ransmission S~~s~~ystem security constraints, Service Flow Constraints, and the Resource operating parameter constraints submitted as part of the RTBM Offers.

(1) Commitment costs are defined as Start-Up Offer, No-Load Offer, Transition State Offer, and incremental cost to operate at minimum output as defined in the submitted Energy Offer Curve.

(2) If available capacity plus Uncommitted Import Interchange Transactions plus High Priority Import Interchange Transactions is not sufficient on a system~~market~~-wide basis to meet the Market Operator load forecast, Uncommitted Export Interchange Transactions, High Priority Export Interchange Transactions, the upper bound of Instantaneous Load Capacity requirement , and fifty percent (50%) of the Mid-Term Flex Up requirement, the Market Operator will communicate and coordinate with Market Participants and P~~p~~articipating Balancing Authorities to sequentially:

(a) Reduce Uncommitted Export Interchange Transactions pro-rata based on MW amounts to relieve the capacity shortage; and

(b) Commit additional available Resources that were not otherwise offered to the market to relieve the capacity shortage if needed. Each Market Participant will be required to identify and to make available such additional supply, as defined in the Markets+ Protocols, subject to the Market Participant's contractual rights and obligations and any operational limitations as determined by the Market Participant and/or ~~participating~~ Participating Balancing Authority.

(3) If there is a capacity surplus on a ~~system~~market-wide basis identified when the sum of (a) self-committed and reliability must-run capacity at minimum output, (b) Self-Schedule Uncommitted Import Interchange Transactions, (c) High Priority Import Interchange Transactions (d) the lower bound of Instantaneous Load Capacity requirement, and (e) the Flexibility Reserve Products requirements is more than the sum of the Market Operator load forecast, s~~S~~elf-s~~S~~cheduled Uncommitted Export Interchange Transactions and s~~S~~elf-s~~S~~cheduled High Priority Export Interchange Transactions, the Market Operator will communicate and coordinate with the Market Participants and Participating Balancing Authorities to sequentially:

(a) Reduce s~~S~~elf-s~~S~~cheduled Uncommitted Import Interchanges Transaction ~~Bids~~ Offers pro-rata based on MW amounts; and

(b) Reduce s~~S~~elf-s~~S~~cheduled High Priority Import Interchange Transactions ~~Bids~~ Offers pro-rata based on MW amounts.~~; and~~

~~(c) Communicate and coordinate with participating BAs.~~

2.2.3 Reliability Unit Commitment Results

The Market Operator will communicate the following results to Market Participants:

(1) Modification of existing Market Commitments; and

(2) New Market Commitments.

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2.3 Operating Day Activities

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2.3.1 Real-Time Balancing Market

The Market Operator will employ the Simultaneous Co-optimization Methodology to ~~clear~~dispatch the RTBM, while meeting Flexibility Reserve Products requirements within the Markets+ Footprint.

2.3.1.1 Real-Time Balancing Market Inputs

Inputs into the RTBM will include the data provided prior to each Operating Hour and data provided within each Operating Hour, including the following:

(1) RTBM Resource Offers;

(2) Approved Through Interchange Transactions;

(3) Approved Export Interchange Transaction Bids;

(4) Approved Import Interchange Transaction Offers;

(5) Balancing Authority Operating Reserve Requirements;

(6) Flexibility Reserve Products requirements (market~~system~~-wide and Reserve Zone minimum and maximum);

(7) Scheduled t~~T~~ransmission S~~s~~ystem outages;

(8) Instantaneous Load Capacity requirements;

(9) Latest State Estimator solution;

(10) Real-~~Time~~ time Resource telemetry;

(11) Active transmission constraints;

(12) Service Flow Constraints;

(13) Market Operator load forecast;

(14) The Market Operator's wind and solar Resource output forecast; and

(15) Resource commitments including Resource commitments and Resource de-commitments, from the Day-Ahead Market and RUC processes, Resource commitments and Resource decommitments associated with Local Reliability Issue Commitments and Resource commitments and Resource decommitments associated with Emergency Condition Commitments.

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2.3.1.2 Real-Time Balancing Market Execution

The Market Operator will attempt to execute the RTBM every five (5) minutes for the next Dispatch Interval based on the inputs described above. In the event the Market Operator is unable to execute the RTBM or to approve a valid solution for the RTBM, the ~~clearing~~ solution from the last approved RTBM will carry forward until the approval of a new RTBM.

(1) A Simultaneous Co-optimization Methodology is employed to calculate Resource Dispatch Targets and to clear Flexibility Reserve Products to meet the Market Operator load forecast and Flexibility Reserve Products requirements at minimum costs based upon submitted Offers, while recognizing Resource operating constraints, transmission constraints, and Service Flow Constraints.

(2) In certain situations, enforcing constraints may result in a solution that is not feasible at a Shadow Price less than an appropriately priced VRL. In such cases, the Market Operator will apply VRLs within the Simultaneous Co-optimization Methodology.

(3) During shortage situations:

(a) If there is an actual shortage of Short-Term Flex Up and/or Mid-Term Flex Up during a Dispatch Interval, either on a ~~system~~market-wide or a Reserve Zone basis, Scarcity Prices will be implemented on a ~~system~~market-wide basis or Reserve Zone basis to set Short-Term Flex Up and/or Mid-Term Flex Up MCPs as described under ~~Section 3.6 of this~~ Attachment A, Section 3.6.

(b) In the event a capacity shortage results in an inability to meet 50% of the Mid-Term Flex Up requirement, the Short-Term Load Forecast, s~~S~~elf-s~~S~~cheduled High Priority Export Interchange Transactions, s~~S~~elf-s~~S~~cheduled Low Priority Export Interchange Transactions, and Resources' charge MWs in any hour, the Market Operator will communicate the market capacity shortage condition to Participating Balancing Authorities and applicable Reliability Coordinators, and sequentially:

(i) ~~First~~ R~~r~~educe the s~~S~~elf-s~~S~~cheduled Low Priority Export Interchange Transactions on a pro-rata basis based on the MW amounts in accordance with Western Electricity Coordinating Council (~~W~~WECC) schedule change

requirements until the Mid-Term Flex-Up requirement is restored and administratively set LMPs as described under Attachment A, Section 3.6.41(45) ~~of this Attachment A~~; and

(ii) Maintain power balance through the implementation of VRLs to reduce the Short-Term Load Forecast, sSelf-sScheduled High Priority Export Interchange Transactions, and Resources' charge MWs on a pro-rata basis based on the MW amounts to match the available capacity.; ~~and~~

~~(iii) Communicate the market capacity shortage condition to Markets+ Balancing Authority Areas and Markets+ Reliability Coordinators.~~

(4) During excess situations:

If the sum of Short-Term Load Forecast, sSelf-sScheduled Uncommitted Export Interchange Transaction Bids, and sSelf-sScheduled High Priority Export Interchange Transaction Bids in any hour are less than the sum of the minimum outputs of the committed Resources, sSelf-sScheduled Uncommitted Import Interchange Transaction ~~Bids~~ Offers and sSelf-sScheduled High Priority Import Interchanges Transaction ~~Bids~~ Offers in that hour, then the Market Operator will communicate the excess market generation situation to Participating Balancing Authorities and to applicable Reliability Coordinators, implement Scarcity Pricing to the extent that the Flexibility Reserve Products requirements cannot be maintained, and sequentially:

(a) Reduce sSelf-sScheduled Uncommitted Import Interchanges Transaction ~~Bids~~ Offers pro-rata based on MW amounts in accordance with WECC schedule change requirements; and

(b) Reduce sSelf-sScheduled High Priority Import Interchange Transactions ~~Bids~~ Offers pro-rata based on MW amounts in accordance with WECC schedule change requirements.;

~~(c) Communicate the excess market generation situation to Markets+ Balancing Authority Areas and Markets+ Reliability Coordinators; and~~

~~(d) Implement Scarcity Pricing to the extent that the Flexibility Reserve Products~~

~~requirements cannot be maintained~~.

2.3.1.3 Real-Time Balancing Market Results

(1) Following execution of the Simultaneous Co-optimization Methodology, the Market Operator will communicate the following results to Market Participants for only their specific Resources prior to the start of the applicable Dispatch Interval:

(a) Resource Dispatch Targets; and

(b) Cleared Flexibility Reserve Products.

(c) Cleared attributed GHG MWh quantities for Internal GHG Resources and Specified Source Resources,

(c) Cleared attributed Import Interchange ~~Traanaction~~Transaction MWh by GHG zone; and

(d) Unspecified Source Imports by GHG zone.

(2) The following pricing solution results are communicated to all Market Participants after the posting of the dispatch solution and are used for settlement purposes;

(a) LMPs for each Settlement Location, the MCC of LMP for each Settlement Location, the MEC of LMP for each Settlement Location, and the MLC of LMP for each Settlement Location~~.~~;

(b) Marginal GHG Price by GHG zone; and

(~~b~~c) MCPs for Flexibility Reserve Products for each Reserve Zone.

2.3.1.4 Out-of-Merit Energy Dispatch

When the Market Operator receives notification of an OOME, the Market Operator will incorporate and reflect the OOME in the RTBM at either the fixed MW level or an OOME cap and/or OOME floor MW level the Resource is expected to produce.

2.3.1.4.1 Determination of Non-Discriminatory Manual Resource Selection

Any process used by Participating Balancing Authorities, applicable Reliability Coordinators, Markets+ Transmission Service Providers, or Transmission Operators to manually select Resources for Oout-of-mMerit Eenergy dispatch must not be unduly discriminatory. The Market Monitor will consider cost, any affiliation with selected Resources, Resource operating parameters, availability of non-selected Resources relative to the selected Resources, and any prior instances where the Resources were committed to resolve the same reliability issue. The commitment will be considered non-discriminatory if the Resource selection was made without regard to ownership and the selected Resource effectively and economically mitigated the reliability issue, as verified by the Market Monitor. The Market Monitor will make best efforts to perform such verification before the S120 Scheduled Settlement Statements are issued; for the Operating Day in which the manual commitment occurred. In order to include the costs in the make whole payments by the S120 Settlement Statement, the submission must occur within seventy-five (75) Cealendar Ddays after the Operating Day, and the verification must be complete no later than noon on the Bbusiness Dday prior to 105 Cealendar Ddays after the Operating Day.

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2.3.2 Congestion Management

(1) The Market Operator will incorporate the data provided by Reliability Coordinators, Markets+ Transmission Service Providers, and Pparticipating ~~Balancing Authorities~~BAs ~~Balancing~~ Authorities for congestion management in the dispatch solution. This data includes:

(a) Out-of-Merit Energy;

(b) Applicable transmission constraints; and

(c) Changes to Interchange Transactions.

(2) The Market Operator will constrain the least-cost dispatch to the transmission capability made available for use in Markets+ through the continuous activation of Service Flow Constraints.

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3. Locational Marginal Prices and Market Clearing Prices

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3.1 Day-Ahead Market and RTBM Dispatch and Pricing

The Simultaneous Co-optimization Methodology used in the Day-Ahead Market and RTBM produces both a dispatch solution and a pricing solution. The dispatch solution and pricing solution are executed independent of each other. The MW quantities used in settlements for the dispatch and clearing of Energy and Flexibility Reserve Products result from the dispatch solution. Except where specified as DLMP, prices used in settlements result from the pricing solution and will be specified as LMP, MCC, ~~MCP~~, MEC, ~~and~~ MLC, and MCP. The DLMP results from the dispatch solution. The differences between the dispatch solution and the pricing solution are:

(1) Simultaneous Co-optimization Methodology dispatch solution

(a) DLMP developed from the co-optimization of Energy and Flexibility Reserve Products is based on the Energy Offers and Bids and Flexibility Reserve Products Offers submitted by the Market Participants.

(2) Simultaneous Co-optimization Methodology pricing solution

(a) For non-FSRs, co-optimization of Energy and Flexibility Reserve Products is based on the Energy Offers and Bids and Flexibility Reserve Products Offers submitted by the Market Participants.

(b) For FSRs, excluding self-committed FSRs, the Market Operator calculates a Ce omposite Energy Offer Curve for use in the co-optimization of Energy and Flexibility Reserve Products. The Ceomposite Energy Offer Curve will be calculated and applied

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as follows:

(i) The Market Operator calculates a Ceomposite Energy Offer Curve for an FSR by modifying each price point on the Energy Offer Curve for each market interval of the Minimum Run Time by adding amortized start-up and no-load costs. For FSRs that are MSRs, the Ceomposite Energy Offer Curve applies only to the discharge portion of the Energy Offer Ceurve.

1. The commitment costs (i.e., start-up cost and no-load cost) in effect at the time of the commitment are amortized over the Maximum Economic Capacity Operating Limit and the Minimum Run Time.

a. The start-up cost added to each breakpoint of the Energy Offer Curve is calculated by dividing the Start-Up Offer by the Maximum Economic Capacity Operating Limit and by the Minimum Run Time rounded up to the nearest interval.

b. The no-load cost added to each breakpoint of the Energy Offer Curve is calculated by dividing the No-Load Offer by the Maximum Economic Capacity Operating Limit and by the ratio of the number of intervals needed to meet the Minimum Run Time to the number of intervals in an hour.

2. The application of the composite Composite Energy Offer Curve begins with the commitment interval and extends through the Minimum Run Time.

(c) Except in case of self-committed FSRs, FSRs will have their mMinimum Economic Capacity oOperating Llimit relaxed to zero (0) MW.

For Day-Ahead Market and RTBM Simultaneous Co-optimization Methodology, mitigation measures for Energy Offers and Flexibility Reserve Products Offers, described under Sections 3.2 and 3.4 of Attachment B, Sections 3.2 and 3.4 of this TariffMarkets+ Tariff, will be performed in the Simultaneous Co-optimization Methodology pricing solution.

An FSR's Ceomposite Energy Offer Ceurve will be subject to the ~~Safety-net~~ Energy Offer Soft Cap.

3.2 Locational Marginal Prices and Locational Marginal Price Components

LMPs are calculated by the Market Operator for each hour in the Day-Ahead Market and each Dispatch Interval in the RTBM.

In performing these calculations, Dispatchable Resources will be eligible to set the LMP under the following conditions:

(a) The Dispatchable Resource must be operating below its maximum capacity limit;

(b) The Dispatchable Resource must be operating above its minimum capacity limit; and

(c) The Dispatchable Resource output must not be ramp rate constrained such that the Dispatchable Resource cannot achieve the optimal dispatch point under the economic dispatch.

The LMP at a P~~n~~Node is the cost of delivering an incremental MW of Eenergy at that specific P~~n~~Node, while satisfying all operational constraints where such cost will include applicable Demand Curve prices if the incremental MW of Eenergy would result in a corresponding increase in shortage conditions. The LMP at any P~~n~~Node is the sum of three components: the marginal costs of Energy (the MEC), the marginal cost of losses (the MLC), and the marginal cost of congestion (the MCC).

LMP Components at P~~n~~Node$_i$ are calculated based upon the following formula:

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$LMP_i = MEC + MLC_i + MCC_i$

Where:

(1) MEC is the component of LMP_i representing the marginal cost of Energy;

(2) MLC_i is the component of LMP_i representing the marginal cost of losses at Pn Node$_i$ relative to the Rreference Bbus;

(3) MCC_i is the component of LMP_i representing the marginal cost of congestion at EnNode$_i$ relative to the Rreference Bbus; and

(4) The Rreference Bbus represents the network distributed load bus.

3.2.1 Marginal Losses Component Calculation

The MLC_i at each Pnode$_i$ is defined by the following equations:

$MLC_i = -MLSF_i * MEC$

$MLSF_i = \partial$ (Losses) / ∂ P_i

Where:

(1) Losses = tTransmission Ssystem losses in the Markets+ Footprint;

(2) $MLSF_i$ = Marginal loss sensitivity factor at PnNode$_i$;

(3) MEC is the component of LMP_i representing the marginal cost of Energy;

(4) P_i = Net Injection at Pnode$_i$

The $MLSF_i$ is a linearized estimate of the change in Markets+ tTransmission sSystem losses that will result from a 1 MW injection at PnNode$_i$ coupled with a corresponding withdrawal at the rReference b Bus to maintain global power balance. Marginal loss sensitivity factors are dependent on topology,

node injections, and node withdrawals.

3.2.2 Marginal Congestion Component Calculation

The MCC at each PnNode$_i$ is defined by the following equations:

$$MCC_i = - \sum_{k=1}^{K} (Sensiik * SPk)$$

$$Sensi_{ik} = \partial Flow_k / \partial P_i$$

Where:

(1) k is the number of transmission constraints;

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(2) $Sensi_k$ is the linearized estimate of the change in the constraint k flow resulting from an incremental Eenergy injection at PnNode$_i$ coupled with an incremental Eenergy withdrawal at the rReference bBus;

(3) $Flow_k$ = Calculated flow for constraint k;

(4) SP_k = is the Shadow Price of constraint k.

(5) P_i = Net Injection at Pnode$_i$

3.2.3 Marginal Energy Component Calculation

The MEC is defined as the computed LMP at the Rreference bBus. By definition, MCC and MLC

components are zero (0) at the rReference bBus.

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3.3 Application of Locational Marginal Prices

The Market Operator will derive an LMP for each Settlement Location for the Day-Ahead Market and RTBM by aggregating the LMPs calculated at individual ~~Price Nodes~~Pnodes. The following rules will be used in deriving an LMP for Settlement Locations as follows:

(1) Load Settlement Location LMP will be equal to the load weighted average of LMPs calculated for individual Pnode~~rice Node~~s for that hour or Dispatch Interval.

(a) The load weights utilized in this calculation for the Day-Ahead Market will be based upon a historical real-time load calculated at each Settlement Location by the State Estimator for each hour.

(b) The load weights utilized in this calculation for the RTBM will be based upon the actual real-time load calculated at each Settlement Location by the State Estimator in that Dispatch Interval.

(2) Demand Response Load location with multiple Settlement Locations will be equal to the load weighted average of LMPs calculated for Settlement Locations aggregated to that Settlement Location or Demand Response Load location for that hour or Dispatch Interval.

(a) The load weights utilized in this calculation for the Day-Ahead Market will be based upon a historical real-time load calculated at each Settlement Location by the State Estimator for each hour.

(b) The load weights utilized in this calculation for the RTBM will be based upon the actual real-time load calculated at each Settlement Location by the State Estimator in that Dispatch Interval.

(3) Resource Settlement Location LMP for an hour in the Day-Ahead Market and for a

Dispatch Interval in the RTBM will equal the LMP calculated for ~~Price Node~~Pnode for the Resource.

(4) The LMP for a Trading Hub Settlement Location for an hour within the Day-Ahead Market or a Dispatch Interval within the RTBM will be equal to the weighted average of LMPs, MCCs, and MLCs calculated for Pnodes~~Price Nodes~~ within the Trading Hub aggregated to that Trading Hub Settlement Location for that hour or Dispatch Interval.

(5) The LMP for an External Interface Settlement Location for an hour within the Day-Ahead Market or a Dispatch Interval within the RTBM will be equal to the weighted average of LMPs calculated for ~~Price Nodes~~Pnodes within the External Interface aggregated to that External Interface Settlement Location for that hour or Dispatch Interval.

(a) The Market Operator will determine the weights utilized in this calculation for the Day-Ahead Market and RTBM at the time the External Interface is created.

3.4 Market Clearing Price Calculations

The MCP represents the cost of supplying an increment of Flexibility Reserve Products, taking into account lost opportunity cost and is composed of the marginal Flexibility Reserve Products costs and marginal costs associated with Flexibility Reserve Products scarcity. The Day-Ahead Market and RTBM MCPs at a Reserve Zone for Resources with cleared Flexibility Reserve Products in that Reserve Zone are equal to the summation of the applicable Shadow Prices associated with the constraints as described in subsections (1) and (2) below:

(1) There are three sets of constraints which apply on both a ~~system~~market-wide basis and a Reserve Zone basis:

(a) A Short-Term Flex Down constraint is equal to the Short-Term Flex Down requirement;

(b) A Short-Term Flex Up constraint is equal to the Short-Term Flex Up requirement; and

(c) A Mid-Term Flex Up constraint is equal to the Mid-Term Flex Up requirement.

(2) Flexibility Reserve Products MCPs for each Reserve Zone are calculated as follows:

(a) The Short-Term Flex Down MCP is equal to the Shadow Price for the ~~system~~market-wide and zonal Short-Term Flex Down constraint;

(b) The Short-Term Flex Up MCP is equal to the Shadow Price for the ~~system~~market-wide and zonal Short-Term Flex Up constraint; and

(c) The Mid-Term Flex Up MCP is equal to the Shadow Price for the ~~system~~market-wide and zonal Mid-Term Flex Up constraint.

(3) In the event a ~~system~~market-wide failure of the RTBM systems results in a loss of the ability to calculate MCPs, Flexibility Reserve Products in the RTBM will continue to settle under this ~~Tariff~~Markets+ Tariff based upon estimated MCPs. The Market Operator will notify Market Participants if Flexibility Reserve Products in the RTBM will be settled using estimated prices.

(a) If the failure of the RTBM systems occurs for twelve (12) Dispatch Intervals or less, the estimated MCPs will be the most recently calculated MCPs for each affected Reserve Zone and will be utilized for settlement purposes for each of the Dispatch Intervals in which MCP pricing data is missing.

(b) If the failure of the RTBM systems occurs for more than twelve (12) Dispatch Intervals, the Market Operator will calculate MCPs using mitigated Offers for the RTBM in a manner that reflects, as closely as practicable, the MCPs that would have resulted but for the RTBM systems failure, and will use such MCPs for settlements purposes for each of the Dispatch Intervals in which MCP pricing data is missing. To the extent that the Market Operator is unable to calculate RTBM MCPs, the Market Operator will use the MCPs generated in the Day-Ahead Market for RTBM settlement.

3.5 Violation Relaxation Limit

The Day-Ahead Market, RUC, and Simultaneous Co-optimization Methodology enforce a number of operating constraints in developing the market solution. In certain situations, attempting to enforce all constraints may result in a solution that is not feasible at a Shadow Price less than an appropriately priced VRL. In such cases, the Market Operator must apply VRLs. The VRL values are listed in ~~Addendum 1 to this~~ Attachment A, ~~Addendum~~Appendix 1.

There are four (4) categories of constraints and associated VRLs: (1) Resource capacity constraints; (2) Resource ramp constraints; (3) global power balance constraints; and (4) operating constraints (which include Pnode~~Price Node ("Pnode")~~, Manual, Watch List, flowgate, and real-time contingency analysis ("RTCA") constraints). A higher VRL value is an indication of the relative priority for enforcing the constraint type. For example, the VRL value assigned to a ramp rate limit exceeds that assigned to a flowgate limit indicating that the flowgate constraint should be relaxed before the ramp rate constraint. If the VRL with the lowest value will not allow the Simultaneous Co-optimization Methodology to balance the Energy obligations, a higher VRL will be applied. In the case of the operating constraint VRLs, the values limit the cost of the dispatch needed to balance system injections and withdrawals by capping the Shadow Price depending upon the level of the violation.

3.5.1 Impact of Violation Relaxation Limits on Dispatch and Pricing Solutions

VRLs are applied independently in the dispatch solution and pricing solution. The applicable VRLs impact the Simultaneous Co-optimization Methodology in the following manner:

(1) When a VRL is exceeded and cannot be resolved, the applicable constraint is relaxed so that the Simultaneous Co-optimization Methodology can solve. The VRL values applied by the Market Operator in this case act as a cap on the Shadow Price on the applicable constraint. LMPs/DLMPs and MCPs are calculated using the relaxed constraints; and

(2) When a VRL is reached but not exceeded, it is referred to as "binding" and has no impact on the Simultaneous Co-optimization Methodology.

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3.5.2 Modifications to Violation Relaxation Limits

The Market Operator will produce a report with supporting documentation that will analyze the effectiveness of VRLs and associated values on reliability and prices. If changes are warranted, the Market Operator will recommend changes to the appropriate stakeholder groups for consideration.

Taking into consideration the recommendations of stakeholders and staff, any changes to the VRLs or associated values must be approved for filing by the Markets+ Independent Panel and then filed with FERC. The most recent FERC-approved VRLs and associated values are in Attachment A, Appendix ~~Addendum 1 to this Attachment A~~.

~~By November 1st, the Market Operator will produce a report with supporting documentation that will analyze the effectiveness of VRLs and associated values on reliability and prices. If changes are warranted, the Market Operator will recommend changes to the appropriate stakeholder groups for consideration.~~

~~By , taking into consideration the recommendations of stakeholders and staff, any changes to the VRLs or associated values must be approved for filing by the SPP Board of Directors and then filed with FERC. The most recent FERC-approved VRLs and associated values are in Addendum 1 to this~~in Attachment A~~, Addendum 1~~.

3.6 Pricing during Scarcity Conditions

If capacity is insufficient to meet the Energy and Flexibility Reserve Products requirements on a ~~system~~ market-wide basis, ~~Energy~~ these requirements are reduced to meet available capacity, and LMPs and MCPs are calculated as described under Section 3.6.1.

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3.6.1 Impact of Scarcity Pricing on Locational Marginal Prices and Market Clearing Prices

(1) Demand Curves are applied independently in the dispatch solution and pricing solution. The Market Operator will use Demand Curves to reflect Scarcity Prices in both the Day-Ahead Market and RTBM during times of Flexibility Reserve Products shortages, either on a ~~system~~ market-wide and/or Reserve Zone basis.

(2) Scarcity Prices are reflected in MCPs using the following Demand Curves:

(a) Short-Term Flex Up – The Market Operator calculates and posts Short-Term Flex Up Scarcity Pricing in accordance with the following rules:

(i) The maximum ~~Scarcity Price~~value of the Demand Curve is calculated as the average cost per MW for all eligible Resources to recover their qualified cold Start-Up Offer, No-Load Offer, and Energy at minimum cost at their Maximum Economic Capacity Operating Limit. Eligible Resources are Resources that offer a cold Sstart-U~~u~~p Ttime of ten (10) minutes or less, a Minimum Run Time of sixty (60) minutes or less, and are not on outage. The maximum ~~Scarcity Price~~value of the Demand Curve is equal to the cold Start-Up Offer plus the product of the Minimum Run Time and the No-Load Offer plus the Energy at minimum cost all divided by the Resource's Maximum Economic Capacity Operating Limit or Maximum Discharge Limit as applicable.

(ii) The maximum ~~Scarcity Price~~value of the Demand Curve will be calculated each month using the previous three (3) months' offer data and will be limited to a maximum of $1,000/MWh. To the extent that three (3) months of offer data is not available, the Market Operator will use the offer data available to calculate the maximum ~~Scarcity Price~~value of the Demand Curve.

(iii) The Demand Curve levels for Short-Term Flex Up will be equal to:

1. Shortages up to or equal to five percent (5%) of the requirement will

equal, to the nearest dollar, 1/6 of the maximum ~~Scarcity Price~~value of the Demand Curve.

2. Shortages greater than 5% but less than or equal to 10% of the requirement will equal, to the nearest dollar, 1/3 of the maximum ~~Scarcity Price~~value of the Demand Curve.

3. Shortages greater than 10% but less than or equal to 15% of the requirement will equal, to the nearest dollar, 1/2 of the maximum ~~Scarcity Price~~value of the Demand Curve.

4. Shortages greater than 15% but less than or equal to 25% of the requirement will equal, to the nearest dollar, 2/3 of the maximum ~~Scarcity Price~~value of the Demand Curve.

5. Shortages greater than 25% but less than or equal to 40% of the requirement will equal, to the nearest dollar, 5/6 of the maximum ~~Scarcity Price~~value of the Demand Curve.

6. Shortages greater than 40% of the requirement will equal, to the nearest dollar, the maximum ~~Scarcity Price~~value of the Demand Curve.

(iv) The minimum amount for the Short-Term Flex Up Demand Curve prices will be limited to $10.

(b) Short-Term Flex Down – The Market Operator calculates and posts Short-Term Flex Down Scarcity Pricing in accordance with the following rules:

(i) The maximum ~~Scarcity Price~~value of the Demand Curve is calculated as the average cost per MW for all eligible Resources to recover their qualified cold Start-Up Offer, No-Load Offer, and Energy at minimum cost at their Maximum Economic Capacity Operating Limit. Eligible Resources are Resources that offer a cold Start-Up Time of ten (10) minutes or less, a Minimum Run Time of sixty (60) minutes or less, and are not on outage. The maximum ~~Scarcity Price~~ value of the Demand Curve is equal to the cold Start-Up Offer plus the product

of the Minimum Run Time and the No-Load Offer plus the Energy at minimum cost all divided by the Resource's Maximum Economic Capacity Operating Limit or Maximum Discharge Limit as applicable.

(ii) The maximum ~~Scarcity Price~~value of the Demand Curve will be calculated each month using the previous three (3) months' offer data and will be limited to a maximum of $1,000/MWh. To the extent that three (3) months of offer data is not available, the Market Operator will use the offer data available to calculate the maximum ~~Scarcity Price~~of the Demand Curve.

(iii) The Demand Curve levels for Short-Term Flex Down will be equal to:

1. Shortages up to or equal to 5% of the requirement will equal, to the nearest dollar, 1/6 of the maximum ~~Scarcity Price~~value of the Demand Curve.
2. Shortages greater than 5% but less than or equal to 10% of the requirement will equal, to the nearest dollar, 1/3 of the maximum ~~Scarcity Price~~value of the Demand Curve.
3. Shortages greater than 10% but less than or equal to 15% of the requirement will equal, to the nearest dollar, 1/2 of the maximum ~~Scarcity Price~~value of the Demand Curve.
4. Shortages greater than 15% but less than or equal to 25% of the requirement will equal, to the nearest dollar, 2/3 of the maximum ~~Scarcity Price~~value of the Demand Curve.
5. Shortages greater than 25% but less than or equal to 40% of the requirement will equal, to the nearest dollar, 5/6 of the maximum ~~Scarcity Price~~value of the Demand Curve.
6. Shortages greater than 40% of the requirement will equal, to the nearest dollar, the maximum ~~Scarcity Price~~value of the Demand Curve.

(iv) The minimum amount for the Short-Term Flex Down Demand Curve prices will be limited to $0.

(c) Mid-Term Flex Up – The Market Operator calculates and posts Mid-Term Flex Up Scarcity Pricing in accordance with the following rules:

(i) The maximum ~~Scarcity Price~~value of the Demand Curve is calculated as the average cost per MW for all eligible Resources to recover their qualified cold Start-Up Offer, No-Load Offer, and Energy at minimum cost at their Maximum Economic Capacity Operating Limit. Eligible Resources are Resources that offer a cold Sstart-U~~u~~p Ttime of sixty (60) minutes or less and are not on outage. The maximum ~~Scarcity Price~~value of the Demand Curve is equal to the cold Start-Up Offer plus the product of the Minimum Run Time and the No-Load Offer plus the Energy at minimum cost all divided by the Resource's Maximum Economic Capacity Operating Limit or Maximum Discharge Limit as applicable.

(ii) The maximum ~~Scarcity Price~~value of the Demand Curve will be calculated each month using the previous three (3) months' offer data and will be limited to a maximum of $1,000/MWh. To the extent that three (3) months of offer data is not available, the Market Operator will use the offer data available to calculate the maximum ~~Scarcity Price~~value of the Demand Curve.

(iii) The Demand Curve levels for Mid-Term Flex Up will be equal to:

1. Shortages up to or equal to 5% of the requirement will equal, to the nearest dollar, 1/6 of the maximum ~~Scarcity Price~~value of the Demand Curve.

2. Shortages greater than 5% but less than or equal to 10% of the requirement will equal, to the nearest dollar, 1/3 of the maximum ~~Scarcity Price~~value of the Demand Curve.

3. Shortages greater than 10% but less than or equal to 15% of the

requirement will equal, to the nearest dollar, 1/2 of the maximum ~~Scarcity Price~~value of the Demand Curve.

4. Shortages greater than 15% but less than or equal to 25% of the requirement will equal, to the nearest dollar, 2/3 of the maximum ~~Scarcity Price~~value of the Demand Curve.

5. Shortages greater than 25% but less than or equal to 40% of the requirement will equal, to the nearest dollar, 5/6 of the maximum ~~Scarcity Price~~value of the Demand Curve.

6. Shortages greater than 40% but less than or equal to 50% of the requirement will equal, to the nearest dollar, the maximum ~~Scarcity Price~~value of the Demand Curve.

7. Shortages greater than 50% of the requirement will equal $1,000/MWh.

(iv) The minimum amount for the Mid-Term Flex Up Demand Curve prices will be limited to $10.

(3) Scarcity Prices will be reflected in LMPs when serving an incremental MW of Eenergy worsens the Flexibility Reserve Products capacity shortage condition.

(4) During capacity shortage conditions in either the Day-Ahead Market or RTBM:

(a) The MEC component of the LMP will be set to $1,000/MWh to the extent that Low Priority Exports have been reduced until such time that Low Priority Exports have been restored. The MCC and MLC components of LMP will continue to be calculated normally; or

(b) The MEC component of the LMP will be set to $2,000/MWh to the extent that Low Priority Exports have been reduced until such time that Low Priority Exports have been restored during market intervals in which~~, if~~ the ~~MMU~~ Market Monitor has ~~authorized~~ verified offer prices in excess of $1,000/MWh. The MCC and MLC components of

LMP will continue to be calculated normally.

(5) During Flexibility Reserve Products shortage conditions on a ~~system~~market-wide basis and/or zonal basis, Market Clearing Prices are impacted by Demand Curves as follows:

(a) If there is a shortage of Short-Term Flex Up, the Short-Term Flex Up MCP will be set equal to the Short-Term Flex Up Demand Curve price. The Short-Term Flex Up Demand Curve price will be reflected in the LMP.

(b) If there is a shortage of Short-Term Flex Down, the Short-Term Flex Down MCP will be set equal to the Short-Term Flex Down Demand Curve price. The Short-Term Flex Down Demand Curve price will be reflected in the LMP.

(c) If there is a shortage of Mid-Term Flex Up, the Mid-Term Flex Up MCP will be set equal to the Mid-Term Flex Up Demand Curve price. The Mid-Term Flex Up Demand Curve price will be reflected in the LMP.

3.7 Special Scenarios Locational Marginal Pricing and Market Clearing Pricing

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3.7.1 Locational Marginal Prices and Market Clearing Prices during System Outages

(1) In the event a failure of the Day-Ahead Market systems results in the loss of the ability to clear the Day-Ahead Market, the Market Operator will set the Day-Ahead Market LMP and MCP and all the components thereof to zero. ~~In the event a failure of the Day-Ahead Market systems results in the loss of the ability to clear the Day-Ahead Market in a timely manner, the charge type described under Section 8.5.11 will continue to be settled as part of the Day-Ahead Market settlement using the MCCs calculated for the corresponding Operating Day for the RTBM and the congestion revenue collected as part of the RTBM settlement. [Congestion Rent] calculated under Section 8.5.12 will be set equal to zero and the differences between amounts paid under Section 8.5.11 and available real-time congestion revenue will be accounted for under Section 8.8. In the event a failure of the Day-Ahead Market systems results in the loss of the ability to clear the Day-Ahead Market, the Market Operator will set the Day-Ahead Market LMP, MLC, and MCP to zero.~~

(2) In the event a failure of the RTBM systems results in a loss of the ability to calculate LMPs, RTBM Energy will continue to be settled financially under this ~~Tariff~~Markets+ Tariff based upon estimated LMPs. The Market Operator will notify Market Participants if RTBM Energy is to be settled using estimated prices.

(a) If the failure of the RTBM systems occurs for twelve (12) Dispatch Intervals or less, the estimated LMPs and LMP components will be the most recently calculated LMPs, MCCs, and MLCs for each affected Settlement Location and will be utilized for settlement purposes for each of the Dispatch Intervals in which LMP pricing data is missing.

(b) If the failure of the RTBM systems occurs for more than twelve (12) Dispatch Intervals, the Market Operator will calculate LMPs, MCCs, and MLCs for the RTBM using mitigated Offers in a manner that reflects, as closely as practicable, the LMPs, MCCs, and MLCs that would have resulted but for the RTBM systems failure and will use such LMPs, MCCs, and MLCs for settlement purposes for each of the Dispatch Intervals in which LMP pricing data is missing. To the extent that the Market Operator is unable to calculate RTBM LMPs, MCCs, MLCs, and MCPs, the Market Operator will use the LMPs, MCCs, MLCs, and MCPs generated in the Day-Ahead Market for RTBM settlement.

3.7.2 Locational Marginal Prices and Market Clearing Prices during Island Conditions and Markets+ Footprint Expansion Cutovers

If a portion of generation and load within the Markets+ ~~footprint~~ Footprint [becomes electrically isolated] ~~from~~ the rest of the Markets+ Footprint ("Island"), the Market Operator will calculate LMPs , ~~,~~ and settlement components thereof ~~MCCs, and MLCs~~ for the Day-Ahead Market and the RTBM within the Island using Mitigated Offers for Resources within the Island in a manner that reflects, as closely as practicable, the LMPs and settlement components thereof, ~~MCCs, and MLCs~~ within the Island that would have resulted if the RTBM systems had calculated the LMPs and settlement components thereof, ~~the values~~, and will use such data ~~LMPs, MCCs, and MLCs~~ for settlement purposes within the Island for each of the Dispatch Intervals.

If an approved RTBM solution does not include a value ~~approve~~ for the first interval a ~~Markets+~~ Settlement Location is effective, the Market Operator will calculate the LMPs and settlement components thereof ~~LMPs, MCCs, and MLCs~~ for that Settlement Location for that interval, using Mitigated Offers for Resources in a manner that reflects, as closely as practicable, the LMPs and settlement components thereof ~~LMPs, MCCs, and MLCs~~ that would have resulted if the RTBM systems had calculated the values, and will use such data ~~LMPs, MCCs, and MLCs~~ for settlement purposes for that Settlement Location until an RTBM approves.

4. Resource Participation

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4.1 General Resource Participation –

Beginning seven (7) days prior to the Operating Day, Market Participants may begin to submit Offers for use in the Day-Ahead Market and Offers for use in the RTBM. Day-Ahead Market Offers may be updated up to the close of the Day-Ahead Market, and RTBM Offers may be updated thirty (30) minutes prior to each Operating Hour. Offer submittals will conform to the following:

(1) Day-Ahead Market Offers are independent from RTBM Offers;

(2) Day-Ahead Market and RTBM Offers will automatically roll forward to the same hour in the following Operating Day within each respective market until an updated Resource Offer has been submitted for that hour;

(3) Day-Ahead Market and RTBM Offers may vary for each hour of the Operating Day, except the Offer parameters related to unit commitment as defined in the Markets+ Protocols for which a single value is submitted;

(4) RTBM Offers are also used in the RUC;

(5) Resource Offers are limited by the Offer caps and floors specified in ~~Section 5.3 of this~~ Attachment A, Section 5.3;

(6) The Resource Offer parameters that must be included to constitute a valid Offer for use in either the Day-Ahead Market or RTBM, are defined in the Markets+ Protocols;

(7) Market Participants must specify one of the Resource commitment statuses defined below:

a) **Market** – The Resource is available for Market Operator economic commitment if it is off-line;

b) **Self** – The Market Participant is committing the Resource and the Market Operator should include it as committed in either the DA Market and/or RUC as specified;

c) **Reliability Must Run (RMR)** – Market Participants must only use this commitment status when the Resource received an Emergency Condition Commitment or Local Reliability Issue Commitment and the Market Operator should include it as committed in either the DA Market and/or RUC as specified;

d) **Outage** – The Resource is unavailable to the market, or, in the case of an MCR, the configuration is unavailable to the market;

e) **Not Available** – The Resource did not offer to be available for Markets+ commitment.

(8) Intra-operating hour adjustments to Resource Offer physical operating parameters due to changes in a Resource's capability. Market Participants will notify the Market Operator of a change in a Resource Offer physical operating parameter during an Operating Hour. For the current Operating Hour the Market Operator will make the requested modification to the Resource Offer physical operating parameter. For subsequent hours the Market Participant will remain responsible for accurately reflecting Resource operating parameters in its Resource Offer submissions.

4.2 Additional Resource Participation Types

4.2.1

Dispatchable Demand Response Resources

Market Participants registering a Dispatchable Demand Response Resource must:

(1) Identify an associated Demand Response Load Meter Data Submittal Location; and

(2) Identify an associated Demand Response Load Settlement Location.

In addition to requirements above, Market Participants registering a Dispatchable Demand Response Resource must also specify either the submitted resource production option or calculated resource production option for calculation of the Dispatchable Demand Response Resource output.

The Market Operator will notify the applicable retail provider and the relevant electric retail

regulatory authority of the registration and the expected MW level of participation. Additional notification will be provided if modifications are made to the expected ~~megawatt~~ MW level of participation. If either the relevant electric retail regulatory authority or applicable retail provider disputes the accuracy of the pending registration information or attestations, the Market Operator will notify the Market Participant of the dispute and may pause the Resource's registration, prohibit the Resource in question from participating in Markets+, or not accept the modification until the issue is resolved between the Market Participant and the disputing entity. If resolution has not been reached between the registering Market Participant, relevant electric retail regulatory authority, and, if applicable, the retail provider, within 90 days of the Market Participant's notification of the dispute, the Resource's pending registration or the modification to the existing registration may be cancelled.

(1) Dispatchable Demand Response Resource - A Dispatchable Demand Response Resource is modeled in the Commercial Model the same as any other Resource, except that the Settlement Location associated with the Dispatchable Demand Response Resource must contain the Pnode~~Price Node~~, or aggregated Pnode~~rice Node~~ as described in ~~Section of this~~ Attachment A, Sections 6.2 (1)~~,~~ associated with the Demand Response Load. The Market Participant must submit the real-time value of the Demand Response Load to the Market Operator via telemetering meeting necessary technical requirements. A Dispatchable Demand Response Resource will submit Energy Offer Curves based on the criteria in ~~Section 3.2 of~~ Attachment B, Sections 3.3 & 3.4. ~~of this Tariff~~Markets+ Tariff. For purposes of these Resources, the short-run marginal cost may equal opportunity cost. A Dispatchable Demand Response Resource may select one of two options for reporting of the actual Dispatchable Demand Response Resource output:

(a) Submitted Resource production option:

The Dispatchable Demand Response Resource output is sent directly to the Market Operator by the Market Participant via telemetering for real-time operational purposes and the Meter Agent submits either five (5) minute or

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hourly actual output values to the Market Operator for use in settlements. The submitted Resource production option is only allowed for Dispatchable Demand Response Resources that are: (1) utilizing strictly Behind-tThe-Meter Generation to provide the response and are utilizing real-time metering capable of reporting both the Behind-tThe-Meter Generation output and the load; (2) Dispatchable Demand Response Resources where the Market Participant is offering the Resource under a retail tariff provision that includes near real-time measurement and verification terms that are compliant with the Business Practices for Measurement and Verification of Wholesale Electricity Demand Response of the North American Energy Standards Board, incorporated by reference in FERC's regulations; or (3) Demand Response Load utilizing near real-time measurement and verification capability that is compliant with the Business Practices for Measurement and Verification of Wholesale Electricity Demand Response of the North American Energy Standards Board, incorporated by reference in FERC's regulations.

(b) Calculated Resource production option:

(i) For each Dispatch Interval in each hour in which the Dispatchable Demand Response Resource has been committed, the Dispatchable Demand Response Resource output for real-time operational purposes is calculated by the Market Operator as the greater of zero (0) or the difference between:

- The lesser of the real-time consumption of the Demand Response Load associated with the Dispatchable Demand Response Resource in the Dispatch Interval immediately preceding initial commitment of the Dispatchable Demand Response Resource or the hourly baseline as described in (3) below for the hour, and
- The actual value of the associated Demand Response Load

received via telemetering.

(ii) For each Dispatch Interval in each hour in which the Dispatchable Demand Response Resource has been committed, the Dispatchable Demand Response Resource output for settlement purposes is calculated by the Market Operator as the maximum of zero (0) or the difference between:

- The lesser of the real-time consumption of the Demand Response Load associated with the Dispatchable Demand Response Resource in the Dispatch Interval immediately preceding initial commitment of the Dispatchable Demand Response Resource or the hourly baseline as described in (3) below for the hour, and
- The actual value of the associated Demand Response Load received from the Meter Agent either on a five (5) minute basis or an hourly basis.

(3) Hourly Baseline

(a) The Market Participant must submit an hourly baseline for the Demand Response Load indicating the level of Eenergy consumption expected at that location in MWh if the Dispatchable Demand Response Resource is not dispatched. The baseline must cover, at a minimum, all hours the Resource is submitting Offers in Markets+. This baseline must be submitted by the close of the Day-Ahead Market, ~~by 1100 hours~~ on the day prior to the Operating Day and may be updated up to thirty (30) minutes in advance of the Operating Hour for the RTBM. The baseline should be based on the average of the hourly integrated Demand Response Load for the same hours in the last thirty (30) Ce alendar Ddays when the Resource was not dispatched, adjusted by the Market Participant as necessary to account for changes in the expected level of ~~energy~~ Energy consumption by the Demand Response Load.

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(b) If there have been deviations in hourly integrated metered load from the hourly baseline during periods when the Resource was not dispatched, the hourly baseline will be adjusted as follows by the Market Operator prior to the calculation of the Demand Response Load. If the average of the hourly deviation between integrated metered load and submitted hourly baseline for the hours in the last thirty (30) ~~calendar~~ Calendar ~~days~~ Days when the Resource was not dispatched is more than five percent (5%) below the hourly baseline, the hourly baseline will be adjusted by the average deviation. The Market Operator will perform this assessment each day starting on the thirty-first (31st) day of participation and notify the Market Participant of any adjustment.

(c) If the hourly baseline has not been submitted, the Market Operator will set the hourly baseline equal to the real-time consumption of the Demand Response Load associated with the Dispatchable Demand Response Resource in the Dispatch Interval immediately preceding initial commitment of the Dispatchable Demand Response Resource.

4.2.2 Electric Storage Resources

ESRs may register as any valid Resource type and are subject to the same service provision rules as any other Resource within that type.

(1) If not registered as an MSR, the Eenergy withdrawal from the Markets+ Footprint must be included in a Load Settlement Location and ~~are~~ is subject to the same rules as other l~~L~~oad.

(2) If an ESR is registered as an MSR, the following applies:

a) MSRs may provide Flexibility Reserve Products upon meeting the technical and applicable requirements for these products.

b) MSRs must provide Offer parameters.

c) MSR Offer Curves may include negative MW values to account for the entire dispatchable range of the MSR.

d) As with other Resources, the metering requirements for MSRs include real-time and settlement quality metering.

e) For MSRs that are not directly connected to the ~~T~~transmission ~~s~~System, metering may include facilities used by the distribution company. In the event that the MSR is not directly connected to the t~~T~~ransmission ~~s~~System and the distribution company is unable or unwilling to separate the charging activity from other retail service, the MSR will not be subject to settlement by the Market Operator for ~~E~~energy consumption.

f) The real-time Energy consumption is settled at the LMP.

g) MSRs are not considered continuously dispatchable in a given interval if a directional commitment limitation exists for that interval. A directional commitment limitation occurs when the Minimum Charge Time is not equal to zero, Minimum Discharge Time is not equal to zero, Minimum Charge Limit is not equal to zero, or Minimum Discharge Limit is not equal to zero. If such a limitation exists, the MSR may offer either charge or discharge capacity in a given interval but not both. MSRs that do not have a directional commitment limitation are considered continuously dispatchable and will be evaluated for commitment and dispatch from the Maximum Charge Limit to the Maximum Discharge Limit.

4.2.3 Hybrid Storage Market Resources

HSMRs may register as any valid Resource type and are subject to the same service provision rules as any other Resource within that type. HSMRs are also eligible to register as MSRs.

(1) HSMRs directly connected to the Markets+ Footprint will have the generating resource(s) ~~be~~ modeled separately behind a single point of interconnection in the Network Model. Physical and operational characteristics, real-time telemetry and other information for the generating resource(s) and the ESR(s) must be provided for individual components to the Market Operator for situational awareness, grid security, and also for informational purposes through telemetry in the Network Model. The submitted revenue Meter Data for settlement of the Resource response will represent the total combined HSMR response at the point of interconnection.

(2) If an HSMR is not registered as an MSR, then the Energy withdrawal from the Markets+ Footprint must be included in a load Settlement Location and is subject to the same rules as other load.

(3) If an HSMR is registered as an MSR then rules in Attachment A, Section 4.2.2(2) ~~of this Attachment A~~ apply.

4.2.4 Variable Energy Resources (VERs)

VERs may register as any valid Resource type and are subject to the following rules:

(1) The Minimum Economic Capacity Operating Limits submitted as part of the Day-Ahead Market and/or RTBM Resource Offer must be submitted as zero MW. If these limits are not submitted as zero MW, the Resource Offer will be rejected;

(2) For Dispatchable Variable Energy Resources (DVERs) with a ~~-~~Maximum Economic Capacity Operating Limit of less than 200MW, the maximum ramp rate between MW specified in the Ramp-Rate-Up curve and Ramp-Rate Down curve in the RTBM Resource Offer multiplied by 5 cannot exceed 40MW. For DVERs with a Maximum Economic Capacity Operating Limit greater than or equal to 200MW, the maximum ramp rate between MW levels specified in the Ramp-Rate-Up curve and Ramp-Rate-Down curve in the RTBM Resource Offer multiplied by 5 cannot exceed 20% of the DVER's ~~Emergency~~ Maximum Economic Capacity Operating Limit;

(3) For the RUC process, the ~~m~~Maximum Economic ~~o~~Operating ~~l~~Limit will be the lesser of the ~~emergency m~~Maximum Economic ~~c~~Capacity ~~O~~operating L~~l~~imit as specified in the DVER RTBM Offer and the Market Operator~~SPP~~'s output forecast for that DVER.

(4) DVERs for which the Market OperatorSPP is calculating an output forecast are not eligible to receive RUC make whole payments;

(5) For the Real-Time Balancing Market, the Market OperatorSPP will provide a dispatch flag to the DVER indicating whether or not the DVER should "follow" or "ignore" its Dispatch Target.

(6) VERs that are not dispatchable may register as a Non-Dispatchable Variable Energy Resource (NDVER).

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4.2.5 Fuel-Limited Resources

Fuel-limited Resources may register as any valid Resource type and are subject to the same service provision rules as any other Resource within that type.

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4.2.6 Resource Aggregation

Market Participants may register a Resource representing multiple assets of the same fuel type that inject Energy into~~,~~ or reduce the withdrawal of Energy from~~,~~ one or more points of the transmission grid within the Markets+ Footprint, that ~~meet the following~~:

1. Are electrically similar, and the aggregation does not have a material impact on M+ market operations as determined by the Market Operator; and
2. Are located or pseudo-tied into the same Markets+ Participating Balancing Authority Area; and
3. Share common operational control.

This aggregation is expected to be a long-term selection made by the Market Participant at resource registration and is intended to reflect resources that are operationally linked on a long-term basis. The aggregation may be at the plant or unit level. Physical and operational Resource characteristics, real-time telemetry, and other information for each asset in a resource aggregation must be provided to the Market Operator. If, after resource registration, the Market Operator observes that the resource aggregation has, or anticipates that the resource aggregation will have, a material impact on market operations, then the Market Operator will work with the Market Participant to remedy through the resource registration process. The Market Operator recognizes that grouped hydro may not be able to separate hydro aggregations because of river management obligations, recognizing that power production is

generally subordinate to other multi-purpose project usage directed by laws including statutes, treaties and operation agreements.

4.2.7 Jointly Owned Units (JOUs)

A Market Participant may register Jointly Owned Units (JOUs) using the ~~I~~individual Resource O~~o~~ption or the Combined Interest Resource option as described in Attachment A, Section 6.2(3)(a) and Attachment A, Section 6.2(3)(b).

(1) As part of market registration, the following offer parameters representing the physical characteristics of the entire JOU ("Physical JOU Resource") must be submitted either by or on behalf of the designated Market Participant identified at registration ~~("designated Market Participant")~~:

(a) JOU maximum physical capacity operating limit; and

(b) JOU maximum physical 10-minute response from an off-line state (if a Fast-Start Resource).

(2) The following Offer parameters as submitted by or on behalf of each Market Participant for its JOU share that has registered under the Individual Resource Option must meet the following criteria in order to be accepted as valid offers, otherwise, all Offers related to the Physical JOU Resource will revert to the last valid offer;

(a) The sum of the Maximum ~~Emergency~~ Economic Capacity Operating Limits of each JOU share associated with the Physical JOU Resource must be less than or equal to the Physical JOU

Resource maximum physical capacity operating limit.

(3) Commitment of individual JOU shares that have registered under the Individual Resource Option will be evaluated by the Simultaneous Co-optimization Methodology based on the individually submitted Offers for each JOU share;

(4) If committed, each JOU share under the Individual Resource Option will be considered separately for the purposes of Energy dispatch, Flexibility Reserve Products clearing, and settlement. ~~and t~~The Physical JOU Resource will receive a single Setpoint Target for the purposes of Energy and Flexibility Reserve Products deployment~~;~~:

(a) If a JOU share is committed by the Market Operator in the ~~DA Market~~Day-Ahead Market, that JOU share is cleared for Energy based on the submitted Energy Offer Curve and Ramp Rate and is cleared for Flexibility Reserve Products based on the submitted Flexibility Reserve Products Offers and Ramp Rate;

(b) Each JOU share committed by the Market Operator in the ~~DA Market~~Day-Ahead Market is eligible to receive a ~~DA Market~~Day-Ahead Market make whole payment under the same eligibility rules as any other Resource;

(c) In the RTBM, each JOU share is dispatched for Energy based on the submitted Energy Offer Curve, Ramp-Rate-Up and Ramp-Rate-Down and is cleared based on the submitted Flexibility Reserve Products Offers, Ramp-Rate-Up and Ramp-Rate-Down. The Market Operator sends to each Market Participant its independent Setpoint Target and cleared amount(s) of Flexibility Reserve Products for its individual JOU share.

The Market Operator will also, for informational purposes, send to the operating Market Participant each Market Participant's independent Dispatch Targets and the sum of these independent Dispatch Targets, and each Market Participant's independent Setpoint Targets and the sum of the Market Participant's independent Setpoint Targets.

If a JOU share is committed by the Market Operator in any RUC process, that individual JOU share is eligible to receive a RUC make whole payment under the same

eligibility rules as any other Resource.

Each JOU share will be subject to charges associated with Uninstructed Resource Deviation that exceeds the JOU share Operating Tolerance and Flexibility Reserve Products deployment failure charges based on Setpoint Targets for each JOU and the actual output submitted by each respective Meter Agent for each JOU.

The Meter Agent(s) assigned to the Physical JOU Resource registered under the Individual Resource Option must account for all physical Energy produced and properly reflect this Energy in each individual JOU share Meter Data submittal.

4.2.8 Combined Cycle Resources

Market Participants will select from one of the four following options regarding submitting Resource Offers for their registered combined cycle Resources, which will be declared during asset registration as described under Attachment A, Sections 6.2 ~~of this Attachment A~~:

(1) A Resource Offer may be submitted for a single aggregate combined cycle Resource, where the aggregate will represent a Market Participant selected operating configuration of combustion turbines and steam turbines. Under this option, the combined cycle Resource will be committed, dispatched and settled the same as any other Resource; or

(2) A Resource Offer may be submitted for each combined cycle Resource combustion turbine and/or steam turbine and each component will be committed and dispatched independently and settled the same as any other single Resource; or

(3) A Resource Offer may be submitted for each pseudo combined cycle Resource, where each pseudo combined cycle Resource will represent the combination of one combustion turbine and a portion of the steam turbine. Under this option, each pseudo combined cycle Resource must be capable of being committed and dispatched independently the same as any other Resource and each pseudo combined cycle Resource will be settled the same as any other Resource; or

(4) A Resource Offer may be submitted for each registered combined cycle configuration, where each configuration represents an operating state of the combined cycle Resource with a distinct set of physical operating characteristics, as dictated by the physical attributes of the combined cycle Resource. The Market Operator will determine the most economic commitment configuration, if requested to do so by the Market Participant as part of the submitted Resource Offer, and once committed, the most economic configuration to transition to for use in both the Day-Ahead Market and Real-Time Balancing Market. Settlement for a combined cycle Resource submitting offers in this manner will occur in the same manner as any other Resource except for Flexibility Reserve Products during transitions as described under Attachment A, Section 9.2.5 and Section 9.3.4. Under this option, Market Participants must define during asset registration the:

(a) Valid configurations, one of which must represent the maximum capacity of the combined cycle Resource;

(b) Valid transitions between configurations as defined in the Markets+ Protocols; and

(c) One or more sets of physical units that can participate in a configuration.

4.3 Interchange Transactions

4.3.1 Import Interchange Transaction Offers

(1) Market Participants may submit offers to sell Energy into the Day-Ahead Market, RTBM, or both, delivered from a source located outside of the Markets+ Footprint. Import Interchange Transaction Offers will be evaluated based on the external source as identified on the e-Tag.

(2) There are two types of Import Interchange Transaction Offers:

(a) A Self-Schedule Offer – Specifies a MW amount that the Market Participant seeks to clear and schedules regardless of the price at the External Interface Settlement Location. If the self-schedule Import Interchange Transaction is submitted for use in the

Day-Ahead Market, it will be cleared in the Day-Ahead Market and automatically roll forward as a self-schedule for use in RUC and the RTBM. Any adjustment to the schedule will be settled in the RTBM as a deviation from the Day-Ahead Market schedule. If specified for use in the RTBM only, the self-schedule Import Interchange Transaction will be considered a self-schedule for RUC and RTBM; and

(b) An Economic Offer – Specifies both a MW amount and a minimum dollars per MWh price that the Market Participant is willing to accept if the transaction clears the Day-Ahead Market. Economic Offers are only available for use in the Day-Ahead Market and cannot be submitted for use in the RTBM. Import Interchange Transactions may be submitted up to Offer Cap as described in Attachment A, Section 5.3 and are not subject to cost verification. If the transaction clears the Day-Ahead Market, it automatically rolls forward as a self-schedule for use in RUC and RTBM. Any adjustment to the schedule will be settled in the RTBM as a deviation from the Day-Ahead Market schedule.

(3) An Import Interchange Transaction Offer is required to have an associated transmission service reservation(s) (TSR) from the applicable External Interface to the sink location identified in the e-Tag within the Markets+ Footprint. Such transmission service will be obtained in accordance with ~~the~~ applicable transmission providers' governing documents such as Open Access Transmission Tariff(s) ~~of all applicable Transmission Providers~~.

(4) All Import Interchange Transactions from a source located in Canada will be deemed to have a Ppoint-of-Rreceipt at the U.S./Canada border.

4.3.2 Export Interchange Transaction Bids

(1) Market Participants may submit ~~b~~Bids to purchase Energy from the Day-Ahead Market, RTBM, or both, for delivery to a sink located outside of the Markets+ Footprint. Export Interchange Transaction Bids will be evaluated based on the external sink as identified on the e-Tag.

(2) There are two (2) types of Export Interchange Transaction Bids:

(a) A Self-Schedule Bid -Specifies a MW amount that the Market Participant seeks to clear and schedules regardless of the price at the External Interface Settlement Location. If the self-schedule Export Interchange Transaction is submitted for use in the Day-Ahead Market, it will be evaluated in the Day-Ahead Market and cleared awards will automatically roll forward as a self-schedule for use in RUC and the RTBM. Any adjustment to the schedule will be settled in the RTBM as a deviation from the Day-Ahead Market schedule. If specified for use in the RTBM only, the self-schedule Export Interchange Transaction will be considered a self-schedule for RUC and RTBM; and

(b) An Economic Bid - Specifies both a MW amount and a maximum price that the Market Participant is willing to pay if the transaction clears the Day-Ahead Market. Economic Bids are only available for use in the Day-Ahead Market and cannot be submitted for use in the RTBM only. Export Interchange Transactions may be submitted up to Offer Cap as described in Attachment A, Section 5.3 and are not subject to cost verification. If the transaction clears the Day-Ahead Market, it automatically rolls forward as a self-schedule for use in RUC and the RTBM. Any adjustment to the schedule will be settled in the RTBM as a deviation from the Day-Ahead Market schedule.

3) An Export Interchange Transaction Bid is required to have an associated transmission service reservation(s) from the source identified in the e-Tag to the applicable External Interface. Such transmission service will be obtained in accordance with ~~the~~ applicable transmission providers' governing documents such as Open Access Transmission Tariff(s) ~~of all applicable Transmission Providers~~.

4) All Export Interchange Transactions to serve load located in Canada will be deemed to have a ~~p~~Point-of-~~D~~delivery at the U.S./Canada border.

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4.3.3 Through Interchange Transactions

(1) Market Participants may submit Through Interchange Transactions in the Day-Ahead Market, RTBM or both, to effect delivery through the Markets+ Footprint of electricity between a source and a sink that are both located outside the Markets+ Footprint. Through Interchange Transactions will be evaluated based on the external source and sink as identified on the e-Tag.

(2) ~~There is one type of~~ Through Interchange Transactions must be~~:~~ Self-Schedule Transactions, ~~–D~~defineds as a specific MW amount that will be cleared regardless of the price at either of the External Interface Settlement Locations. If submitted for use in the Day-Ahead Market, a self-scheduled Through Interchange Transaction will automatically roll forward as a self-schedule for use in RUC and the RTBM. Any adjustment to the schedule will be settled in the RTBM as a deviation from the Day-Ahead Market schedule. If submitted for use in the RTBM, the self-schedule Through Interchange Transaction will clear in the RTBM and will be considered a self-schedule for use in the RUC.

(3) Through Interchange Transactions ~~is~~ are required to have an associated transmission service reservation(s) between the External Interfaces identified on the e-Tag. Such transmission service will be obtained in accordance with ~~the~~ applicable transmission providers' governing documents such as Open Access Transmission Tariff(s)~~ of all applicable Transmission Providers~~.

5. Special Rules and Provisions

SPP Public Information

5.1 Must-Offer Requirement

5.1.1 Day-Ahead Market and Reliability Unit Commitment

Market Participants are required to offer a minimum amount of Rresource capacity to the Day-Ahead Market. Market Participants must make available that same minimum amount of Resource capacity to the initial RUC process after the Day-Ahead Market closes. Day-Ahead offers are used for the Day-Ahead market clearing process and also serve as the starting point for the RUC process. A Market Participant's Rresource capacity is the sum of the offered capacities of Resources with a commitment status of Market, Self, or Reliability Must Run as described in Attachment A, Section 4.1 of this Attachment A. After satisfying the must offer obligation, a Market Participant may offer any remaining Eenergy or capacity to the market at its discretion. Market Participants satisfy this Day-Ahead must-offer requirement by meeting the criteria set forth in 5.1.1 in Attachment A, Section 9.2.16(A) during non-binding seasons, and the lesser of Attachment A, Section 9.2.16 5.1.1 (A) or 5.1.1 Attachment A, Section 9.2.16(B) in binding seasons, as defined in the Resource Adequacy Program. During the binding season, in the event that the calculation of Attachment A, Section 9.2.16(A) exceeds Attachment A, Section 9.2.16(B), the capacity amount determined under Attachment A, Section 9.2.16-(B) will act as a ceiling on the Market Participant's must-offer requirement, as defined in Attachment A, Section 9.2.16 (B) represents the maximum amount the Market Participant is required to offer to Markets+.

A. Each Market Participant will satisfy the must offer obligation by offering resource capacity greater than or equal to the sum of that Market Participant's (1) load and (2) Flexibility Reserve Products obligations, adjusted by (3) obligations to supply to or rights to receive from the Resource Adequacy Program and adjusted by (4) net position for each Operating Hour based on the following criteria:

(1) A Market Participant's load for purposes of this section will be equal to the Market Participant's hourly load forecast as described in Section 7.6 of this Attachment A.

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(2) A Market Participant's hourly Flexibility Reserve Products obligation will be equal to the sum of that Asset Owner's Short-Term Flex Up and Mid-Term Flex Up obligations as estimated by the Market Operator in accordance with Section 7.5 of this Attachment A.

(3) A Market Participant's obligation to supply to or right to receive energy from the Resource Adequacy Program is described in the Protocols.

(4) A Market Participant's net position is described in the Protocols.

(5) The Resource capacity for a Market Participant is reduced by the total Self-Charging MWs of all MSRs registered to that Market Participant for the Operating Hour.

B. Each Market Participant will satisfy the maximum must offer obligation by offering Resource capacity greater than or equal to the Market Participant's (1) Resource Adequacy Program forward showing requirement during a binding season as defined by the Resource Adequacy Program, adjusted by (2) any obligations to further supply to or rights to receive energy from the Resource Adequacy Program, adjusted by (3) net position, and adjusted for (4) day-ahead forecasted fleet performance based on the following criteria:

(1) A Market Participant's forward showing requirement is the quantity of capacity required to demonstrate adequacy for the Resource Adequacy Program for each Operating Day during a binding season.

(2) A Market Participant's obligation to supply or rights to receive energy from the Resource Adequacy Program, is described in the Protocols.

(3) A Market Participant's net position is described in the Protocols.

(4) A Market Participant's adjustment for forecasted day-ahead fleet performance is the sum of any forced outages, unplanned unavailability and unplanned change of capacity of Resources registered to the Market Participant for the Operating Hour, and further described in the Protocols.

C. To the extent that a Market Participant does not meet the conditions described in Sections

5.1.1(A) or (B), the Market Participant will be deemed noncompliant with the must offer obligation for that hour. The Market Operator will assess a penalty amount equal to the product of the shortfall capacity and the associated Day-Ahead Market LMP as described below.

(1) A Market Participant's shortfall capacity for an Operating Hour is equal to the lesser of the difference between the resource capacity and Day-Ahead Market must offer obligation, as described above in Section 5.1.1(A) and (B).

(2) The Must-Offer Penalty LMP is calculated as the average of the Day-Ahead LMP for the Market Participant's Resources in the Operating Hour with the shortfall. If a Market Participant has no registered Resources, then the Markets+ Marginal Energy Component will be used. In no case will the penalty be less than $0.00.

(3) The Market Operator will distribute any collected penalties for an Operating Hour to Market Participants that are compliant with the Day-Ahead must offer obligation for that Operating Hour, weighted by Resource capacity in excess of the must offer obligation for the Operating Hour.

(a) The Market Operator will distribute any collected penalty revenue for an Operating Hour to Revenue Neutrality Uplift, as described under Section 9.4 of this Attachment A, for any Operating Hour in which no Market Participant with a Resource capacity, as described above in Section 5.1.1(A) and 5.1.1(B), exceeds the must offer obligation for the Operating Hour.

5.1.2 Real-Time Balancing Market

Market Participants are required to offer Rresource capacity to the RTBM as described ~~below~~in Attachment A, Section 9.3.26. A Market Participant's Rresource capacity is the sum of Resources offered with a commitment status of Market, Self, or Reliability Must Run as described in Attachment A, Section 4.1 ~~of this Attachment A~~. After satisfying the must-offer obligation, a Market Participant may offer any remaining Eenergy or capacity to the market at its discretion. Market Participants satisfy this requirement by meeting the criteria set forth in Attachment A, Section ~~5.1.2~~9.3.26(A) or Attachment A, Section 9.3.26(B). ~~below:~~

~~A)~~ ~~Each Market Participant will satisfy the must offer obligation in an Operating Hour by offering Resource capacity greater than or equal to the sum of (1) cleared Day-Ahead Market Energy, (2) cleared Flexibility Reserve Products, and (3) incremental Market Commitments from the RUC process, adjusted by (4) obligations to supply to or rights to receive from the Resource Adequacy Program and adjusted by (5) deviation in net position.~~

~~(1)~~ ~~A Market Participant's cleared Day-Ahead Market Energy is the sum of Energy cleared in the Day-Ahead Market for all Resources registered to the Market Participant for the Operating Hour.~~

~~(2)~~ ~~A Market Participant's cleared Day-Ahead Market Flexibility Reserve Products is the sum of Short-Term Flex Up and Mid-Term Flex Up cleared in the Day-Ahead Market for all Resources registered to the Market Participant for the Operating Hour.~~

~~(3)~~ ~~A Market Participant's incremental commitments from the RUC process is the sum of energy dispatch associated with incremental commitments from the initial RUC process for all Resources registered to the Market Participant for the Operating Hour, further described in the Protocols.~~

~~(4)~~ ~~A Market Participant's obligation to supply energy to or right to receive energy from the Resource Adequacy Program is described in the Protocols.~~

(5) A Market Participant's deviation in net position is determined by comparing the final net position to the net position that cleared in the Day-Ahead Market for the Operating Hour and further described in the Protocols.

(6) The resource capacity of a Market Participant is reduced by the total Self-Charging MWs of all MSRs registered to that Market Participant for the Operating Hour.

B) During the binding season each Market Participant will satisfy the must offer obligation by offering Resources greater than or equal to the higher of the Day-Ahead compliance amount described in Section 5.1.1(B) and the Real-Time must offer amount described in Section 5.1.2(A) (1, 2 & 3), adjusted by (1) further obligation to supply energy to or receive energy from the Resource Adequacy Program not accounted for in the Day-Ahead Market, adjusted by (2) net position not accounted for in the Day-Ahead Market and adjusted by (3) fleet performance changes not accounted for in the Day-Ahead Market.

During a non-binding season each Market Participant will satisfy the must offer obligation by offering Resources during the non-binding season greater than or equal to the Real-Time must offer amount described in Section 5.1.2(A) (1, 2 & 3), adjusted by (2) net position not accounted for in the Day-Ahead Market and adjusted by three (3) fleet performance changes not accounted for in the Day-Ahead Market.

(1) A Market Participant's obligation to supply energy to or receive energy from the Resource Adequacy is described in the Protocols.

(2) A Market Participant's net position not accounted for in the Day-Ahead Market are further described in the Protocols.

(3) A Market Participant's adjustment for fleet performance changes not accounted for in the Day-

~~Ahead Market is the sum of unplanned unavailability or reduction of capacity of Resources registered to the Market Participant for the Operating Hour compared to the unplanned unavailability or reduction of capacity of the Market Participant for the Operating Hour offered into the Day-Ahead Market and further described in the Protocols.~~

~~C)~~ ~~A Market Participant not meeting the conditions described in Sections 5.1.2(A) or (B) , the Market Participant will be deemed noncompliant with the must offer obligation for that Operating Hour. The Market Operator will assess a penalty amount equal to the product of the shortfall capacity and the associated RTBM LMP as described below.~~

~~(1)~~ ~~A Market Participant's shortfall capacity for the Operating Hour is equal to the lesser of the difference between the resource capacity and Real Time Balancing Market must offer obligation, as described above in Section 5.1.2 (A) and (B).~~

~~(2)~~ ~~The Must-Offer Penalty LMP is calculated as the average of the RTBM LMP for the Market Participant's Resources in the Operating Hour with the shortfall. . If a Market Participant has no registered Resources, then the Markets+ Marginal Energy Component will be used. In no case will the penalty be less than $0.00~~

5.2 Non-Conforming Load

Market Participants must:

(1) Provide hourly estimates of their registered Non-Conforming Load to the Market Operator no later than 1445 PPT ~~[TBD]~~ hours Day-Ahead for the remainder of the Operating Day and for the next six (6) Operating Days;

(2) Update their submitted Non-Conforming Load estimates as described in the Markets+ Protocols;

(3) Provide the Market Operator with actual Non-Conforming Load data in real-time to the extent that telemetering is available;

(4) Provide the Market Operator with the charging activity of an ESR not registered as an MSR.

SPP Public Information

5.3 Offer Caps and Floors

Submission of Energy Offer Curves, Start-Up Offers, No-Load Offers, and Flexibility Reserve Product Offers by Market Participants for use in the Day-Ahead Market and the RTBM will be limited by the following Offer caps and floors:

(1) Energy Offer Soft Cap = $1,000/MWh; Energy Offers greater than $1,000/MWh are subject to_Attachment_B, Section_3.3. ~~of Attachment B, of this Tariff~~Markets+ ~~Tariff~~.

(2) Energy Offer Hard Cap = $2,000/MWh;

(3) Virtual Energy Offer Cap = $2,000/MWh;

(4) Interchange Offer Cap = $2,000/MWh;

(5) Energy Offer Floor = Negative $150/MWh;

(6) Start-Up Offer Floor = $0;

(7) No-Load Offer Floor = $0;

(8) Flexibility Reserve Products Cap = $1,000/MWh;

(9) Flexibility Reserve Products Floor = $0/MWh.

In addition to these Offer caps and floors, submission of Offers may be limited by the requirements of Attachment B, ~~of this Tariff~~Markets+ ~~Tariff~~.

5.4 Virtual Transactions Implementation, Suspension, and Mitigation

Virtual Transactions (both Ddemand Bbid and Resource ~~offer~~Offer) and the settlement thereof will not be implemented earlier than six (6) months after implementation of Markets+, and will not be implemented during the summer season. Virtual ~~transactions~~ Transactions are not allowed at Markets+ boundary interface Ssettlement Llocations.

The Market Operator may suspend Virtual Transactions in its sole discretion. In exercising that discretion, the Market Operator will consider whether those Virtual Transactions remain a cost effective tool aiding price convergence.

The Market Operator's decision to suspend Virtual Transactions is subject to review by the Market Monitor.

Virtual Transactions can be suspended as long as necessary at the Market Participant level, at individual locations or groups of locations, or market-wide to identify and resolve the underlying cause. The Market Operator may restrict Virtual Transactions to physical Settlement Locations only.

When the Market Operator suspends Virtual Transactions under this Section 5.4, this suspension and the underlying cause identified by the Market Operator will be posted as soon as practical on the ~~Marketplace~~ Portal, no later than the close of the Day-Ahead Market.

If a determination is made, as specified in Attachment C, Section 4.6.2 ~~X of~~of ~~Attachment C~~, that excessive divergence exists and the divergence is the result of the Virtual Transactions of one or more Market Participants, the Market Operator will impose mitigation measures. The mitigation measures should restrict the Market Participants that caused the divergence from submitting any Virtual Energy Bids or Virtual Energy Offers at the Settlement Locations where the Market Participant's Virtual Energy Bids or Virtual Energy Offers caused the excessive divergence.

5.5 Attribution of Resources to Load

Market Participants will have the ability to schedule a physical transfer of Eenergy from a specific ~~r~~R esource, ~~(~~or group of R~~r~~resources,~~)~~ to a specific load inside the Markets+ ~~footprint~~Footprint, supported by a commitment of such R~~r~~resources to load, including through ownership or forward contractual obligation, and the output of such ~~r~~Resources ~~shall~~ will be considered delivered to the specified load.

6. Market Participant Obligations

Market Participants must comply with the requirements and procedures described in the ~~Tariff~~ Markets+ Tariff and the Markets+ Protocols.

6.1 ~~Service Agreement~~MP Agreement and Application

Each Market Participant must execute the MP Agreement ~~service agreement~~ in Attachment E or a FERC-approved non-conforming version thereof. If the Market Participant fails or refuses to execute this ~~service agreement~~MP Agreement, the Market Operator will file an unexecuted MP Agreement ~~agreement~~ with FERC.

Applications for a Market Participant to provide services in Markets+ must be submitted to the Market Operator prior to the expected date of participation. Applications must conform to the procedures specified in the Markets+ Protocols and may be rejected if not complete. New Market Participants must follow the model update timing requirements in the Markets+ Protocols.

As part of the application process, Market Participants must register all Resources and load, including Non-Conforming Load and Demand Response Load, with the Market Operator as specified in Attachment A, Section 6.2.

6.2 Asset Registration

(1) As part of Resource registration, Market Participants must specify whether settlement Meter Data will be submitted on a gross basis or net basis, where gross Meter Data does not include reductions for auxiliary load and net Meter Data is gross Meter Data reduced by auxiliary load.

(a) Both Non-Conforming Load and Demand Response Load may only be associated with a single ~~Price Node~~Pnode, except that Non-Conforming Load and Demand Response Load may be associated with an aggregated ~~Price Node~~Pnode that contains multiple electrically equivalent ~~Price Nodes~~Pnodes.

(2) Market Participants may elect to define a single Settlement Location that aggregates multiple Meter Data Submittal Locations associated with their load assets. Such a Settlement Location is used for settlements purposes only and the Meter Data Submittal Locations being aggregated must be within a single Settlement Area. No load may be aggregated with a registered Resource for market settlement purposes. The only exceptions to this are cases which include:

(a) Auxiliary load as described under Attachment A, Section 6.2;

(b) Load which is being directly served by and is located at the same physical and electrically equivalent injection point to the transmission system as a registered Resource exercising its rights under PURPA; or

(c) Load which is being directly served by and is located at the same physical and electrically equivalent injection point to the transmission system as a registered Resource, and configured to be physically isolated and prevented from withdrawing from

the transmission system.

Exceptions must be consistent with applicable laws, rules, and regulations.

(3) Market Participants registering ~~Jointly Owned Units~~JOUs must choose an option described below.

(a) Individual Resource Option

i. Each Market Participant's share is modeled as a separate Resource for the purposes of commitment and each Resource may be committed independent of the other Resource shares.

ii. A Resource registered as a Multi-Configuration Resource may not register as a ~~Jointly Owned Unit~~JOU under the Iindividual Resource Ooption.

iii. The operating owner's Meter Agent will be the Meter Agent for that ~~Jointly Owned Unit~~JOU unless each individual ~~Jointly Owned Unit~~JOU participant registers a Meter Agent for its share of the Resource.

iv. Unless otherwise agreed to by the ~~Jointly Owned Unit~~JOU participants, the operating owner will be responsible for submitting the ~~Jointly Owned Unit~~JOU maximum physical capacity operating limit and the maximum physical ten (10) minute response from an off-line state.

(b) Combined Interest Resource Option

i. A Combined Interest Resource is registered as a single ~~r~~Resource for market operation under a single Market Participant.

~~ii. A Resource registered as a Multi-Configuration Resource may not register as a Jointly Owned Unit under the Combined Interest Resource option.~~

iii. The operating owner's Meter Agent will be the Meter Agent for that ~~Jointly Owned Unit~~JOU unless each individual ~~Jointly Owned Unit~~JOU participant registers a Meter Agent for its share of the Resource.

iii~~v~~. A Market Participant registering a Resource with combined interest will provide the individual interest percent share by Market Participant. Each individual interest must have contractual rights to or financial obligations for that Resource.

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iv. Credits and charges for a Combined Interest Resource are allocated using the percentage of submitted interest share.

(4) Market Participants may modify their asset registration in accordance with the asset registration procedures specified in the Markets+ Protocols.

(5) A Market Participant must register all ~~its~~ load within the Markets+ Footprint. Failure or refusal to register a load may ~~will~~ result in the modification of a Market Participant's registration or the Market Operator filing an unexecuted version of the MP Agreement~~service agreement~~ for that load with FERC under the name of the Market Participant.

(a) In addition, Market Participants must identify load within a GHG Pricing Zone that bears the cost of complying with a GHG Pricing Program within that GHG Pricing Zone, which will be the GHG Load.

(6) A Market Participant must register all its generation within the Markets+ Footprint capable of producing and maintaining a response of at least 0.1 ~~megawatt (~~MW~~)~~ for a continuous duration of sixty (60) minutes and capable of injecting into the transmission system unless otherwise included in a broader resource aggregation. Resources not capable of producing and maintaining a response of at least 0.1 MW for a continuous duration of sixty (60) minutes are ~~not~~ ineligible to register. Behind-t~~T~~he-Meter Generation less than 10 MW~~s~~ may, but is not required, to register. Additionally, b~~B~~ehind-t~~T~~he-m~~M~~eter r~~R~~esources greater than ten (10) MW that do not operate synchronous to the grid or are not capable of injection into the transmission system or are included as part of a larger resource aggregation, including demand response, are not required to register. All other Resources must register.

(a) Market Participant's failure or refusal to register a Resource within the Markets+ Footprint will result in the Market Operator filing an unexecuted version of the MP ~~S~~service A~~a~~greement for that Resource with FERC under the name of the Market Participant.

(b) In the case of a Qualifying Facility exercising its rights under PURPA to deliver all of its net output to its host utility, such registration will not require the Qualifying Facility to participate in Markets+ or subject the Qualifying Facility to any charges or payments related to Markets+. Any Markets+ charges or payments associated with the output of

the Qualifying Facility will be allocated to the Market Participant representing the host utility purchasing the output of the Qualifying Facility under PURPA, and the Market Participant will be provided the settlement data required to verify the settlement charges and payments.

(7) For a Market Participant to offer an External Resource in Markets+, the Market Participant must use an External Resource Pseudo-Tie. The Market Participant registering the External Resource will be responsible for registering and performing all responsibilities that are required of Resources in Markets+.

(8) A Market Participant attempting to register a Dispatchable Demand Response Resource in Markets+ must not: (1) register a Dispatchable Demand Response Resource that is precluded under applicable laws or regulations from participation in Markets+; (2) register a capacity of the Dispatchable Demand Response Resource that exceeds the maximum hourly load observed during the previous year for the corresponding load; or (3) register Critical Load as a Dispatchable Demand Response Resource.~~A Market Participant attempting to register a Demand Response Resource in Markets+ must not register a Demand Response Resource that is precluded under applicable laws or regulations from participation in Markets+.~~

A Market Participant must include in its application and registration a certification that its Dispatchable Demand Response Resource's participation in Markets+ is not: (1) precluded under applicable laws or regulations (2) the registered capacity of the Dispatchable Demand Response Resource does not exceed the maximum hourly load observed during the previous year for that load; and (3) the Dispatchable Demand Response Resource is not Critical Load.

~~A Market Participant must include in its application and registration a certification that its Demand Response Resource's participation in Markets+ is not precluded under applicable laws or regulations. An ARC wishing to offer Demand Response Load in the form of a Demand Response Resource on behalf of one or more retail customers must also include in its application and registration a certification that participation of each retail customer is either: (1) not precluded by the laws or regulations of the relevant~~

~~electric retail regulatory authority if the customer is served by a utility that distributed more than 4 million MWh in the previous fiscal year; or (2) affirmatively permitted by the laws or regulations of the relevant electric retail regulatory authority if the customer is served by a utility that distributed 4 million MWh or less in the previous fiscal year.~~

Dispatchable Demand Response Resources must meet all application, registration, and technical requirements applicable to Markets+. The Market Operator is not responsible for interpreting the laws or regulations of a relevant electric retail regulatory authority and will be required only to verify that the Market Participant has included such a certification in its application materials, if applicable. The Market Operator is not liable or responsible for Market Participants participating in Markets+ in violation of any law or regulation of a relevant electric retail regulatory authority including state-approved retail tariff(s).

For purposes of participation in Markets+, an ARC may aggregate a Demand Response Load associated with a registered load Settlement Location that contains the Demand Response Load associated with a Dispatchable Demand Response Resource.

~~Dispatchable Demand Response Load Settlement Location of:~~ End-use retail customers of utilities:

(1) ~~End-use retail customers of utilities that~~ Ddistributed more than 4 million MWh~~ hours ("MWh")~~ in the previous fiscal year, unless precluded by the laws or regulations of the relevant electric retail regulatory authority including state-approved retail tariff(s); and

~~(~~2) ~~End-use retail customers of utilities that~~ Ddistributed 4 million MWh or less in the previous fiscal year, where the relevant electric retail regulatory authority, including any state-approved retail tariff(s), affirmatively permits such customer's demand response to be offered into Markets+ by an ARC. ARCs will be treated comparably to other Market Participants offering Resources in Markets+.

The Market Operator is not liable or responsible for Market Participants participating in Markets+ in violation of any law or regulation of a relevant electric retail regulatory authority including state-

approved retail tariff(s).

Aggregations pursuant to this section will be subject to the following requirements:

A. End-use customers may be aggregated into a single Dispatchable Demand Response Resource. The Demand Response Load may be associated with an aggregated ~~Price~~ Nnode that contains multiple electrically equivalent Pn~~rice N~~odes, provided that such aggregated Pn~~rice N~~ode is served by the same retail provider;

B. All end-use customers in an aggregation will be specifically identified.

C. For a Dispatchable Demand Response Resource of an ARC that chooses to measure demand reductions using the calculated real-time response methodology, a single hourly baseline for each registered Resource will be used to determine settlements.

(9) Any non-ARC Market Participant offering a Dispatchable Demand Response Resource associated with one or more retail or wholesale customers in Markets+ must satisfy all applicable registration and certification requirements.

Aggregations pursuant to this section will be subject to the following requirements:

(a) Retail or Wholesale customers may be aggregated into a single Dispatchable Demand Response Resource. The associated Demand Response Load may be associated with an aggregated Pnode~~rice Node~~ that contains multiple electrically equivalent Pnode~~rice~~ ~~Node~~s, provided that such aggregated Pnode~~rice Node~~ is served by the same retail or wholesale provider;

(b) All retail or wholesale customers in an aggregation will be specifically identified.

(c) For a Dispatchable Demand Response Resource of an aggregator that chooses to measure demand reductions using the calculated real-time response methodology, a single hourly baseline for each registered Resource will be used to determine settlements.

(10) All Variable Energy Resources in the Markets+ Footprint, including Variable Energy Resources for which the Market Operator, must be registered as a Dispatchable Variable Energy Resource except for (1) a Qualifying Facility exercising its rights under PURPA to deliver its net

output to its host utility, or (2) a Resource having a primary fuel source of run of the river hydro-electric that is incapable of following Dispatch Targets. A Qualifying Facility exercising its rights under PURPA to deliver its net output to its host utility may register as a Dispatchable Variable Energy Resource if it is capable of being incrementally dispatched by the Market Operator and will be subject to the Dispatchable Variable Energy Resource market rules including Uninstructed Resource Deviation charges.

(11) A Market Participant registering an ESR must register as follows:

a) An ESR of at least 0.1 MW that is capable of transmission system injection or directly connected to the transmission system within the Markets+ Footprint must register; however, if the ESR is exclusively a transmission facility within the Markets+ Footprint with recovery through transmission rates, market participation is not allowed.

b) A Market Participant registering an ESR that is not required to register under this ~~Tariff~~ Markets+ Tariff, or a Market Participant registering an ESR that intends to participate in both wholesale and retail markets, must meet all application, registration and technical requirements applicable to Markets+. ESRs not directly connected to the transmission system within the ~~Markets+ Footprint~~Markets+ Footprint must specify, through Meter Data submittal, all withdrawals and injections subject to wholesale settlements. Withdrawals are subject to wholesale settlements when the Energy withdrawn is later injected back to the transmission system within the ~~Markets+ Footprint~~Markets+ Footprint. If an ESR is behind-the-meter of another registered Resource or load, the Meter Agent for the ESR is responsible for coordinating any wholesale withdrawal or injection to the transmission system within the Markets+ Footprint with the Meter Agent for the Resource or load so that the ESR activity is removed from the Resource or load Meter Data.

(12) Market Participants must submit registration information in accordance with Attachment A, Section 6.9. ~~of this Tariff~~~~Markets+ Tariff~~.

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6.3 Non-Participating Entity Registration

In the event an entity within a Pparticipating Balancing Authority Area chooses not to register its load or Resources in Markets+, the responsibility for registering those assets will be with the utility operating the host Pparticipating ~~host~~ Balancing Authority. The Market Operator will not be a party to any agreement between the utility operating the host Participating Balancing Authority and the non-participating entity. Failure or refusal to register a load or Resource will result in the Market Operator filing an unexecuted version of the MP~~service~~ Aagreement in Attachment E. ~~of this Tariff~~Markets+ Tariff for that Resource with FERC under the name of the Market Participant representing the utility operating the host pParticipating ~~host~~ Balancing Authority.

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6.4 Market Manipulation

Market Participants must not engage in any market manipulation activities, as directed in 18 C.F.R. § 1c.2.

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6.5 Commitment and Dispatch

Market Participants will, where applicable:

(a) Follow the Market Operator's Dispatch Targets and Market Commitment instructions; and

(b) Update Offer parameters to reflect changes to Resource availability and capability throughout the Operating Day.;

~~(c) [Report changes to Ancillary Service Plans resulting from changes in Resource availability to the Market Operator; and]~~

(c) Abide by the procedures set forth in the Markets+ Protocols.

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6.6 Provision of Load and Generation Data

Market Participants must designate a Meter Agent as part of the application process. A Market Participant may perform the Meter Agent function on its own behalf or designate any qualified entity to perform the Meter Agent function. Market Participants that will act as their own Meter Agent must complete Exhibit A of the Meter Agent Services Agreement in Attachment G. If a Market Participant chooses to engage a third party Meter Agent, then the Market Participant and the Meter Agent must execute the Meter Agent Services Agreement and Exhibit A in Attachment G.

Market Participants, or their designated Meter Agents, will exercise due diligence in submitting to the Market Operator accurate data for each Operating Day, or estimates where actual data is not available. Such submissions will represent the actual Resource output and load consumption and be submitted in accordance with the settlement timelines as described in the Markets+ Protocols. Resource output is submitted on either a gross or net basis as specified during market registration.

6.7 Provision of Wind and Solar ~~Forecast~~ Data

Market Participants must submit geographic data and wind turbine availability data for each wind-powered Variable Energy Resource to the Market Operator.

Market Participants must submit geographic data and facility data for each solar-powered Variable Energy Resource to the Market Operator.

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6.8 Outage Scheduling and Reporting

Market Participants must ensure transmission and generation outages are submitted to the Market Operator. Outages will override any other Commitment Status submitted by the Market Participant. All outages must be submitted in accordance with Attachment A, Section 6.9 and Markets+ Protocols.

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6.9 Registration Information, Resource Offers, and Outages

In submitting registration information, Resource Offers, and outage information, Market Participants must include information, parameters, and limitations that reflect the Market Participant's reasonable assessment of a Resource's capabilities to provide services outlined in this ~~Tariff~~Markets+ Tariff. A Market Participant's reasonable assessment may be informed by environmental and recreational limitations, operating constraints, operating permits or licenses, applicable law, contractual limitations or requirements, actions and instructions by applicable government agencies, and Good Utility Practice among other factors. The parameters in a Resource Offer must be within the Resource's registered parameters unless otherwise required by extraordinary circumstances. When requested by the Market Monitor, the Market Participants must provide supporting explanation for constraints, limitations, outages, and registration information.

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6.10 Load Responsible Entity Obligation

Prior to participation in Markets+, a Load Responsible Entity with load registered in Markets+ must submit to the Market Operator an attestation signed by an authorized officer in the form set forth in Attachment A, Appendix 3. The Market Operator may terminate the Load Responsible Entity's registration in Markets+ if: (i) the Load Responsible Entity fails to submit the attestation; or (ii) the Market Operator deems the attestation insufficient. All loads within Markets+ Footprint must be registered.

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7. Market Operator Obligations

The Market Operator will comply with the requirements and procedures pertaining to Markets+ described in this ~~Tariff~~Markets+ Tariff.

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7.1 Markets+ Protocols

The Market Operator will prepare, maintain, and update the Markets+ Protocols consistent with the Markets+ Tariff. The Markets+ Protocols will be posted on the Market Operator's website.

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7.2 Trading Hub Establishment and Modification

The Market Operator will review the proposed establishment, modification, or termination of a Trading Hub with stakeholders. The Markets+ Participants Executive Committee will consider the proposed establishment, modification, or termination of a Trading Hub and will provide a recommendation to the Markets+ Independent Panel for review and approval. Updating an existing Trading Hub to reflect a terminated Pnode due to the termination of the load or generation at that Pnode is not considered a modification and does not require consideration by the Markets+ Participants Executive Committee for review and approval by the Markets+ Independent Panel.

The Market Operator must establish and maintain at least one Trading Hub. An existing Trading Hub may be modified or terminated only in the event that the LMP at that Trading Hub can no longer be calculated. The Market Operator will post any approved establishment of a Trading Hub at least forty-five (45) Calendar Days prior to the proposed effective date. The Market Operator will post any modification or termination of a Trading Hub within thirty (30) Calendar Days after it has determined that there is a need for modification or termination.

~~The Market Operator will use the following criteria to establish Trading Hubs:~~

~~(1) Each Trading Hub will contain a sufficient number of nodes to ensure that a Trading Hub LMP can be calculated for that Trading Hub at all times;~~

~~(2) Each Trading Hub will contain a sufficient number of nodes to ensure that the~~

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~~unavailability of, or an adjacent line outage to, any one node or set of nodes would have only a minor impact on the Trading Hub LMP;~~

~~(3) Each Trading Hub will consist of nodes with a relatively high rate of service availability;~~

~~(4) Each Trading Hub will consist of nodes among which Transmission Service is relatively unconstrained; and~~

~~(5) A Trading Hub will not encompass the combined loads and Resources of a single vertically-integrated utility into a single Settlement Location.~~

7.3 Reserve Zone Establishment

(1) The Market Operator will identify the need for Reserve Zones within the ~~SPP~~ Markets+ Footprint through Reserve Zone studies that identify constrained areas that may require a minimum amount of Flexibility Reserve Products procurement and/or that may be limited to a maximum amount of Flexibility Reserve Products procurement to ensure ~~system~~market-wide procurement of Flexibility Reserve Products is deliverable when deployed.

(a) Reserve Zone studies will be conducted semi-annually and the Reserve Zone configuration will be made effective November 1 and May 1 of each year, with the study results posted on the Market Operator's website no later than thirty (30) days prior to each effective date. Normal t~~T~~ransmission s~~S~~ystem topology will be used for the study along with selected, approved outages. All Resources and loads in the ~~SPP~~ Markets+ Footprint will be evaluated.

(b) In order to ensure the deliverability of reserves, the most likely constrained transmission facilities must be identified. Monitored constraints will be identified through analysis of historical congestion activity, planned transmission and Resource outages, and forecasted ~~system~~ market-wide demands and Resources.

(c) Once a final set of transmission constraints is identified, the Reserve Zones are established by grouping the PnNodes, based on similar impact on all of the remaining transmission constraints. The groups of PnNodes represent the Reserve Zones. Each

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PnNode will be placed into only one Reserve Zone.

(2) The Market Operator may add or reconfigure a Reserve Zone between semi-annual updates to address significant changes in system conditions that would cause adverse impacts to Flexibility Reserve Products deliverability absent the Reserve Zone addition or reconfiguration. The Market Operator will notify the Market Participants of any resulting changes made to the Reserve Zones and will post the results on the Market Operator's website no less than two (2) Business Days prior to becoming effective.

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7.4 Flexibility Reserve Products and Instantaneous Load Capacity Requirements

The Market Operator ~~shall~~ will calculate the amount of Flexibility Reserve Products required for the Operating Day, on both a Markets+ Footprint and Reserve Zone basis. In addition, the Market Operator ~~shall~~ will calculate the amount of Instantaneous Load Capacity required for the Operating Day on a Markets+ Footprint basis in order to ensure that load can be serviced in real-time. The Market Operator ~~shall~~will, on a daily basis:

(1) Calculate the hourly Flexibility Reserve Products requirements on a Markets+ Footprint basis and post such results by 0630 hours PPT Day-Ahead for use in the Day-Ahead Market, RUC, and RTBM;

(2) Calculate the minimum and maximum Flexibility Reserve Products requirements for deployment in the up direction and for deployment of Flexibility Reserve Products in the down direction for each Reserve Zone.

(3) Estimate each Market Participant's Flexibility Reserve Products obligation by Market Participant in each Reserve Zone and provide such information to Market Participants by 0630 hours PPT Day-Ahead. The Market Operator will calculate such estimates by multiplying the Markets+ Footprint Flexibility Reserve Products requirements calculated in (1) above by the Market Operator's estimate of each Market Participant's load in each Reserve Zone divided by the Market Operator's estimate of Markets+ Footprint load;

(4) The Market Operator may increase Flexibility Reserve Products requirements for the RUC and RTBM above the requirements used in the Day-Ahead Market to cover the increased risk of the supply availability of Uncommitted Import Interchange Transactions.

(a) To the extent that the Market Operator increases the Flexibility Reserve Products requirements, the increased costs associated with such increased requirements ~~shall~~ will be collected from all Market Participants with scheduled~~cleared~~ Uncommitted Import Interchange Transactions at the time~~-~~ the requirements are

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increased on a pro-rata basis based upon the MW levels of the imports ~~cleared in the Day-Ahead Market~~.

(b) The Market Operator may also make modifications to the Reserve Zone minimums and maximums due to unexpected system condition changes following the close of the Day-Ahead Market.

(5) Calculate the hourly Instantaneous Load Capacity requirements for an interval on a Markets+ Footprint basis for use in the Day-Ahead Market and RUC processes in accordance with the calculation procedures specified in the Markets+ Protocols.

7.5 Forecasting

(1) The Market Operator will develop load forecasts for the Markets+ Footprint for use in the RUC processes and RTBM. The Market Operator will adjust such forecasts in order to remove average system losses prior to execution of the market applications in order for the dispatch to properly reflect the treatment of marginal losses.

(2) The Market Operator will develop hourly forecasts for wind and solar-powered Variable Energy Resources for use in the RUC processes and Dispatch Interval forecasts for wind and solar-powered Variable Energy Resources for use in the RTBM. ~~as follows:~~

~~(a) The Market Operator will use an industry standard wind generation output forecast software tool.~~

~~(b) To develop the forecasts, the software tool uses estimates of wind flow pertaining to the wind powered Variable Energy Resource location using regional atmospheric weather condition predictions obtained from weather forecasting services and the geographic data provided. In order to obtain increased accuracy, the estimates of wind flow are adjusted using the site-specific meteorological and geographical data provided.~~

~~(c) To develop the site-specific wind powered Variable Energy Resource output forecast, the site-specific estimates of wind flow are applied to either (i) wind flow versus power output curves developed from historical output data or (ii) the manufacturer's wind flow versus power output curve if there is no historical data available, adjusted as required to account for turbine availability data.~~

7.6 Markets+ Operations

The Market Operator will evaluate Offers and Bids submitted by Market Participants to ensure sufficient Resources are committed to meet the Markets+ Footprint projected load and Flexibility Reserve Products requirements for the upcoming Operating Day. The Market Operator will clear Energy and Flexibility Reserve Products in the Day-Ahead Market using the Simultaneous Co-optimization Methodology.

The Market Operator will continuously evaluate Offers to ensure sufficient Resources are committed to meet the Markets+ Footprint projected load and Flexibility Reserve Products requirements throughout the Operating Day. The Market Operator will dispatch Energy and clear Flexibility Reserve Products on Resources in the RTBM using the Simultaneous Co-optimization Methodology.

7.6.1 Simultaneous Co-optimization Methodology

The Simultaneous Co-optimization Methodology produces both a dispatch solution and a pricing solution. The dispatch solution and pricing solution are executed independent of each other. The MW quantities used in settlements for the dispatch and clearing of Energy result from the dispatch solution. Except where specified as DLMP, prices used in settlements result from the pricing solution and will be specified as LMP, MCC, MCP, MEC, and MLC. The DLMP results from the dispatch solution. The differences between the dispatch solution and the pricing solution are:

(1) Dispatch solution

(a) Co-optimization of Energy and Flexibility Reserve Products is based on the Bids, Energy Offers, and Flexibility Reserve Product Offers submitted by the Market Participants.

(2) Pricing solution

(a) For non-FSRs, co-optimization of Energy is based on the Energy Offers and Bids submitted by the Market Participants.

(b) For FSRs committed by the Market Operator, including FSRs committed at the request of a ~~local~~ Ttransmission Ooperator, but not including self-committed FSRs, the Market Operator calculates a Composite Energy Offer Curve for use in the co-optimization of Energy. The Composite Energy Offer Curve will be calculated and applied as follows:

(i) The Market Operator calculates a Composite Energy Offer Curve for an FSR by modifying each price point on the Energy Offer Curve for each market interval of the Minimum Run Time by adding amortized start-up and no-load costs. For FSRs that are MSRs, the eComposite Energy Offer Curve applies only to the discharge portion of the Energy Offer Ceurve.

1. The commitment costs (i.e. start-up cost and no-load cost) in effect at the time of the commitment are amortized over the Maximum Economic

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Capacity Operating Limit and the Minimum Run Time.

a. The start-up cost added to each breakpoint of the Energy Offer Curve is calculated by dividing the Start-Up Offer by the Maximum Economic Capacity Operating Limit and by the Minimum Run Time rounded up to the nearest interval.

b. The no-load cost added to each breakpoint of the Energy Offer Curve is calculated by dividing the No-Load Offer by the Maximum Economic Capacity Operating Limit and by the ratio of the number of intervals needed to meet the Minimum Run Time to the number of intervals in an hour.

The application of the Ceomposite Energy Offer Curve begins with the commitment interval and extends through the Minimum Run Time.

(a) In addition to dispatchable Bids and Offers, FSRs committed by the Market Operator or ~~local~~ tTransmission Ooperator, but not including self-committed FSRs, will have their ~~m~~Minimum Economic Capacity ~~o~~Operating L~~l~~imit relaxed to 0 MW.

Mitigation measures for Energy Offers and Flexibility Reserve Product Offers will be performed in the pricing solution. An FSR's Ceomposite Energy Offer Curve will be subject to the Energy ~~offer~~ Offer cap.

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7.7 Violation Relaxation Limit Reporting

Each year, ~~prior to November 1,~~ the Market Operator will provide analysis as well as a set of proposed Violation Relaxation Limits ("VRLs") for review by the applicable working groups and committees as described in the Markets+ Protocols. Each year, ~~by November 1,~~ VRLs and their associated values will be reviewed and approved by the Markets+ Independent Panel. Any changes to the VRLs or associated values must be approved by FERC prior to their implementation. The most recent FERC approved VRLs and their associated values are listed in ~~Addendum 1 to this~~ Attachment A, Appendix 1.

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7.8 Markets+ Pricing

The Market Operator will calculate Day-Ahead Market and RTBM LMPs for Energy at each Settlement Location. The Market Operator will calculate the Market Clearing Prices ("MCPs") for Flexibility Reserve Products for the Day-Ahead Market and RTBM. In certain situations, enforcing constraints may result in a solution that is not feasible at a Shadow Price less than an appropriately priced VRL. In such cases, the Market Operator must apply VRLs.

7.8.1 Price Corrections

There may be instances in which Software Errors and/or Data Errors affect the prices in a manner that is inconsistent with economic efficiency. If such an instance occurs, price corrections in the Day-Ahead and Real-Time Balancing Markets may be performed in accordance with Attachment A, ~~-~~Section 7.89.1(1). ~~of this Attachment A.~~

(1) The Market Operator, in its sole discretion, may make LMP and MCP corrections, and such corrections will be made in accordance with this Section 7.98.1. Such price corrections may only be performed if the underlying causes result in a significant Day-Ahead or Real-Time Balancing Market impact. In the exercise of its discretion pursuant to this Section 7.98.1, the Market Operator may consider all relevant facts, including, but not limited to, the degree of the economic impact to the market results in terms of production cost. For purposes of this section, "production cost" is defined as the settlement cost for the market and can be calculated as the sum of the cleared MW * LMP plus cleared ~~OR~~ Flexibility Reserve Products * MCP plus s~~S~~tart-u~~U~~p and n~~N~~o-l~~L~~oad costs for all Resources.

(2) If the Market Operator, in its sole discretion, determines that an error requiring correction has occurred, the Market Operator will address such errors in accordance with the following procedures:

(a) The Market Operator will notify Market Participants of the contemplated price correction.

(b) If the Market Operator provides the notification described in (2)(a) later than 23:59 hours PPT five (5) Cealendar Ddays following the Operating Day in which the LMPs and MCPs would be affected by the contemplated price correction, the Market Operator will request ~~Commission~~ FERC approval prior to making the price correction.

(c) If the Market Operator performs a price correction for the Day-Ahead Market, it will recalculate LMPs, MCPs, and Day-Ahead Market cleared quantities in a manner that reflects, as closely as practicable, the LMPs and MCPs that would have resulted but for the relevant Software Error or Data Error while maintaining the original Day-Ahead Market unit commitment. The Market Operator will perform any necessary ~~Resettlement~~ settlement recalculation using the ~~recalculated~~ updated Day-Ahead Market results. Such recalculated Day-Ahead Market results will be provided to Market Participants in the same manner as the original Day-Ahead Market results determined in the ordinary course of business.

(d) If the Market Operator performs a price correction for the RTBM, it will recalculate LMPs and MCPs for the RTBM in a manner that reflects, as closely as practicable, the LMPs and MCPs that would have resulted but for the relevant Software Error or Data Error and will perform any necessary ~~Resettlemen~~settlement recalculation using these ~~recalculated~~ updated values. Such recalculated LMPs and MCPs will be provided to Market Participants in the same manner as LMPs and MCPs determined in the ordinary course of business. Compensation to Market Participants in connection with recalculated prices in the RTBM will be as follows:

(i) For instances where the recalculated RTBM LMP is less than a Resource's Energy Offer Curve price, compensation will be as described under Attachment A, Section 9.3.18 ~~7.9.1(1). of this~~

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~~Attachment A~~;

(ii) For instances where a Resource's recalculated RTBM LMP is greater than the Day-Ahead Market LMP and the Market Participant is buying back its Day-Ahead Market position as a result of a Dispatch Instruction, compensation will be as described under Attachment A, Section ~~7.9.1(2)~~9.3.18 ~~of this Attachment A~~ except that the MW amount eligible for compensation will be equal to the difference between the Resource's Day-Ahead Market MW position and the greater of (1) that Resource's actual MW output in the Dispatch Interval or (2) the Resource's average Setpoint Target in the Dispatch Interval;

(iii) For instances where a Resource's recalculated RTBM ~~Operating Reserve~~ Flexibility Reserve Product ~~product~~ MCP is greater than the Day-Ahead Market ~~Operating Reserve product~~Flexibility Reserve Product MCP and the Market Participant is buying back its Day-Ahead Market Flexibility Reserve Product position resulting from the Market Operator clearing all or a portion of that ~~Flex~~ Flexibility Reserve Product on a different Resource in the market solution.

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7.9 Markets+ Settlements

For both the Day-Ahead Market and the RTBM, the Market Operator will calculate Energy and Flexibility Reserve Products settlement quantities at each Settlement Location, calculate charges and payments associated with the provision of Energy and Flexibility Reserve Products based upon the settlement quantities and the associated LMPs and MCPs for each Market Participant, and render invoices detailing net charges or payments associated with provision of Energy and Flexibility Reserve Products.

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7.10 Release of Energy Offer Curve Data

The Market Operator will release data on all Day-Ahead Offers and Bids, RTBM Energy Offer Curves, and Flexibility Reserve Products ninety (90) Ccalendar Ddays after the day for which they were submitted. Such information released by the Market Operator will not be provided by Settlement Location or include the identity of the Market Participant, Resource, or load.

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7.11 Market Transmission Use

A. General

The Market Operator will calculate, collect, and distribute Market Transmission Use (MTU) charges. Markets+ Transmission Service Providers (MTSP) participating in the Markets+ Ffootprint will be eligible for compensation for potential lost revenues associated with transmission capacity used in the m~~M~~arket. Compensation will be calculated and distributed through a rate charged to Market Participants for ~~reduced~~ capacity that ~~would~~ might otherwise be ~~available~~ sold as sShort-t~~T~~erm f~~F~~irm and n~~N~~on-ff irm p~~P~~oint-to-P~~p~~oint ~~and reduced demand for those sales~~.

MTU Charges will be assessed to Market Participants based on total ~~megawatt~~ MWh~~hours~~ of generation and load, including imports and exports, cleared in the Day-Ahead Market activities, and to Market Participants with generation, load, import, and export~~ed megawatt hours~~MWh settled through Real-Time Balancing Market activities.

B. Rate Formula

Annually, the Market Operator will determine the MTU r~~R~~ate for each rate year as described in Attachment A, Appendix 2 ~~of this Attachment A~~.

C. Market Transmission Use Charges for Market Activity in the Real-Time Balancing Market (RTBM)

~~The~~ Each Market Participant will pay an ~~Market Transmission Use (~~MTU~~)~~ Charge, which will be

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determined in Real-Time Balancing Market (RTBM) settlement activities by multiplying its RTBM ~~megawatt hour~~MWh~~s~~ for all market activities (Generation, Load, Imports, Exports, and any Virtual ~~activities~~Transactions) by the applicable Region-Wide Market Transmission Use Rate (RWMTURt) specified in Attachment A, Appendix 2 ~~of this Attachment A~~.

D. Market Transmission Use Revenue from Real-~~-~~Time Balancing Market Settlement

Payments received by the Market Operator for ~~Market Transmission Use~~MTU will be distributed to the Markets+ Transmission Service Providers whose Markets+ Transmission Service Provider's Revenue Recovery Amount (MTSPRRA) is included in the approved Region-Wide Revenue Recovery Amount (RWRRA) used as the numerator for the Region-Wide Market Transmission Use Rate (RWMTURt) as described in Attachment A, Appendix 2 ~~of this Attachment A~~.

E. Market Transmission Use Revenue Distribution from Real-Time Balancing Market Settlement

The Market Operator will distribute revenues it collects for ~~Market Transmission Use~~MTU Charges to each MTSP whose Markets+ Transmission Service Provider Revenue Recovery Amount (MTSPRRA) is included in the approved Region-Wide Revenue Recovery Amount (RWRRA) for the Region-Wide Market Transmission Use Rate (RWMTURt) as described in Attachment A, Appendix 2 ~~to this Attachment A~~ in proportion to the MTSP's respective share of the RWRRA, as adjusted in accordance Section F~~.~~ below.

F. Market Transmission Use Revenue Crediting and Impacts to Future Year's Recovery

In calculating the current rate year's Markets+ Transmission Service Provider Revenue Recovery

Amount (MTSPRRA) for MTU, the MTSP~~Transmission Service Provider~~ will net the under/over recovery of the prior year's MTU revenue, compared to the prior year's MTSPRRA amount, (defined as Markets+ Transmission Service Provider's Prior-Year Market Transmission Use Offset (MTSPPYMO)) against the current year's MTSPRRA amount for MTU recovery. Should prior calendar year's MTSPPYMO being credited against the current year's MTSPRRA reduce current year's MTSPRRA to a negative amount, the current year's MTSPRRA will be set equal to zero (0), as a floor, and the remaining balance of any prior calendar year's MTSPPYMO not being captured will roll forward to the netting process in determining the following year's allowable MTSPRRA (defined as MTSP's Carryover Market Transmission Use Offset (MTSPPYMCO)). Each Rate Year's MTSPRRA will be netted against any MTSPPYMO and MTSPPYMCO amounts. This carryover process would continue until the Rate Year MTSPRRA remains above zero (0) after all carryover amounts are realized.

7.12 Transparency Reporting Requirements

The following reports will be compiled by the Market Operator monthly and posted on a publicly-accessible portion of its website, within the time frame specified for each report.

7.12.1 Zonal Uplift Report

Within twenty (20) Cealendar Ddays of the end of each month, a report of uplift categories, paid in dollars, and categorized by Settlement Area and uplift category, will be compiled and posted. Uplift categories reported, broken out by day, will include: Day-Ahead mMake wWhole pPayment Amount, Reliability Unit Commitment Make Whole Payment Amount, Rreal-tTime Out-Of-Merit Amount, and Flexibility Reserve Products Amounts. If any Settlement Area has fewer than four (4) Resources, it may be aggregated with one or more neighboring Settlement Areas until each aggregated zone contains at least four (4) Resources, and reported collectively.

7.12.2 Resource-Specific Uplift Report

Within ninety (90) eCalendar Ddays of the end of each month, a report of the total amount of uplift paid in dollars aggregated across the month by Resource will be compiled and posted. The report will include the following uplift categories: Day-Ahead Make Whole Payment Amount, Reliability Unit Commitment Make_—Whole Payment Amount, Rreal-Ttime Out-of-Merit Amount, and Flexibility Reserve Products Amounts.

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7.12.3 Operator-Initiated Commitment Report

Within thirty (30) Cealendar Ddays of the end of each month, a report of each operator-initiated commitment, listing the size of the commitment, Settlement Area, commitment reason, and commitment start time will be compiled and posted. All commitments that are made for a reason other than to minimize the total production cost of serving load will be posted, including those made under the RUC processes.

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7.13 Markets+ Participation Readiness

The Market Operator will validate each Market Participant's ability to provide services for which the Market Participant has registered in Markets+. Such validation will include verification that the Market Participant has met the technical and communications requirements specified in the Markets+ Protocols and has met the credit requirements specified under Attachment H. ~~of this Tariff~~Markets+ ~~Tariff~~.

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7.14 Markets+ Counterparty

The Markets+ Counterparty settles, collects, and distributes all charges in Markets+, and is the contracting party, as a principal and not as an agent, with each Market Participant for that Market Participant's Markets+ agreements and transactions in the Day-Ahead Market and Real-Time Balancing Market. Notwithstanding the above, the Markets+ Counterparty will not be a contracting party when Market Participants conduct bilateral transactions with other Market Participants, self-commit or self-supply power and Eenergy to the loads they serve.

7.15 Electronic Delivery of Data to FERC

The Market Operator will electronically deliver to FERC, on an ongoing basis and in a form and manner consistent with its collection of data and in a form and manner acceptable to ~~the~~ FERC, data related to the market that it administers, in accordance with ~~the~~ FERC's regulations.

7.16 Congestion Rent Eligible Transmission Service Reservation Verification

1) The Market Operator, in collaboration with Markets+ Transmission Service Providers and Congestion Rent Eligible Transmission Service Reservation (CRETSR) Holders within the Markets+ Footprint, will retrieve and verify each CRETSR Holder's Congestion Rent Eligible Transmission Service Reservations from the applicable transmission service provider's Open Access Same-time Information System (OASIS), including relevant Designated Network Resources (DNRs) and Network Loads associated with Network Integration Transmission Service (NITS), pursuant to the Markets+ Protocols.

2) A resale of a CRETSR to a different transmission customer that does not span the entire duration of the upcoming calendar month, or that is arranged after the verification process begins, will not be considered in the Congestion Rent allocation process. The Congestion Rent associated with the CRETSR will be allocated to the CRETSR Holder who previously held the rights for the entire calendar month.

3) A redirect of a CRETSR to a different Point-of-Receipt (POR) or Point-of-Delivery (POD) that does not span the entire duration of the upcoming calendar month or that is made after the verification process begins will not be considered in the Congestion Rent allocation process. The Congestion Rent associated with the CRETSR will be allocated based on the last valid POR and POD that spanned the entire calendar month for that CRETSR Holder.

4) If a Markets+ Transmission Service Provider or Markets+ Transmission Contributor is unable to provide information such as that related to Legacy Transmission Service on OASIS, the Markets+ Transmission Service Provider or Markets+ Transmission Contributor will notify the Market Operator and the Markets+ Transmission User, and the Market Operator will coordinate the exchange of Legacy Transmission Service information or other relevant information.

5) The Market Operator will obtain the transmission service reservation information as specified under subsections (1), (2), (3), and (4) above at the beginning of the verification period as further defined in the Markets+ Protocols and:

a) Provide such information to each identified Markets+ Transmission Service Provider, Markets+ Transmission Contributor, and CRETSR Holder for verification/correction.

b) Unless the Markets+ Transmission Service Provider, Markets+ Transmission Contributor, or CRETSR Holder communicates a potential error during the verification period as defined in the Markets+ Protocols, the Market Operator will deem the transmission service reservation information provided to be a valid CRETSR. Errors identified after the verification period must follow the Markets+ settlements dispute process as described under Section 5 and Attachment A, Section 10.1.1.

c) If a Markets+ Transmission Service Provider, Markets+ Transmission Contributor, or CRETSR Holder identifies a potential error with the transmission service reservation information, the respective Markets+ Transmission Service Provider, Markets+ Transmission Contributor, or CRETSR Holder will contact the Market Operator. The Market Operator will communicate its determination of the validity of the transmission service reservation to the Markets+ Transmission Service Provider, Markets+ Transmission Contributor, and CRETSR Holder, including the correction of any error(s).

6) For Firm or Conditional Firm Point-to-Point Transmission Service CRETSR Holders, the CRETSR MW value used for settlements is equal to the Point-to-Point Service Distribution Cap for each Firm Point-to-Point Transmission Service or Conditional Firm Point-To-Point Transmission Service CRETSR.

7) For Network Integration Transmission Service (NITS) CRETSR Holders, the total CRETSR MW value used for settlements from each DNR to Network Load is calculated by the Market Operator using the following procedure:

a) The DNR MW capacity and associated POR will be obtained during the verification period. If a DNR is located outside of the Markets+ Transmission Service Provider's system and is serving Network Load inside of the Markets+ Transmission Service Provider's system, then the POR will be based on the modeled injection point for delivering Energy to the Markets+ Transmission Service Provider's or Markets+

Transmission Contributor's system.

b) Based on the information obtained in 7(a) above and for each hour of the Operating Day, the Market Operator will systematically select each NITS CRETSR Holder's source to sink paths from its DNRs to its Network Loads as follows:

i. The Market Operator will create a merit order stack by sorting the supply available from the NITS CRETSR Holder's DNRs from lowest cost supply to highest cost supply, where:

a) The total supply included in the merit order stack from each DNR will not exceed the designated capacity of the DNR.

b) Supply from a DNR with a Day-Ahead Commit Status of Self or Reliability Must Run will be considered the lowest cost supply for purposes of this merit order process and will be added to the merit order stack first.

c) The Market Operator will next add supply from the NITS CRETSR Holder's DNRs made available in the Day-Ahead Market from lowest cost to highest cost based on the incremental cost, in $/MWh, of each segment of the Energy Offer Curves, or mitigated Energy Offer Curves if mitigated, in the Day-Ahead Market.

d) Any portion of a DNR that is not available in the Day-Ahead Market will be considered the highest cost for purposes of the merit order process and will be added to the merit order stack after all available supply from the NITS CRETSR Holder's DNRs has been included as described in (b) and (c) above.

i. Starting with the lowest cost supply in the merit order stack created in Attachment A, Section 7.16(7)(b)(i), the Market Operator will select the NITS CRETSR Holder's DNRs from their merit order stack until the total MW capacity selected is equal to the NITS CRETSR Holder's Network Service

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Distribution Cap. PORs associated with selected DNRs to the POD associated with the Network Load, will be used for Congestion Rent allocation purposes as described under Attachment A, Section 9.2.14.

Section 7.16.1: Coordinated Interchange Scheduling Limits

1) If a Participating Balancing Authority Area (BAA) requires a Coordinated Interchange Scheduling Limit at a single location involving two or more Markets+ Transmission Service Providers that cannot be otherwise modeled as a normal flow-based constraint, the Market Operator will activate the scheduling limit as a constraint in the market solution. The Market Operator will separate the Congestion Rent available for allocation on the binding constraint, as calculated under Attachment A, Section 9.2.13, into an export share and an import share. The export share will be associated with CRETSRs to the coordinated scheduling location and will be distributed in the same manner as set forth in Attachment A, Sections 9.2.14 and 9.2.15. The import share will be associated with CRETSRs from the coordinated scheduling location and will be allocated in the same manner as set forth in Attachment A, Sections 9.2.14 and 9.2.15.

2) For the Coordinated Interchange Scheduling Limit as described in (1) above, the Market Operator will allocate fifty percent (50%) of the Congestion Rent available for allocation on the binding constraint, as calculated under Attachment A, Section 9.2.13 to the export share and fifty percent (50%) to the import share, provided that the applicable Markets+ Transmission Service Providers and/or participating Markets+ BAA associated with a Coordinated Interchange Scheduling Limit may mutually agree and instruct the Market Operator to use a different sharing ratio that better reflects the particular arrangement associated with the constraint.

3) The Market Operator will maintain a list of all the Coordinated Interchange Scheduling Limits that will be activated on its public website.

8. Available Transmission Capacity

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8.1 Market Operator Obligation to Constrain the ~~Markets+~~ Simultaneous Co-optimization Methodology

The Market Operator will create and maintain constraints in the ~~Markets+~~ Simultaneous Co-optimization Methodology based on the transmission capability available to Markets+.

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8.2 Market Operator's Obligation to Coordinate Market Flows and Impacts to Non-Participating Transmission Systems and Balancing Authorities

The Market Operator will coordinate and manage Markets+ market flows and impacts on non-participating transmission systems and Balancing Authorities. As part of its coordination and management, the Market Operator will respect underlying transmission rights communicated to the Market Operator. This may include, but is not limited to, the creation of Service Flow Constraints to ensure interconnection reliability and to support equitable treatment to the non-participating system(s).

8.3 Obligation to Communicate Transmission Capability

For the appropriate Markets+ timing interval, Markets+ Transmission Service Providers, Markets+ Transmission Contributors, and ~~participating~~ Participating Balancing Authorities will communicate operational transmission capability information to the Market Operator pursuant to the Markets+ Protocols.

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9. Settlements

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9.1 Settlement Activities ~~and Credit~~

The Market Operator issues Scheduled Settlement Statements for each Operating Day based on the Settlement Statement process to both Asset Owners and Market Participants. Settlement Invoices are issued to Market Participants on a weekly basis.

9.1.1 Settlement Sign Conventions

For the purposes of settlement calculation of charges and payments described under this Attachment A, Section 9, negative signs will reflect payments to Market Participants and positive signs to will reflect charges to Market Participants. Throughout the settlement calculations, multiplication by (-1) is used to attain the proper sign convention where needed. Injections to the t~~T~~ransmission s~~S~~ystem are negative values and withdrawals are positive values. Consistent with the injection and withdrawals, the ~~following~~ sign conventions for variables used in the settlement calculations are as follows:

(1) Cleared Resource MWh and Virtual Energy Offer MWh in the Day-Ahead Market is a negative value;

(2) Cleared load MWh and Virtual Energy Bid MWh in the Day-Ahead Market is a positive value;

(3) Import Interchange Transaction MWh is a negative value;

(4) Export Interchange Transaction MWh is a positive value;

(5) Cleared Flexibility Reserve Products MWs in the Day-Ahead Market and RTBM are positive values;

(~~7~~6) Actual m~~M~~eter values and telemetered/State Estimator values for Resource injections are a negative value; ~~and~~

(8~~7~~) Actual meter values and telemetered/State Estimator values for load consumption or a Resource's Energy withdrawals exceeding E~~e~~nergy production are positive values; and~~.~~

(8) CRETSR MW is a positive value.

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9.1.2 Markets+ Internal Energy Schedule Settlement Adjustment

Market Participants may optionally request a Markets+ Internal Energy Schedule Settlement Adjustment for their associated Energy ~~schedules~~ Schedules that source and sink within the Markets+ Footprint. All Market Participants seeking to settle using a Markets+ Internal Energy Schedule Settlement Adjustment must confirm the requested Markets+ Internal Energy Schedule Settlement Adjustment in order for that adjustment to be considered valid and applied by the Market Operator.

Transactions related to Markets+ Internal Energy Schedule Settlement Adjustment for Energy must specify the Settlement Location, the MW quantity, the buyer, the seller, and which market it applies to (Day-Ahead Market or RTBM), and must be for the physical transfer of Energy, with title of the energy transferring from the seller to the buyer at the Settlement Location specified for the transaction. If the Settlement Location is within a GHG Zone, the Market Participants may choose to include the Marginal GHG Price in the settlement adjustment. Transactions do not preclude ~~r~~Resources from price rational R~~r~~esource participation in the market nor require a R~~r~~esource self-commitment. Market Participants that submit Markets+ Internal Energy Schedule Settlement Adjustment for Energy ~~shall~~ must use reasonable efforts to limit the megawatt hours of such transactions to amounts reflecting the expected load or other physical delivery obligations of the buyer under the bilateral contract. The seller receives an increase in load obligation equal to the specified MW quantity and the buyer receives a reduction in load obligation equal to the specified MW quantity (the equivalent of a Resource settlement) at the specified Settlement Location.

9.2 Day-Ahead Market Settlement

Settlement calculations for Energy and Flexibility Reserve Products in the Day-Ahead Market are based upon the results of the Day-Ahead Market clearing for that Operating Day.

The following Ssubsections describe the Day-Ahead Market settlement charge types. For each charge type, the calculation is performed at the hourly level for each Market Participant at each Settlement Location. The Market Operator will calculate hourly summations for each Market Participant for all Asset Owners it represents and will calculate daily summations as specified in the Markets+ Protocols.

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9.2.1 Day-Ahead Energy Amount

A Day-Ahead Market charge or payment for cleared Energy is calculated at each Settlement Location for each Asset Owner for each hour as follows:

(1) For Energy associated with loads and Self-Charging MSRs:

The Day-Ahead Asset Energy Hourly Amount =

(Day-Ahead LMP) * [(Day-Ahead Cleared Load Energy Hourly Quantity) - (Day-Ahead Asset Energy Hourly Markets+ Internal Energy Schedule Settlement Adjustment)] * (Day-Ahead Loss Adjustment Factor)

(a) Day-Ahead LMP associated with that load Settlement Location.

(b) An Asset Owner's Day-Ahead Cleared Load Energy Hourly Quantity is the MW quantity associated with cleared Demand Bids at that load Settlement.

(c) An Asset Owner's Day-Ahead Asset Energy Hourly Markets+ Internal Energy Schedule Settlement Adjustment are those Markets+ Internal Energy Schedule Settlement Adjustment that settle at that load Settlement Location as submitted in accordance with Attachment A, Section 9.1.2 ~~of this Attachment A~~.

(d) An Asset Owner's Day-Ahead Loss Adjustment Factor as determined from the Network Model used for the Day-Ahead Market execution.

(2) For Energy associated with Resources and MSRs injecting Eenergy into the market:

The Day-Ahead Asset Energy Hourly Amount =

(Day-Ahead LMP) * [(Day-Ahead Cleared Resource Energy Hourly Quantity) - (Day-Ahead Asset Energy Hourly Markets+ Internal Energy Schedule Settlement Adjustment)]

(a) Day-Ahead LMP associated with that Resource Settlement Location.

(b) An Asset Owner's Day-Ahead Cleared Resource Energy Hourly Quantity is the MW quantity associated with cleared Resource Offers at that Resource Settlement Location.

(c) An Asset Owner's Day-Ahead Asset Energy Hourly Markets+ Internal Energy Schedule Settlement Adjustment are those Markets+ Internal Energy Schedule Settlement Adjustment that settle at that Resource Settlement Location as submitted in accordance with Attachment A, Section 9.1.2 ~~of this Attachment A~~.

(3) For Energy associated with Import Interchange Transactions:

Day-Ahead Non-Asset Energy Hourly Amount =

(Day-Ahead LMP) * [(Day-Ahead Cleared Import Energy Hourly Quantity) – (Day-Ahead Non-Asset Energy Markets+ Internal Energy Schedule Settlement Adjustment)]

(a) Day-Ahead LMP associated with the applicable External Interface Settlement Location.

(b) A Market Participant's Day-Ahead Cleared Import Energy Hourly Quantity is the MW quantity associated with cleared Import Interchange Transaction Offers at that External Interface Settlement Location.

(c) A Market Participant's Day-Ahead Non-Asset Energy Hourly Markets+ Internal Energy Schedule Settlement Adjustment are those Markets+ Internal Energy Schedule Settlement Adjustment that settle at that External Interface Settlement Location.

(4) For Energy associated with Export Interchange Transactions:

Day-Ahead Non-Asset Energy Hourly Amount =

(Day-Ahead LMP) * [(Day-Ahead Cleared Export Energy Hourly Quantity) – (Day-Ahead Non-Asset Energy Markets+ Internal Energy Schedule Settlement Adjustment)] * (Day-Ahead Loss Adjustment Factor)

(a) Day-Ahead LMP associated with the applicable External Interface Settlement Location.

(b) A Market Participant's Day-Ahead Cleared Export Energy Hourly Quantity is the MW quantity associated with cleared Export Interchange Transaction Offers at that External Interface Settlement Location.

(c) A Market Participant's Day-Ahead Non-Asset Energy Hourly Markets+ Internal Energy Schedule Settlement Adjustment are those Markets+ Internal Energy Schedule Settlement Adjustment that settle at that External Interface Settlement Location.

(d) An Asset Owner's Day-Ahead Loss Adjustment Factor as determined from the Network Model used for the Day-Ahead Market execution.

(5) For Energy associated with remaining Markets+ Internal Energy Schedule Settlement Adjustment:

Day-Ahead Non-Asset Energy Hourly Amount =

(Day-Ahead LMP) * [(Day-Ahead Non-Asset Energy Markets+ Internal Energy Schedule Settlement Adjustment) * (-1)]

(a) Day-Ahead LMP associated with the applicable Settlement Location.

(b) An Asset Owner's Day-Ahead Non-Asset Energy Hourly Markets+ Internal Energy Schedule Settlement Adjustment are those Markets+ Internal Energy Schedule Settlement Adjustment that settle at Settlement Locations other than External Interface Settlement Locations, that Asset Owner's load Settlement Locations or that Asset Owner's Resource Settlement Locations.

(6) For Energy associated with Virtual Energy Bids:

Day-Ahead Virtual Energy Hourly Amount =

(Day-Ahead LMP) * (Day-Ahead Cleared Virtual Energy Bid Hourly Quantity) * (Day-Ahead Loss Adjustment Factor)

(a) Day-Ahead LMP associated with the applicable Settlement Location.

(b) An Asset Owner's Day-Ahead Cleared Virtual Energy Bid Hourly Quantity is the MW quantity associated with cleared Virtual Energy Bids at that Settlement Location.

(c) An Asset Owner's Day-Ahead Loss Adjustment Factor as determined from the Network Model used for the Day-Ahead Market execution.

(7) For Energy associated with Virtual Energy Offers:

Day-Ahead Virtual Energy Hourly Amount =

(Day-Ahead LMP) * (Day-Ahead Cleared Virtual Energy Offer Hourly Quantity)

(a) Day-Ahead LMP associated with the applicable Settlement Location.

(b) An Asset Owner's Day-Ahead Cleared Virtual Energy Offer Hourly Quantity is the MW quantity associated with cleared Virtual Energy Offers at that Settlement Location.

9.2.2 ~~Day-Ahead Virtual Energy Transaction Fee Amount~~Reserved for Future Use

~~A Day-Ahead Market charge for each submitted Virtual Energy Offer and Virtual Energy Bid will be calculated for each Market Participant for each Operating Day. Charges collected by the Market Operator under this charge type are used by the Market Operator to reduce the Market Operator~~

~~budgeted expenses are calculated as follows:~~

~~Day-Ahead Virtual Energy Transaction Fee Amount =~~

~~[(Day-Ahead Virtual Energy Transaction Daily Count) * (Day-Ahead Virtual Energy Transaction Fee Rate)]~~

~~(1) Day-Ahead Virtual Energy Transaction Daily Count is equal to the sum of Virtual Energy Bids and Virtual Energy Offers submitted as of the close of the Day-Ahead Market for all Settlement Locations and hours in the Operating Day.~~

~~(2) Day-Ahead Virtual Energy Transaction Fee Rate is $0.05 for each Virtual Energy Offer or Virtual Energy Bid.~~

9.2.3 Day-Ahead Short-Term Flex Up Amount

A Day-Ahead Market payment for cleared Short-Term Flex Up will be calculated at each Settlement Location for each Asset Owner for each hour as follows:

1. Day-Ahead Short-Term Flex Up Hourly Amount =

   [(Day-Ahead Short-Term Flex Up MCP) * (Day-Ahead Cleared Short-Term Flex Up Hourly Quantity)] * (-1)

   (a) Day-Ahead MCP, as defined under Attachment A, Section 3.4, for Short-Term Flex Up associated with the Reserve Zone in which the applicable Resource is located.

   (b) An Asset Owner's Day-Ahead Cleared Short-Term Flex Up Hourly Quantity is the MW quantity associated with cleared Short-Term Flex Up as described under Attachment A, Section 2.1.3 ~~of this Tariff~~Markets+ ~~Tariff~~.

9.2.4 Day-Ahead Short-Term Flex Down Amount

A Day-Ahead Market payment for cleared Short-Term Flex Down will be calculated at each Settlement Location for each Asset Owner for each hour as follows:

1. Day-Ahead Short-Term Flex Down Hourly Amount =

[(Day-Ahead Short-Term Flex Down MCP) * (Day-Ahead Cleared Short-Term Flex Down Hourly Quantity)] * (-1)

(a) Day-Ahead MCP, as defined under Attachment A, Section 3.4, for Short-Term Flex Down associated with the Reserve Zone in which the applicable Resource is located.

(b) An Asset Owner's Day-Ahead Cleared Short-Term Flex Down Hourly Quantity is the MW quantity associated with cleared Short-Term Flex Down as described under Attachment A, Section 2.1.3 ~~of this Tariff~~Markets+ Tariff.

9.2.5 Day-Ahead Mid-Term Flex Up Amount

Day-Ahead Mid-Term Flex Up Hourly Amount =

[(Day-Ahead Mid-Term Flex Up MCP) * (Day-Ahead Cleared Mid-Term Flex Up Hourly Quantity)] * (-1)

(a) Day-Ahead MCP, as defined under Attachment A, Section 3.4, for Mid-Term Flex Up associated with the Reserve Zone in which the applicable Resource is located.

(b) An Asset Owner's Day-Ahead Cleared Mid-Term Flex Up Hourly Quantity is the MW quantity associated with cleared Mid-Term Flex Up as described under Attachment A, Section 2.1.3 ~~of this Tariff~~Markets+ Tariff.

9.2.6 Day-Ahead Short-Term Flex Up Distribution Amount

A Day-Ahead Market charge for Short-Term Flex Up procurement costs calculated under Attachment A, Section 9.2.4 will be calculated at each Reserve Zone for each Asset Owner for each hour as

follows:

Day-Ahead Short-Term Flex Up Hourly Distribution Amount =

[(Day-Ahead Short-Term Flex Up Obligation) * (Day-Ahead Short-Term Flex Up Procurement Rate)]

(1) An Asset Owner's Day-Ahead Short-Term Flex Up Obligation in each Reserve Zone is equal to the ~~system~~ market-wide total of all cleared Short-Term Flex Up multiplied by the Asset Owner Reserve Zone Load Ratio Share, for Short-Term Flex Up being supplied pursuant to Attachment A, Section 4.3.2

(2) For a Reserve Zone that clears more Short-Term Flex Up than the sum of Asset Owners' Day-Ahead Short-Term Flex Up Obligations for that Reserve Zone, the zone is deemed an exporting zone and the Day-Ahead Short-Term Flex Up Procurement Rate is equal to the Short-Term Flex Up MCP for that Reserve Zone.

(3) For a Reserve Zone that clears less Short-Term Flex~~ibility~~ Up ~~Reserve Products~~ than the sum of Asset Owners' Day-Ahead Short-Term Flex Up Obligations for that Reserve Zone, the Day-Ahead Short-Term Flex Up Procurement Rate is as follows:

Day-Ahead Short-Term Flex Up Procurement Rate =

{(Reserve Zone MCP * Total of cleared Short-Term Flex Up for that Reserve Zone) + [(Weighted Average MCP of all Exporting Zones) * (Sum of Asset Owners' Day-Ahead Short-Term Flex Up Obligations for that Reserve Zone - Total of cleared Short-Term Flex Up for that Reserve Zone)]} / (Sum of Asset Owners' Day-Ahead Short-Term Flex Up Obligations for that Reserve Zone).

9.2.7 Day-Ahead Short-Term Flex Down Distribution Amount

A Day-Ahead Market charge for Short-Term Flex Down procurement costs calculated under Attachment A, Section 9.2.~~5~~ 4 will be calculated at each Reserve Zone for each Asset Owner for each hour as follows:

Day-Ahead Short-Term Flex Down Hourly Distribution Amount =

[(Day-Ahead Short-Term Flex Down Obligation) * (Day-Ahead Short-Term Flex Down Procurement Rate)]

(1) An Asset Owner's Day-Ahead Short-Term Flex Down Obligation in each Reserve Zone is equal to the ~~system~~ market-wide total of all cleared Short-Term Flex Down multiplied by the Asset Owner Reserve Zone Load Ratio Share for Short-Term Flex Down ~~being supplied pursuant to Section 7.5~~.

(2) For a Reserve Zone that clears more Short-Term Flex Down than the sum of Asset Owners' Day-Ahead Short-Term Flex Down Obligations for that Reserve Zone, the zone is deemed an exporting zone (will it be importing instead) and the Day-Ahead Short-Term Flex Down Procurement Rate is equal to the Short-Term Flex Down MCP for that Reserve Zone.

(3) For a Reserve Zone that clears less Short-Term Flex Down than the sum of Asset Owners' Day-Ahead Short-Term Flex Down Obligations for that Reserve Zone, the Day-Ahead Short-Term Flex Down Procurement Rate is as follows:

Day-Ahead Short-Term Flex Down Procurement Rate =

{(Reserve Zone MCP * Total of cleared Short-Term Flex Down for that Reserve Zone) + [(Weighted Average MCP of all Exporting Zones) * (Sum of Asset Owners' Day-Ahead Short-Term Flex Down Obligations for that Reserve Zone - Total of cleared Short-Term Flex Down for that Reserve Zone)]} / (Sum of Asset Owners' Day-Ahead Flex Down Obligations for that Reserve Zone).

9.2.8 Day-Ahead Mid-Term Flex Up Distribution Amount

A Day-Ahead Market charge for Mid-Term Flex Up ~~Reserve~~ procurement costs calculated under Attachment A, Section 9.2.~~6~~ 5 will be calculated at each Reserve Zone for each Asset Owner for each hour as follows:

Day-Ahead Mid-Term Flex Up Hourly Distribution Amount =

[(Day-Ahead Mid-Term Flex Up ~~Products~~ Obligation) * (Day-Ahead Mid-Term Flex Up Procurement Rate)]

(1) An Asset Owner's Day-Ahead Mid-Term Flex Up Obligation in each Reserve Zone is equal to the ~~system~~ market-wide total of all cleared Mid-Term Flex Up multiplied by the Asset Owner Reserve Zone Load Ratio Share for Mid-Term Flex Up. ~~being supplied pursuant to Section 7.5 of this Tariff~~Markets+ Tariff.

(2) For a Reserve Zone that clears more Mid-Term Flex Up than the sum of Asset Owners' Day-Ahead Mid-Term Flex Up Obligations for that Reserve Zone, the zone is deemed an exporting zone and the Day-Ahead Mid-Term Flex Up Procurement Rate is equal to the Mid-Term Flex Up MCP for that Reserve Zone.

(3) For a Reserve Zone that clears less Mid-Term Flex Up than the sum of Asset Owners' Day-Ahead Mid-Term Flex Up Obligations for that Reserve Zone, the Day-Ahead Mid-Term Flex Up Procurement Rate is as follows:

Day-Ahead Mid-Term Flex Up Procurement Rate =

{(Reserve Zone MCP * Total of cleared Mid-Term Flex Up for that Reserve Zone) + [(Weighted Average MCP of all Exporting Zones) * (Sum of Asset Owners' Day-Ahead Mid-Term Flex Up Obligations for that Reserve Zone - Total of cleared Mid-Term Flex Up for that Reserve Zone)]} / (Sum of Asset Owners' Day-Ahead Mid-Term Flex Up Obligations for that Reserve Zone).

9.2.9 Day-Ahead Make Whole Payment Amount

(1) The Day-Ahead make whole payment amount is a payment to an Asset Owner and is calculated for each Resource with an associated Day-Ahead Market Commitment Period that was committed as defined in Attachment A, Sections 4.1(7)(a) and 4.1(7)(c). If the Market Monitor determines Resources committed in an RMR status were selected in a discriminatory manner by the Transmission Operator, Participating Balancing Authority, or Reliability Coordinator, as described under Attachment A, Section 2.3.1.4.1, then such Resources are not

eligible to receive a Day-Ahead Market make whole payment. A payment is made to a Market Participant when a Resource's costs are greater than the Day-Ahead Market revenues received during the Resource's Day-Ahead Market make whole payment eligibility period. The make whole payment is equal to this difference between those costs and revenues.

(2) A Resource's Day-Ahead Market make whole payment eligibility period is equal to a Resource's Day-Ahead Market Commitment Period except as defined herein. For Resources with an associated Day-Ahead Market Commitment Period that begins in one Operating Day and ends in the next Operating Day, two (2) Day-Ahead Market make whole payment eligibility periods are created. The first period begins in the first Operating Day in the hour that the Day-Ahead Market Commitment Period begins and ends in the last hour of the first Operating Day. The second period begins in the first hour of the next Operating Day and ends in the last hour of the Day-Ahead Market Commitment Period.

(3) The following cost recovery rules apply to each Day-Ahead Market make whole payment eligibility period. Offer costs are calculated using the Day-Ahead Market Offer prices in effect at the time the commitment decision was made.

(a) There may be more than one Day-Ahead Market make whole payment eligibility period for a Resource in a single Operating Day for which a charge or payment is calculated. A single Day-Ahead Market make whole payment eligibility period is contained within a single Operating Day.

(b) A Resource's Day-Ahead Market ~~commitment~~ Commitment level offer costs include Start-Up Offer, Transition State Offer, and RUC remainder for a Day-Ahead Market make whole payment eligibility period in which that Resource is committed with a Day-Ahead Market Resource Offer commitment status. The commitment level cost eligible for recovery is calculated by subtracting all Start-Up Offer cost and Transition State Offer cost associated with a Day-Ahead Market Resource Offer commitment status from all eligible commitment level Offer costs required to execute the Day-Ahead schedule associated with the Day-Ahead Market make whole payment eligibility period. The resulting difference represents either a charge or a payment and is a cost component

when determining a Day-Ahead Market make whole payment.

(i) In any Day-Ahead Market make whole payment eligibility period for which the Day-Ahead Market Simultaneous Co-optimization Methodology did not consider the Resource's Start-Up Offer in the original commitment decision, the Resource's Start-Up Offer will equal zero unless the Resource's Start-Up Offers costs are associated with RMR commitments.

(ii) A Resource's Day-Ahead Market Start-Up Offer cost is not eligible for recovery in the following Day-Ahead Market make whole payment eligibility periods:

(1) For any Day-Ahead make whole payment eligibility period for which a Resource is a Synchronized Resource prior to this commitment period at a time one (1) hour prior to that Resource's Day-Ahead Market Commit Time in addition to the Resource's Sync-To-Min Time unless the Day-Ahead Market make whole payment eligibility period is following a Day-Ahead Market or RUC make whole payment eligibility period that ends within the one (1) hour in addition to the Resource's Sync-To-Min Time.

(iii) When a RUC commitment is made at a point in time after the existing Day-Ahead Market ~~commitment~~ Commitment was made, but the RUC commitment is scheduled for a time adjacent and prior to the existing Day-Ahead Market ~~commitment~~Commitment, the cost considered at the point of adjacency between the RUC and Day-Ahead Market ~~commitments~~ Commitments will be allocated between the two (2) commitments for make whole payment purposes.

(1) The cost allocated to the RUC make whole payment will not be greater than the difference between: (a) the Day-Ahead Market Start-Up Offer and Transition State Offer costs at the adjacency point of the RUC and Day-Ahead Market ~~commitment~~Commitment; and (b) Day-Ahead Market Start-Up Offer and Transition State

Offer costs associated with a Day-Ahead Market Resource Offer commitment status at the adjacency point.

(2) The commitment level cost in the Day-Ahead Market make whole payment is reduced by the non-negative cost allocated to the RUC make whole payment.

(iv) A Resource's Day-Ahead Market Transition State Offer costs for a Day-Ahead Market ~~commitment~~ Commitment are eligible for recovery in the Day-Ahead Market make whole payment eligibility period except when the Day-Ahead Market Simultaneous Co-optimization Methodology did not consider the Resource's Transition State Offer in the Day-Ahead commitment decision unless Transition State Offers costs are associated with RMR commitments.

(v) As described under Attachment A, Section 9.3.1~~62~~(3)(g)~~) of this Attachment A~~, to the extent that the full amount of the eligible RTBM ~~Start~~start-~~Up~~ up cost is not accounted for in the adjacent RUC make whole payment eligibility period, any remaining RTBM ~~Start~~start-~~Up~~ up cost is carried forward for recovery in the adjacent Day-Ahead make whole payment eligibility period.

(vi) When a Resource loses eligibility to recover a Day-Ahead Market Start-Up Offer cost for the reason described in Attachment A, Section 9.2.~~10~~9(3)(b)(ii)(1)~~ of this Attachment A~~, to prevent overstating avoided costs, the commitment level cost is adjusted by the lesser of: (a) the Resource's Start-Up Offer cost and Transition State Offer cost associated with a Day-Ahead Market Resource Offer commitment statuses defined under Attachment A, Sections 4.1(7)(a) and 4.1(7)(c)~~ of this Attachment A~~; or (b) the ineligible Day-Ahead Market Start-Up Offer cost.

(vii) For each Day-Ahead Market make whole payment eligibility period within an Operating Day, a Resource's eligible ~~Start~~start-~~Up~~ up cost is divided by the lesser of (1) the Resource's applicable Minimum Run Time rounded down to the nearest hour or (2) twenty-four (24) hours, to achieve an hourly proration for the purpose of allocating ~~Start~~start-~~Up~~ up costs across adjacent Day-Ahead

commitments.

(1) If the number of participating hours of a Day-Ahead Market make whole payment eligibility period meets or exceeds the duration of the divisor as described in (vii) above, the full cost of the Start-Up Offer is included in the commitment level cost for the Day-Ahead Market make whole payment eligibility period.

(2) If the number of participating hours of a Day-Ahead Market make whole payment eligibility period is less than the duration of the divisor as described in (vii) above, the hourly proration is multiplied by the number of participating hours to achieve a single Start-Up Offer amount to be included in the commitment level cost for that Day-Ahead Market make whole payment eligibility period. Any remaining Day-Ahead Market Start-Up Offer cost will be included in the commitment level cost for the following and adjacent Day-Ahead Market make whole payment eligibility period in the next Operating Day.

(c) For an MCR, additional costs or revenues are incurred when the Resource has cleared Flexibility Reserve Products in the Day-Ahead Market and must buy back that position in real-time at an average hourly real-time MCP. These costs or revenues will be considered as an adjustment when determining a Day-Ahead Market make whole payment. These costs or revenues must be incurred during a time period in the Day-Ahead Market make whole payment eligibility period in which the Resource is transitioning in real-time due to a Day-Ahead scheduled transition that is not forced by the Resource Offer.

(d) If a Resource's self-commitment period is less than the Resource's Minimum Run Time, the Market Operator will relax the Resource's Minimum Run Time to equal the self-commit period. For an MCR, the applicable Minimum Run Time for an Operating is the greatest of (a) Plant Minimum Run Time, or (b) Group Minimum Run Time.

(e) If a Resource is committed by the Market Operator in the Day-Ahead Market, the

Resource will be eligible to recover applicable recurring costs for that period in the Day-Ahead Market make whole payment eligibility period.

(4) The payment to each Asset Owner for each eligible Settlement Location for a given Day-Ahead Market make whole payment eligibility period is calculated as follows:

Day-Ahead Make Whole Payment Amount =

Maximum of [Either Zero or Sum of ((Day-Ahead Make Whole Payment Cost Amount in the Day-Ahead Market Make Whole Payment Eligibility Period) + (Day-Ahead Make Whole Payment Revenue Amount in the Day-Ahead Market Make Whole Payment Eligibility Period) + (Day-Ahead Make Whole Payment Commitment Cost))] * (-1)

(a) An Asset Owner's Day-Ahead Make Whole Payment Cost Amount for each eligible Resource is equal to the sum for all hours in the Day-Ahead Market mMake wWhole p Payment cEligibility pPeriod of:

(i) Day-Ahead Market No-Load Offer,

(ii) Energy cost associated with cleared Resource Energy, including MSRs providing a market service, from Resource Energy Offers, as calculated by multiplying cleared Resource Energy by the cost of such Energy as calculated from the Resource's Day-Ahead Market Energy Offer Curve,

(iii) GHG cost associated with Internal GHG Resources and Specified Source Resources, as calculated by multiplying Day-Ahead Cleared GHG quantity by the Specified GHG Adder.

(b) A Market Participant's Day-Ahead Make Whole Payment Revenue Amount for each eligible Resource that is committed by the Market Operator is equal to the sum for all hours in the Day-Ahead Market mMake wWhole pPayment cEligibility pPeriod of:

(i) Energy revenue associated with cleared Resource Energy, and MSRs providing a market service, from Resource Energy Offers, calculated by multiplying Resource Energy by Day-Ahead LMP at that Resource Settlement Location, and

(ii) The sum of the revenues calculated under Attachment A, Sections 9.2.43, 9.2.5 4, and 9.2.6 5 and of this Attachment A f9.2.20 for that eligible Resource.

(c) Market Participant's Day- -Ahead Make Whole Payment Commitment Cost Amount for each eligible Resource in the Day-Ahead Market Make Whole Payment Eligibility Periods is equal to:

(i) Day-Ahead Market Start-Up Offer or any RUC remainder amount as described in Attachment A, Section 9.2.109(3)(b) of this Attachment A, plus

(ii) Day-Ahead Transition State Offer (for an MCR), plus

(iii) Any amount of Startstart-Up up costs where the Resource loses eligibility to recover as described in Attachment A, Section 9.2.109(3)(b)(v) of this Attachment A, minus

(iv) Any amount of shared Startstart-Up up costs between Day-Ahead Market and RUC make whole payment eligibility periods as described in Attachment A, Section 9.2.109(3)(b)(ii) of this Attachment A, minus

(v) All Start-Up Offer and Transition State Offer costs associated with a Day-Ahead Market Resource Offer commitment status as defined under Attachment A, Sections 4.1(7)(a) and 4.1(7)(c) of this Attachment A.

9.2.10 Day-Ahead Make Whole Payment Distribution Amount

A Day-Ahead Market Participating Balancing Authority Area charge will be calculated at each Settlement Location for each Market Participant for each hour in order to fund the payments made under Attachment A, Sections 9.2.9 ~~of this Attachment A~~and 9.2.18. The Participating Balancing Authority Area amount will be determined by multiplying a Market Participant's Participating Balancing Authority Area distribution volume by a daily Participating Balancing Authority Area Day-Ahead Market make whole payment rate as described in this Section 9.2.10.

The Day-Ahead Participating Balancing Authority Area Make Whole Payment Distribution Amount will be calculated as follows:

Day-Ahead Participating Balancing Authority Area Make Whole Payment Distribution Amount

=

(Day-Ahead Participating Balancing Authority Area Make Whole Payment Distribution Rate) * (Day-Ahead Participating Balancing Authority Area Make Whole Payment Distribution Quantity))

(1) The Day-Ahead Participating Balancing Authority Area Make Whole Payment Distribution Rate is the sum of all M~~m~~ake W~~w~~hole P~~p~~ayments for the Operating Day per Participating Balancing Authority Area divided by the sum of all Market Participants' Day-Ahead Participating Balancing Authority Area Make Whole Payment Distribution Quantities for all Settlement Locations in the Participating Balancing Authority Area for the entire Operating Day.

(2) A Market Participant's Day-Ahead Participating Balancing Authority Area Make Whole Payment Distribution Quantity at a Settlement Location for an hour is equal to that Market Participant's cleared Energy withdrawals at that Settlement Location for that hour. A Market Participant's Energy withdrawal at a Settlement Location is calculated as the sum of cleared Demand Bids, cleared Self-Charging MSR Offers, Export Interchange Transaction Bids and Virtual Energy Bids at that Settlement Location.

9.2.11 Day-Ahead Demand Reduction Amount

A Day-Ahead Market payment will be calculated for each Asset Owner with registered load Settlement Locations containing one or more Demand Response Loads associated with cleared Dispatchable Demand Response Resource Offers for each applicable Settlement Location and each hour as follows:

Day-Ahead Demand Reduction Hourly Amount =

(Day-Ahead LMP) * (Day-Ahead Total Demand Response Resource Hourly Quantity)

(1) Day-Ahead LMP, as defined under Attachment A, Section 3.2 ~~of this Attachment A~~, for a load Settlement Location containing one or more Demand Response Loads associated with cleared Dispatchable Demand Response Resource Offers.

(2) An Asset Owner's Day-Ahead Total Demand Response Resource Hourly Quantity is the sum of the MW quantities for cleared Dispatchable Demand Response Resources in the Day-Ahead Market, as described under Attachment A, Section 2.1.3 ~~of this Attachment A~~, that are associated with the load Settlement Location referenced in (1) above.

9.2.12 Day-Ahead Demand Reduction Distribution Amount

Within each Participating Balancing Authority Area, the Day-Ahead Demand Reduction Distribution Amount is an hourly charge to Asset Owners at each Settlement Location to recover the sum of the demand reduction payments made under Attachment A, Section 9.2.11 ~~of this Attachment A~~ and is calculated as:

Day-Ahead Demand Reduction Distribution Amount =

(Day-Ahead Demand Reduction Distribution Rate) * (Day-Ahead Demand Reduction Distribution Quantity))

(1) The Day-Ahead Demand Reduction Distribution Rate is the sum of all demand reduction payments, within the applicable Participating Balancing Authority Area, for the hour multiplied by (-1), divided by the sum of all Asset Owners' Day-Ahead Demand Reduction Distribution Quantities for all Settlement Locations, within the applicable Participating Balancing Authority Area, for the hour.

(2) A Market Participant's Day-Ahead Balancing Authority Area Demand Reduction Distribution Quantity at a Settlement Location for an hour is equal to that Market Participant's cleared Energy withdrawals at that Settlement Location for that hour. A Market Participant's Energy withdrawal at a Settlement Location is calculated as the sum of cleared Demand Bids, cleared Self-Charging MSR Offers, Export Interchange Transaction Bids and Virtual Energy Bids at that Settlement Location.

9.2.13 Day-Ahead Congestion Rent Available for Allocation Amount

The Market Operator calculates the Congestion Rent on each binding transmission constraint for each hour in the Day-Ahead Market as follows:

1) The Congestion Rent Available for Allocation on each binding transmission constraint in each hour is calculated as follows:

Congestion Rent Available for Allocation =
(Hourly Transmission Constraint Shadow Price of that constraint)
* (Hourly Day-Ahead Market Flow).

a) Hourly Day-Ahead Transmission Constraint Shadow Price is calculated by the Day-Ahead Market solution and is defined in the Markets+ Tariff.

b) Hourly Day-Ahead Market Flow is the hourly flow quantity across that binding transmission constraint calculated by the Day-Ahead Market solution.

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9.2.14 Day-Ahead CRETSR Holder Congestion Rent Allocation Distribution Amount

The Market Operator distributes the Congestion Rent collected to each CRETSR Holder for each hour in the Day-Ahead Market as follows:

1) A CRETSR Holder's Total Congestion Rent Allocation in an hour is calculated as follows:

CRETSR Holder's Total Congestion Rent Allocation = the sum of that CRETSR Holder's Congestion Rent Allocations for all binding transmission constraints.

a) CRETSR Holder Congestion Rent Allocation = CRETSR Holder Congestion Rent Allocation Factor multiplied by the Congestion Rent Available for Allocation for that binding transmission constraint multiplied by (-1)

i. Congestion Rent Available for Allocation is the value calculated under Attachment A, Section 9.2.13(1) for that binding constraint.

b) If the total of all CRETSR Holders' positive MW impacts in the binding flow direction on that binding transmission constraint is greater than or equal to the hourly Day-Ahead Market flow on that binding transmission constraint,

Then

CRETSR Holder Congestion Rent Allocation Factor =

(CRETSR Holder's positive MW impact in the binding flow direction on that binding transmission constraint) / (Total of all CRETSR ~~TSR~~ Holders' positive MW impacts in the binding flow direction on the same binding transmission constraint).

c) If the total of all CRETSR Holders' positive MW impact in the binding flow direction on that binding transmission constraint is less than the hourly Day-

Ahead Market flow on that binding transmission constraint

Then

CRETSR Holder Congestion Rent Allocation Factor =

(CRETSR Holder's Positive MW Impact in the binding flow direction on that binding transmission constraint) / (Hourly Day-Ahead market flow on that binding transmission constraint).

d) CRETSR Holders' positive MW impact in the binding flow direction on the binding constraint =

(CRETSR Holder's [TSR] reserved MW quantity) * (Shift factor impact in the binding flow direction on the binding constraint, calculated as part of the Day-Ahead Market solution, for that CRETSR Holder's CRETSR).

i. For Firm Point-to-Point Transmission Service or Conditional Firm Point-To-Point Transmission Service TSR Holders, TSR Reserved MW quantity is equal to the Point-To-Point Service Distribution Cap for that CRETSR.

For NITS TSR Holders, TSR reserved MW quantity is equal to the MW amounts identified under Attachment A, Section 7.16(7)(b)(ii).

9.2.15 Day-Ahead Excess Congestion Rent Allocation Distribution Amount

For each hour in the Day-Ahead Market in which the Market Operator collects excess Congestion Rent, the Market Operator will distribute the excess Congestion Rent collected to the applicable Markets+ Transmission Service Providers for distribution to its transmission customers under each Markets+ Transmission Service Provider's respective OATT or other such governing documents, as follows:

1) A Markets+ Transmission Service Provider's Total Congestion Rent Allocation in an hour is calculated as follows:

Markets+ Transmission Service Provider's Total Congestion Rent Allocation = the sum of that Markets+ Transmission Service Provider's Congestion Rent Allocations for all binding transmission constraints associated with that Markets+ Transmission Service Provider, multiplied by (-1).

a) Markets+ Transmission Service Provider's Congestion Rent Allocation = Excess Congestion Rent for that binding transmission constraint associated with any excess capacity available to the market in that hour as determined in 9.2.15(1)(b). For elements of a constraint associated with more than one Markets+ Transmission Service Provider, the Market Operator will allocate the Excess Congestion Rent for the constraint based on the percentage of market available capacity associated with each Markets+ Transmission Service Provider.

b) Excess Congestion Rent = (Congestion Rent Available for Allocation in that hour) plus (the sum of all CRETSR Holder Congestion Rent Allocations for that binding constraint associated with the Markets+ Transmission Service Provider in that hour)

i. Congestion Rent Available for Allocation is equal to the value calculated under Attachment A, Section 9.2.13(1).

ii. CRETSR Holder Congestion Rent Allocation is equal to the value calculated under Attachment A, Section 9.2.14(1)(a).

9.2.16 Day-Ahead Must-Offer Penalty Charge Amount

A Day-Ahead Must Offer Penalty is a charge for each Market Participant that does not satisfy the must-offer obligation and is calculated for each Market Participant for each hour as follows:

A. Each Market Participant will satisfy the must-offer obligation by offering Resource capacity greater than or equal to the sum of that Market Participant's (1) load and (2) Flexibility Reserve Products obligations, adjusted by (3) obligations to supply to, or rights to receive from, the Resource Adequacy Program and adjusted by (4) net position for each Operating Hour based on the following criteria:

(1) A Market Participant's load for purposes of this section will be equal to the Market Participant's hourly load forecast as described in Attachment A, Section 7.5.

(2) A Market Participant's hourly Flexibility Reserve Products obligation will be equal to the sum of that Market Participant's Short-Term Flex Up and Mid-Term Flex Up obligations as estimated by the Market Operator in accordance with Attachment A, Section 7.4.

(3) A Market Participant's obligation to supply to or right to receive Energy from the Resource Adequacy Program is described in the Markets+ Protocols.

(4) A Market Participant's net position is forward purchases minus forward sales impacting an LRE's load obligation, as described in the Markets+ Protocols.

The Resource capacity for a Market Participant is reduced by the total Self-Charging MWs of all MSRs registered to that Market Participant for the Operating Hour.

B. Each Market Participant will satisfy the maximum must-offer obligation by offering Resource capacity greater than or equal to the Market Participant's (1) Resource Adequacy Program forward showing requirement during a binding season as defined by the Resource Adequacy Program, adjusted by (2) any obligations to further supply to or rights to receive Energy from the Resource Adequacy Program, adjusted by (3) net position, and adjusted for (4) Day-Ahead forecasted fleet performance based on the following criteria:

(1) A Market Participant's forward showing requirement is the quantity of capacity required to demonstrate adequacy for the Resource Adequacy Program for each Operating Day during a binding season.

(2) A Market Participant's obligation to supply or rights to receive Energy from the Resource Adequacy Program, is described in the Markets+ Protocols.

(3) A Market Participant's net position is forward purchases minus forward sales impacting an LRE's load obligation, as described in the Markets+ Protocols.

(4) A Market Participant's adjustment for forecasted day ahead fleet performance is the sum of any forced outages, unplanned unavailability and unplanned change of capacity of Resources registered to the Market Participant for the Operating Hour, and further described in the Markets+ Protocols.

C. To the extent that a Market Participant does not meet the conditions described in (A) or (B) above, the Market Participant will be deemed noncompliant with the must-offer obligation for that hour. The Market Operator will assess a penalty amount equal to the product of the shortfall capacity and the associated Day-Ahead Market LMP as described below.

(1) A Market Participant's shortfall capacity for an Operating Hour is equal to the lesser of the difference between the Resource capacity and Day-Ahead Market must-offer obligation, as described above in (A) and (B).

(2) The must-offer penalty LMP is calculated as the weighted average of the Day-Ahead LMP for the Market Participant's Resources in the Operating Hour with the shortfall. If a Market Participant has no registered Resources, then the ~~Markets+~~ Marginal Energy Component will be used. In no case will the penalty be less than $0.00.

(3) The Market Operator will distribute any collected penalties for an Operating Hour to Market Participants that are compliant with the Day-Ahead must-offer obligation for that Operating Hour, weighted by Resource capacity in excess of the must-offer obligation for the Operating Hour, as calculated in Attachment A, Section 9.2.17.

9.2.17 Day-Ahead Must Offer Penalty Distribution Amount

The Market Operator will distribute any collected penalties for an Operating Hour to Market

Participants that are compliant with the Day-Ahead must offer obligation for that Operating Hour, weighted by Resource capacity in excess of the must offer obligation for the Operating Hour.

(a) The Market Operator will distribute any collected penalty revenue for an Operating Hour ~~to~~ using the Revenue Neutrality Uplift allocation method, as described under Attachment A, Section 9.4, for any Operating Hour in which no Market Participant with a Resource capacity, as described above in Section 9.2.14 (A) and 9.2.14 (B), that exceeds the must offer obligation for the Operating Hour.

(b) A market wide total Must Offer Payment Amount = SUM of all Day-ahead Must Offer Penalty Amount from all market participants, as calculated in Attachment A, Section 9.2.16.

(c) A Market Participant's Must Offer Payment Ratio = Total Excess capacity amount of All A~~a~~sset O~~o~~wners under this market participant / SUM of all Excess capacity amount from all market participants

(d) A Market Participant's Must Offer Penalty Distribution Amount = A market wide total Must Offer Payment Amount * The Market Participant's Must Offer Payment Ratio

9.2.18 Day-Ahead Self-Incremental Energy Make Whole Payment Amount

The Day-Ahead self-committed incremental Energy make whole payment amount is a payment to a Market Participant when a Resource's Day-Ahead incremental eligible costs are greater than the eligible Day-Ahead incremental revenues received during those hours when the Resource cleared in Day-Ahead Market above the Resource's Minimum Economic Capacity Operating Limit. The make whole payment is equal to the difference between those incremental costs and revenues.

(1) Eligible costs and revenues for a Day-Ahead self-committed incremental Energy make whole payment are for Resources which cleared above their Day-Ahead Minimum Capacity Operating Limit and when Market Monitoring has not verified the Resource Offers associated with Attachment B, Section 3.4(K) prior to the approval of the Day-Ahead Market or the

Resource Offer exceeds the Energy Offer Hard Cap of $2,000.

(2) The Day-Ahead self-committed incremental Energy make whole payment cost is the Energy cost associated with cleared Resource Energy, including MSRs providing a market service, from the Resource Energy Offer as described under Attachment A, Section 2.1.1. This cost is calculated by multiplying the cleared Resource Energy by the cost of such Energy, determined from the Resource's applicable Energy Offer Curve.

The applicable Energy Offer Curve and applicable GHG cost associated with Internal GHG Resources and Specified Source Resources, as calculated by multiplying Day-Ahead Cleared GHG quantity by the Specified GHG Adder used to determine a Day-Ahead self-committed incremental market make whole payment amount for Energy above the Minimum Economic Capacity Operating Limit is the Day-Ahead Market Energy Offer Curve as verified by the Market Monitor.

(3) Day-Ahead self-committed incremental Energy make whole payment revenue is calculated as follows:

A Market Participant's Day-Ahead Market self-committed incremental Energy make whole payment revenue amount for each eligible Resource that is committed by the Market Operator as specified in Attachment A, Section 2.1 is equal to the sum of the Energy revenue associated with cleared Resource Energy for all eligible hours plus the sum of the revenues calculated under Attachment A, Sections 9.2.20 for that eligible Resource.

Energy revenue associated with cleared Resource Energy, including MSRs providing a market service, from Resource Energy Offers as described under Attachment A, Section 2.1.1, is calculated by multiplying Resource Energy above the Minimum Economic Capacity Operating Limit by the Day-Ahead LMP at that Resource Settlement Location._

9.2.19 Day-Ahead Combined Interest Resource Adjustment Amount

A charge or credit will be calculated at each Settlement Location for each Asset Owner with a Resource registered using Combined Interest Resource modeling, as defined in Attachment A, Section 6.2(3)(b), for each Operating Day. The charge or credit represents each Asset Owner's share of all Day-Ahead Market charges and credits associated with the Resource and will be calculated based on the Interest Percent Share for each Asset Owner's registered individual share.

9.2.20 Day-Ahead GHG Amount

A Day-Ahead GHG payment for Energy attributed to a GHG Pricing Zone will be calculated at each Settlement Location for each Asset Owner for each GHG Pricing Zone for each hour as follows:

Day-Ahead GHG Hourly Amount =

(Day-Ahead Marginal GHG Price) * (Day-Ahead Cleared GHG Hourly Quantity)

(a) Day-Ahead Marginal GHG Price associated with the GHG Pricing Zone.

(b) An Asset Owner's Day-Ahead Cleared GHG Hourly Quantity is the Energy MW quantity attributed to the GHG Pricing Zone from a Specified Source Resource, Unspecified Source Import, ~~or~~ an Internal GHG Resource, Import Interchange Transactions, or Virtual Energy Offers.

9.2.21 Day-Ahead GHG Distribution Amount

The Market Operator calculates the GHG distribution amount for each Asset Owner with GHG - Load within a GHG Pricing Zone for each hour in the Day-Ahead Market as follows:

The GHG distribution amount for each GHG Load within a GHG Pricing Zone in each hour is calculated as follows:

GHG distribution hourly amount =

(Total Day-Ahead Market GHG Payment Hourly Amount within a GHG Pricing Zone / Total Day-Ahead Market GHG Load Cleared Hourly MW Quantities within a GHG Pricing Zone)

* (GHG Load Cleared Hourly MW Quantities) * (-1).

a) Total Day-Ahead Market GHG Payment Hourly Amount -is the sum of all Day-Ahead Market GHG Payment Hourly Amounts as calculated in Attachment A, Section 9.2.20.

b) Total Day-Ahead Market GHG Load Cleared Hourly MW Quantities within a GHG Pricing Zone is the total of all GHG -Load's cleared Day-Ahead hourly Quantities adjusted for losses within that GHG Pricing Zone.

c) Asset Owner's GHG Load Cleared Hourly Amount is the cleared hourly MW quantities of the GHG Load within the GHG Pricing Zone.

9.3 Real-Time Balancing Market Settlements

Settlement calculations for the RTBM are performed on a Dispatch Interval basis for each Operating Day and are based upon the difference between the results of the RTBM and the Day-Ahead Market clearing for that Operating Day. To calculate RTBM actual Energy in a Dispatch Interval for Market Participants that have not directly submitted five (5) minute interval Meter Data, the Market Operator allocates the submitted hourly Meter Data for Resources and loads into five (5) minute values using five (5) minute telemetered or State Estimator profiles for the corresponding hour. The profiling of the hourly Meter Data maintains the shape of the five (5) minute telemetered or State Estimator values even if there are both positive and negative values contained within the twelve (12) intervals.

The following subsections describe the RTBM settlement charge types. For each charge type, the calculation is performed either at the Dispatch Interval level or hourly level for each Asset Owner at each Settlement Location. The Market Operator will calculate hourly summations for each Market Participant for all Asset Owners it represents and will calculate daily summations.

9.3.1 Real-Time Energy Amount

An RTBM payment or charge for Energy is calculated at each Settlement Location for each Asset Owner for each Dispatch Interval and hour as follows:

(1) For Energy associated with loads, and Self-Charging MSRs:

(a) Real-Time Asset Energy Dispatch Interval Amount =

Real-Time LMP * [[((Real-Time Load Billing Meter Quantity) – (Day-Ahead Cleared Load Energy Quantity)) – (Real-Time Asset Energy Markets+ Internal Energy Schedule Settlement Adjustments)] / 12] * (Real-Time Loss Adjustment Factor)

(i) Real-Time LMP associated with that load, Self-Charging MSR, or station power from offline generation Settlement Location.

(ii) A Market Participant's Real-Time Load Billing Meter Quantity at that Settlement Location is the aggregation of (i) the five (5) minute Meter Data Submittal Location values submitted by the Meter Agent to the Market Operator, multiplied by twelve (12) or the aggregation of (ii) the hourly Meter Data Submittal Location values profiled into five (5) minute increments by the Market Operator if the Market Participant elects to submit hourly Meter Data. The Market Operator will make any necessary adjustments to the submitted Meter Data Submittal Location values.

(iii) A Market Participant's Day-Ahead Cleared Load Energy Quantity is the MW quantity associated with cleared Demand Bids and cleared Self-Charging MSR Offers at that Settlement Location.

(iv) A Market Participant's Real-Time Asset Energy Markets+ Internal Energy Schedule Settlement Adjustments are those Markets+ Internal Energy Schedule Settlement Adjustments that settle at that load Settlement Location as submitted

in accordance with Attachment A, Section 9.1.2.

(v) An Asset Owner's Real-Time Loss Adjustment Factor as determined from the Network Model used for the RTBM execution.

(b) Real-Time Asset Energy Hourly Amount =

Sum of Real-Time Asset Energy Dispatch Interval Amount over all Dispatch Intervals in the Hour.

(2) For Energy associated with Resources:

(a) Real-Time Energy Dispatch Interval Amount =

Real-Time LMP * [((Real-Time Resource Billing Meter Quantity) – (Day-Ahead Cleared Resource Energy Hourly Quantity)) – (Real-Time Asset Energy Markets+ Internal Energy Schedule Settlement Adjustments)] / 12

(i) Real-Time LMP associated with that Resource Settlement Location.

(ii) An Asset Owner's Real-Time Resource Billing Meter Quantity at that Resource Settlement Location, excluding Self-Charging MSRs is (i) the five (5) minute actual meter MWh Resource output quantity submitted by the Meter Agent to the Market Operator, multiplied by twelve (12) or (ii) the hourly actual meter MWh Resource injection or withdrawal quantity profiled into five (5) minute increments by the Market Operator using the method described under Attachment A, Section 9.3 if the Asset Owner elects to submit hourly Meter Data.

(iii) An Asset Owner's Day-Ahead Cleared Resource Energy Hourly Quantity is the MW quantity associated with cleared Resource Offers excluding Self-Charging MSRs at that Resource Settlement Location as described under Attachment A, Section 2.1.3.

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(iv) An Asset Owner's Real-Time Asset Energy Markets+ Internal Energy Schedule Settlement Adjustments are those Markets+ Internal Energy Schedule Settlement Adjustments that settle at that Resource Settlement Location as submitted in accordance with Attachment A, Section 9.1.2.

(b) Real-Time Energy Hourly Amount =

Sum of Real-Time Energy Dispatch Interval Amount over all Dispatch Intervals in the Hour.

(3) For Energy associated with Interchange Transactions:

(a) Real-Time Non-Asset Energy Dispatch Interval Amount =

Real-Time LMP * ((Real-Time Import Energy Quantity) – (Day-Ahead Import Energy Quantity)) / 12

(i) Real-Time LMP associated with the applicable External Interface Settlement Location.

(ii) A Market Participant's Real-Time Import Energy Quantity is the five (5) minute Dispatch Interval MW quantity scheduled for use in the RTBM, adjusted for curtailments, at that External Interface Settlement Location.

(iii) A Market Participant's Day-Ahead Import Energy Quantity is the five (5) minute Dispatch Interval MW quantity calculated by the Market Operator for each Dispatch Interval by multiplying the scheduled MW in the Dispatch Interval by the ratio of (a) hourly scheduled amount for use in the Day-Ahead Market and (b) the MW amount of cleared Import Interchange Transaction Offers as described under Attachment A, Section 2.1.3, at that External Interface Settlement Location.

(4) For Energy associated with Export Interchange Transactions:

(a) Real-Time Non-Asset Energy Dispatch Interval Amount =

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[Real-Time LMP * ((Real-Time Export Energy Quantity) – (Day-Ahead Export Energy Quantity)) / 12] * (Real-Time Loss Adjustment Factor)

(i) Real-Time LMP associated with the applicable External Interface Settlement Location.

(ii) A Market Participant's Real-Time Export Energy Quantity is the five (5) minute Dispatch Interval MW quantity scheduled for use in the RTBM, adjusted for curtailments, at that External Interface Settlement Location.

(iii) A Market Participant's Day-Ahead Export Energy Quantity is the five (5) minute Dispatch Interval MW quantity calculated by the Market Operator for each Dispatch Interval by multiplying the scheduled MW in the Dispatch Interval by the ratio of (a) hourly scheduled amount for use in the Day-Ahead Market and (b) the MW amount of cleared Export Interchange Transaction Bids, as described under Attachment A, Section 2.1.3, at that External Interface Settlement Location.

(iv) An Asset Owner's Real-Time Loss Adjustment Factor as determined from the Network Model used for the RTBM execution.

(b) Real-Time Non-Asset Energy Hourly Amount =

Sum of Real-Time Non-Asset Energy Dispatch Interval Amount over all Dispatch Intervals in the Hour.

(5) For Energy associated with remaining Markets+ Internal Energy Schedule Settlement Amount:

Real-Time Non-Asset Energy Hourly Amount =

(Real-Ahead LMP) * [(Real-Time Non-Asset Energy Markets+ Internal Energy Schedule Settlement Amount for Energy) * (-1)]

(a) Real-Time LMP, as defined under Attachment A, Section 1, associated with

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the applicable Settlement Location.

(b) An Asset Owner's Real-Time Non-Asset Energy Hourly Markets+ Internal Energy Schedule Settlement Amount for Energy are those Markets+ Internal Energy Schedule Settlement Amount that settle at Settlement Locations other than External Interface Settlement Locations, that Asset Owner's load Settlement Locations or that Asset Owner's Resource Settlement Locations, as submitted in accordance with Attachment A, Section 9.1.2.

(6) For Energy associated with Day-Ahead Market cleared Virtual Energy Bids:

Real-Time Virtual Energy Dispatch Interval Amount =

[[(Real-Time LMP) * ((Day-Ahead Cleared Virtual Energy Bid Hourly Quantity) / 12)] * (-1)] * (Real-Time Loss Adjustment Factor)

(a) Real-Time LMP associated with the applicable Settlement Location.

(b) A Market Participant's Day-Ahead Cleared Virtual Energy Bid Hourly Quantity is the MW quantity associated with cleared Virtual Energy Bids as described under Attachment A, Section 2.1.3 at that Settlement Location.

(c) An Asset Owner's Real-Time Loss Adjustment Factor as determined from the Network Model used for the RTBM execution.

(7) For Energy associated with Day-Ahead Market cleared Virtual Energy Offers:

Real-Time Virtual Energy Dispatch Interval Amount =

[(Real-Time LMP) * ((Day-Ahead Cleared Virtual Energy Offer Hourly Quantity) / 12)] * (-1)

(a) Real-Time LMP associated with the applicable Settlement Location.

(b) A Market Participant's Day-Ahead Cleared Virtual Energy Offer Hourly Quantity is the MW quantity associated with cleared Virtual Energy Offers as described under Attachment A, Section 2.1.3 at that Settlement Location.

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9.3.1.1 Billable Metered Load

To calculate Billable Metered Load, the Market Operator will make any necessary adjustments to the Reported Load values as follows:

(1) The sum of the Meter Data Submittal Location values within a Settlement Area must equal zero (0). To the extent that the Market Operator observes a difference, the Market Operator will adjust each Market Participant's Reported Load within the Settlement Area on a pro rata basis such that the sum of adjustments to the Reported Load values within the Settlement Area is equal to the Residual Load.

(2) To the extent that the Reported Load is associated with a Meter Data Submittal Location that includes a Demand Response Load, the Market Operator will adjust such Meter Data Submittal Location values by adding all associated calculated or submitted Dispatchable Demand Response Resource output to such Reported Load, where the calculated Dispatchable Demand Response Resource output is as described under Attachment A, Section 4.2.1(1)(b) ~~of this Attachment A~~.

~~(3) To ensure appropriate loss accounting in the Markets+ sSettlement calculations, the Market Operator will reduce each load Settlement Location's Billable Metered Load value by applying a loss adjustment factor. This factor will be determined by the Market Operator using the Network Model.~~

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9.3.2 Real-Time Base Obligation Short-Term Flex Up Amount

An RTBM payment or charge for deviations between cleared Real-Time Base Obligation Short-Term Flex Up and cleared Day-Ahead Market Short-Term Flex Up will be calculated at each Settlement Location by Asset Owner for each Dispatch Interval and hour. The Real-Time Base Obligation Short-Term Flex Up Amount is calculated using RTBM cleared Short-Term Flex Up amounts based on the market-wide Day-Ahead Market Short-Term Flex Up requirements. Incremental clearing of RTBM Short-Term Flex Up caused by an increase in the Short-Term Flex Up requirement between the Day-Ahead Market and RTBM are accounted for separately under Attachment A, Section 9.3.3. The calculations are performed as follows:

(a) Real-Time Base Obligation Short-Term Flex Up Dispatch Interval Amount = [(Real-Time MCP) * ((Real-Time Base Obligation Short-Term Flex Up Dispatch Interval Quantity) – (Day-Ahead cleared Short-Term Flex Up Hourly Quantity)) / 12] * (-1)

(i) Real-Time MCP, as defined under Attachment A, Section 3.4, for Short-Term Flex Up associated with the Reserve Zone in which the applicable Resource is located.

(ii) Asset Owner's Real-Time Base Obligation Short-Term Flex Up Dispatch Interval Quantity =

(Day-Ahead Market market-wide Short-Term Flex Up requirement) / RTBM Short-Term Flex Up requirement)

* Asset Owner's Real-Time Short-Term Flex Up Dispatch Interval Quantity.

(iii) Day-Ahead Market market-wide Short-Term Flex Up requirement and Real-Time Short-Term Flex Up requirement are the values set by the Market Operator as described under Attachment A, Section 7.4.

(iv) Asset Owner Real-Time Short-Term Flex Up Dispatch Interval Quantity is the MW quantity associated with cleared Day-Ahead Market Short-Term Flex Up as described under Attachment A, Section 2.3.1.3.

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(v) Asset Owner Day-Ahead Cleared Short-Term Flex Up Hourly Quantity is the MW quantity associated with cleared Day-Ahead Market Short-Term Flex Up as described under Attachment A, Section 2.1.3.

(b) Real-Time Base Obligation Short-Term Flex Up Hourly Amount =
Sum of Real-Time Base Obligation Short-Term Flex Up Dispatch Interval Amount over all Dispatch Intervals in the Hour.

9.3.3 Real-Time Increased Obligation Short-Term Flex Up Amount

An RTBM payment or charge for cleared Real-Time Increased Short-Term Flex Up will be calculated at each Settlement Location by Asset Owner for each Dispatch Interval and summed for each hour. The cleared Real-Time Increased Short-Term Flex Up is equal to the incremental clearing of Real-Time Short-Term Flex Up caused by an increase in the Short-Term Flex Up requirement between the Day-Ahead Market and RTBM. The calculations are performed as follows:

(a) Real-Time Increased Obligation Short-Term Flex Up Dispatch Interval Amount = (Real-Time MCP) * (Real-Time Increased Obligation Short-Term Flex Up Dispatch Interval Quantity) * (-1)

(i) Real-Time MCP, as defined in Attachment A, Section 3.4, for Short-Term Flex Up associated with the Reserve Zone in which the applicable Resource is located.

(ii) Asset Owner's Real-Time Increased Obligation Short-Term Flex Up Dispatch Interval Quantity =

Asset Owner's Real-Time Short-Term Flex Up Dispatch Interval Quantity, (as described in Attachment A, Section 2.3.1.3).

minus

Asset Owner's Real-Time Base Obligation Short-Term Flex Up

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Dispatch Interval Quantity.

(iii) Asset Owner's Real-Time Base Obligation Short-Term Flex Up Dispatch Interval Quantity is the value calculated under Attachment A, Section 9.3.2.

(b) Real-Time Increased Obligation Short-Term Flex Up Hourly Amount = Sum of Real-Time Increased Obligation Short-Term Flex Up Dispatch Interval Amount over all Dispatch Intervals in the hour.

9.3.4 Real-Time Short-Term Flex Down Amount

An RTBM payment or charge for deviations between cleared RTBM Short-Term Down Flexibility Reserve Product and cleared Day-Ahead Market Short-Term Down Flexibility Reserve Product will be calculated at each Settlement Location by Asset Owner for each Dispatch Interval and each hour as follows:

(a) Real-Time Short-Term Down Flexibility Reserve Product Dispatch Interval Amount = [(Real-Time MCP) * ((Real-Time Cleared Short-Term Down Flexibility Reserve Product Dispatch Interval Quantity) – (Day-Ahead Short-Term Down Flexibility Reserve Product Hourly Quantity)) / 12] * (-1)

(i) Real-Time MCP, as defined under Attachment A, Section 3.4, for Short-Term Down Flexibility Reserve Product associated with the Reserve Zone in which the applicable Resource is located.

(ii) Asset Owner Real-Time Cleared Short-Term Down Flexibility Reserve_ Product Dispatch Interval Quantity is the MW quantity associated with cleared Short-Term Down Flexibility Reserve Product as described under Attachment A, Section 2.3.1.3.

(iii) Asset Owner Day-Ahead Cleared Short-Term Down Flexibility Reserve_ Product Hourly Quantity is the MW quantity associated with cleared Day-Ahead Market Short-Term Down Flexibility Reserve Product as described

under Attachment A, Section 2.1.3.

(b) Real-Time Short-Term Down Flexibility Reserve Product Hourly Amount = Sum of Real-Time Short-Term Down Flexibility Reserve Product Dispatch Interval Amount over all Dispatch Intervals in the Hour.

9.3.5 Real-Time Base Obligation Mid-Term Flex Up Amount

An RTBM payment or charge for deviations between cleared Real-Time Base Obligation Mid-Term Flex Up and cleared Day-Ahead Market Mid-Term Flex Up will be calculated at each Settlement Location by Asset Owner for each Dispatch Interval and hour. The Real-Time Base Obligation Mid-Term Flex Up Amount is calculated using RTBM cleared Mid-Term Flex Up amounts based on the marketsystem-wide Day-Ahead Market Mid-Term Flex Up requirements. Incremental clearing of RTBM Mid-Term Flex Up caused by an increase in the Mid-Term Flex Up requirement between the Day-Ahead Market and RTBM are accounted for separately under Attachment A, Section 9.3.5. The calculations are performed as follows:

(a) Real-Time Base Obligation Mid-Term Flex Up Dispatch Interval Amount = [(Real-Time MCP) * ((Real-Time Base Obligation Mid-Term Flex Up Dispatch Interval Quantity) – (Day-Ahead cleared Mid-Term Flex Up Hourly Quantity)) / 12] * (-1)

(i) Real-Time MCP, as defined under Attachment A, Section 3.4, for Mid-Term Flex Up associated with the Reserve Zone in which the applicable Resource is located.

(ii) Asset Owner's Real-Time Base Obligation Mid-Term Flex Up Dispatch Interval Quantity =

(Day-Ahead Market marketsystem-wide Mid-Term Flex Up requirement) / RTBM Mid-Term marketsystem-wide Flex Up requirement)

* Asset Owner's Real-Time Mid-Term Flex Up Dispatch Interval Quantity.

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(iii) Day-Ahead Market market~~system~~-wide Mid-Term Flex Up requirement and Real-Time Mid-Term Flex Up requirement are the values set by the Market Operator as described under Attachment A, Section 7.4.

(iv) Asset Owner Real-Time Mid-Term Flex Up Dispatch Interval Quantity is the MW quantity associated with cleared Day-Ahead Market Mid-Term Flex Up as described under Attachment A, Section 2.3.1.3.

(v) Asset Owner Day-Ahead Cleared Mid-Term Flex Up Hourly Quantity is the MW quantity associated with cleared Day-Ahead Market Mid-Term Flex Up as described under Attachment A, Section 2.1.3.

(b) Real-Time Base Obligation Mid-Term Flex Up Hourly Amount =
Sum of Real-Time Base Obligation Mid-Term Flex Up Dispatch Interval Amount over all Dispatch Intervals in the Hour.

9.3.6 Real-Time Increased Obligation Mid-Term Flex Up Amount

An RTBM payment or charge for cleared Real-Time Increased Obligation Mid-Term Flex Up will be calculated at each Settlement Location by Asset Owner for each Dispatch Interval and summed for each hour. The cleared Real-Time Increased Mid-Term Flex Up is equal to the incremental clearing of Real-Time Mid-Term Flex Up caused by an increase in the Short-Term Flex Up requirement between the Day-Ahead Market and RTBM. The calculations are performed as follows:

(a) Real-Time Increased Obligation Mid-Term Flex Up Dispatch Interval Amount =
(Real-Time MCP) * (Real-Time Increased Obligation Mid-Term Flex Up Dispatch Interval Quantity) * (-1)

(i) Real-Time MCP, as defined under Attachment A, Section 3.4, for Short-Term Flex Up associated with the Reserve Zone in which the applicable Resource is located.

(ii) Asset Owner's Real-Time Increased Obligation Mid-Term Flex Up Dispatch Interval Quantity =

Asset Owner's Real-Time Mid-Term Flex Up Dispatch Interval Quantity (as described under Attachment A, Section 2.3.1.3).

minus

Asset Owner's Real-Time Base Obligation Mid-Term Flex Up Dispatch Interval Quantity.

(iii) Asset Owner's Real-Time Base Obligation Mid-Term Flex Up Dispatch Interval Quantity is the value calculated under Attachment A, Section 9.3.4.

(b) Real-Time Increased Obligation Mid-Term Flex Up Hourly Amount =

Sum of Real-Time Increased Obligation Mid-Term Flex Up Dispatch Interval Amount over all Dispatch Intervals in the hour.

9.3.7 Real-Time Base Obligation Short-Term Flex Up Distribution Amount

An RTBM charge will be calculated within each Participating Balancing Authority Area for each Asset Owner at each Settlement Location for each hour for the purposes of funding the payments made under Attachment A, Section 9.3.2(b) as follows:

Real-Time Base Obligation Short-Term Flex Up Distribution Amount =

[(Real-Time Base Obligation Short-Term Flex Up Amount) * (Real-Time Load Ratio Share)] * (-1)

(a) The Real-Time Short-Term Flex Up Amount will be equal to the sum of all the payments within each Balancing Authority Area made under Attachment A, Section 9.3.2(b) for the hour.

(b) Real-Time Load Ratio Share is as defined under Section 1~~, of this Markets+ Tariff.~~

9.3.8 Real-Time Increased Obligation Short-Term Flex Up Distribution Amount

An RTBM charge will be calculated for each Asset Owner with Uncommitted Import Interchange

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Transactions at each External Interface Settlement Location for each hour for the purposes of funding the payments made under Attachment A, Section 9.3.3(b) as follows:

Real-Time Increased Obligation Short-Term Flex Up Distribution Amount =
[(Real-Time Increased Obligation Short-Term Flex Up Amount) * (Uncommitted Import Interchange Transaction Ratio Share)] * (-1)

(a) The Real-Time Increased Obligation Short-Term Flex Up Amount will be equal to the sum of all the payments within each Participating Balancing Authority Area made under Attachment A, Section 9.3.3(b) for the hour.

(b) Uncommitted Import Interchange Transaction Ratio Share is equal to an Asset Owner's Uncommitted Import Interchange Transaction MW at an External Interface Settlement Location divided by the sum of all Asset Owners' Uncommitted Import Interchange Transaction MWs at all External Interface Settlement Locations for the hour.

9.3.9 Real-Time Short-Term Flex Down Distribution Amount

An RTBM charge will be calculated within each Balancing Authority Area by Asset Owner at each Settlement Location for each hour for the purposes of funding the payments made under Attachment A, Section 9.3.4(b) as follows:

Real-Time Short-Term Down Flexibility Reserve Product Distribution Amount =
[(Real-Time Short-Term Down Flexibility Reserve Product Amount) * (Real-Time Load Ratio Share)] * (-1)

(a) The Real-Time Short-Term Down Flexibility Reserve Product Amount will be equal to the sum of all payments made within each Balancing Authority Area under Attachment A, Section 9.3.4(b) for Short-Term Down Flexibility Reserve Product procurement for the hour.

(b) Real-Time Load Ratio Share is as defined under Section 1~~1 of this Markets+ Tariff~~.

9.3.10 Real-Time Base Obligation Mid-Term Flex Up Distribution Amount

An RTBM charge will be calculated within each Balancing Authority Area for each Asset Owner at each Settlement Location for each hour for the purposes of funding the payments made under Attachment A, Section 9.3.5(b) as follows:

Real-Time Base Obligation Mid-Term Up Flexibility Reserve Product Distribution Amount = [(Real-Time Base Obligation Mid-Term Up Flexibility Reserve Product Amount) * (Real-Time Load Ratio Share)] * (-1)

(a) The Real-Time Base Obligation Mid-Term Flex Up Amount will be equal to the sum of all the payments within each Balancing Authority Area made under Attachment A, Section 9.3.5(b), for the hour.

(b) Real-Time Load Ratio Share is as defined under Section 1 ~~of this Markets+ Tariff~~.

9.3.11 Real-Time Increased Obligation Mid-Term Flex Up Distribution Amount

An RTBM charge will be calculated for each Asset Owner with Uncommitted Import Interchange Transactions at each External Interface Settlement Location for each hour for the purposes of funding the payments made under Attachment A, Section 9.3.6(b) as follows:

Real-Time Increased Obligation Mid-Term Flex Up Distribution Amount = [(Real-Time Increased Obligation Mid-Term Flex Up Amount) * (Uncommitted Import Interchange Transaction Ratio Share)] * (-1)

(a) The Real-Time Increased Obligation Mid-Term Flex Up Amount will be equal to the sum of all the payments within each Balancing Authority Area made under Attachment A, Section 9.3.6(b) for the hour.

(b) Uncommitted Import Interchange Transaction Ratio Share is equal to an Asset Owner's Uncommitted Import Interchange Transaction MW at an External Interface Settlement Location divided by the sum of all Asset Owners' Uncommitted Import Interchange Transaction MWs at all External Interface Settlement Locations for the hour.

9.3.12 Real-Time Short-Term Flexibility Reserve Products Non-Performance Amount

An RTBM charge will be calculated at each Resource Settlement Location within each Balancing Authority Area for each Asset Owner for each Dispatch Interval when a Resource with cleared RTBM Short-Term Flex Up, Short-Term Flex Down or both operates outside of its Operating Tolerance. The amount will be determined as follows:

Real-Time Short-Term Flexibility Reserve Products Non-Performance Amount =
[[{Maximum of [Either Zero or ((Day-Ahead MCP for Short-Term Flex Up) * (Day-Ahead Cleared Short-Term Flex Up Hourly Quantity) + (Real-Time MCP for Short-Term Flex Up) * (Real-Time Cleared Short-Term Flex Up Dispatch Interval Quantity – Day-Ahead Cleared Short-Term Flex Up Reserve Hourly Quantity))]} + {Maximum of [Either Zero or ((Day-Ahead MCP for Short-Term Flex Down) * (Day-Ahead Cleared Short-Term Flex Flexibility Reserve Hourly Quantity) + (Real-Time MCP for Short-Term Flex Down) * (Real-Time Cleared Short-Term Flex Down Dispatch Interval Quantity – Day-Ahead Cleared Short-Term Flex Down Hourly Quantity))]}] / 12]

(1) Day-Ahead MCP, as defined under Attachment A, Section 3.4, for Short-Term Flex Up associated with the Reserve Zone in which the applicable Resource is located.

(2) Day-Ahead MCP, as defined under Attachment A, Section 3.4, for Short-Term Flex Down associated with the Reserve Zone in which the applicable Resource is located.

(3) Real-Time MCP, as defined under Attachment A, Section 3.4, for Short-Term Flex Up associated with the Reserve Zone in which the applicable Resource is located.

(4) Real-Time MCP, as defined under Attachment A, Section 3.4, for Short-Term Flex Down associated with the Reserve Zone in which the applicable Resource is located.

(5) An Asset Owner's Day-Ahead Cleared Short-Term Flex Up Hourly Quantity is the MW quantity associated with cleared Short-Term Flex Up as described under Attachment A, Section 2.1.3.

(6) An Asset Owner's Day-Ahead Cleared Short-Term Flex Down Hourly Quantity is the MW quantity associated with cleared Short-Term Flex Down as described under Attachment A, Section 2.1.3.

(7) An Asset Owner's Real-Time Cleared Short-Term Flex Up Dispatch Interval Quantity is the MW quantity associated with cleared Short-Term Flex Up as described under Attachment A, Section 2.3.1.3.

(8) An Asset Owner's Real-Time Cleared Short-Term Flex Down Dispatch Interval Quantity is the MW quantity associated with cleared Short-Term Flex Down as described under Attachment A, Section 2.3.1.3.

9.3.13 Real-Time Short-Term Flexibility Reserve Products Non-Performance Distribution Amount

An RTBM payment will be calculated within each Participating Balancing Authority Area for each Asset Owner at each Settlement Location for each hour in order to distribute the funds collected under Attachment A, Section 9.3.12. The Asset Owner amount is calculated as follows:

Real-Time Short-Term Flexibility Reserve Products Non-Performance Distribution Amount = [(Real-Time Short-Term Flexibility Reserve Products Non-Performance Amount) * (Real-Time Load Ratio Share)] * (-1)

(1) The Real-Time Short-term Flexibility Reserve Products Non-Performance Amount within each Balancing Authority Area will be equal to the sum of all charges made under Attachment A, Section 9.3.12 for each hour within each Participating Balancing Authority Area.

(2) Real-Time Load Ratio Share is as defined under Section 1~~1 of this Markets+ Tariff~~.

9.3.14 Real-Time Mid-Term Flex Up Non-Performance Amount

An RTBM payment or charge will be calculated within each Participating Balancing Authority Area at each Resource Settlement Location for each Asset Owner for each Dispatch Interval when a Resource with cleared RTBM Mid-Term Flex Up does not operate in a responsive manner.

When a Resource with cleared online Mid-Term Flex Up in the current Dispatch Interval is not dispatchable in one or more of the subsequent Dispatch Intervals within the Mid-Term Flex Up response time following the current Dispatch Interval, except when issued an OOME or decommitted by a Markets+ Transmission Service Provider, Participating Balancing Authority, or Reliability Coordinator, which prevents the Resource from being as seen as dispatchable, the amount will be determined as follows:

Real-Time Mid-Term Flex Up Non-Performance Amount =
Real-Time Mid-Term Flex Up Non-Performance Ratio * [[{Maximum of [Either Zero or ((Day-Ahead MCP for Mid-Term Flex Up) * (Day-Ahead Cleared Mid-Term Flex Up Hourly Quantity) + (Real-Time MCP for Mid-Term Flex Up) * (Real-Time Cleared Mid-Term Flex Up Dispatch Interval Quantity – Day-Ahead Cleared Mid-Term Flex Up Hourly Quantity))]}/ 12].

(1) Real-Time Mid-Term Flex Up Non-Performance Ratio is the portion of non-dispatchable intervals in the subsequent Dispatch Intervals within the Mid-Term Flex Up response time.

(2) Day-Ahead MCP, as defined under Attachment A, Section 3.4, for Mid-Term Flex Up associated with the Reserve Zone in which the applicable Resource is located.

(3) Real-Time MCP, as defined under Attachment A, Section 3.4, for Mid-Term Flex Up associated with the Reserve Zone in which the applicable Resource is located.

(4) An Asset Owner's Day-Ahead Cleared Mid-Term Flex Up Hourly Quantity is the MW quantity associated with cleared Mid-Term Flex Up as described under Attachment A, Section 2.1.3.

(5) An Asset Owner's Real-Time Cleared Mid-Term Flex Up Dispatch Interval Quantity is the MW quantity associated with cleared Mid-Term Flex Up as described under Attachment A, Section 2.3.1.3.

When a Resource with cleared offline Mid-Term Flex Up fails to start when called on, the amount will be determined as follows in each interval:

Real-Time Mid-Term Flex Up Non-Performance Amount =

[If the Resource failed to start and was ineligible to recover start-up cost associated with an offline Mid-Term Flex Up commitment, then the startup cost is distributed equally over the larger of the Minimum Run Time or the Mid-Term Flex Up response time during a single Operating Day of the eligibility period + [if the Resource was offline in a committed interval in which it was not eligible to recover no-load and Energy at minimum costs due to being associated with an offline Mid-Term Flex Up commitment, the as-committed No-Load Offer + as-committed Energy Offer Curve at minimum cost)/12].

9.3.15 Real-Time Mid-Term Flex Up Non-Performance Distribution Amount

An RTBM payment or charge will be calculated within each Participating Balancing Authority Area for each Asset Owner at each Settlement Location for each hour in order to distribute the funds collected under Attachment A, Section 9.3.14. The Asset Owner amount is calculated as follows:

Real-Time Mid-Term Flex Up Non-Performance Distribution Amount =

[(Real-Time Mid-Term Flex Up Non-Performance Amount) * (Real-Time Load Ratio Share)] * (-1)

(1) The Real-Time Mid-Term Flex Up Non-Performance Amount within each Participating Balancing Authority Area will be equal to the sum of all charges made under Attachment A, Section 9.3.14 for each hour for that Participating Balancing Authority Area.

(2) Real-Time Load Ratio Share is as defined under Section 1.1 ~~of this Markets+ Tariff.~~

9.3.16 Reliability Unit Commitment Make Whole Payment Amount

(1) For each Markets+ Participating Balancing Authority Area, Asset Owners of Resources committed by the Market Operator during the RUC processes as defined in Attachment A, Sections 4.1(7)(a) and 4.1(7)(c), are eligible to receive a RUC make whole payment. If the Market Monitor determines Resources committed in an RMR status were selected in a discriminatory manner by the Markets+ Transmission Service Provider, Participating Balancing Authority, or Reliability Coordinator, as described under Attachment A, Section– 2.3.1.4.1, then such Resources are not eligible to receive a RUC make whole payment. A RUC make whole payment is made to the Asset Owner when the sum of a Resource's costs associated with actual Energy and cleared RTBM Flexibility Reserve Products is greater than the RTBM revenues received over the Resource's RUC make whole payment eligibility period. Recovery of such compensation will be collected in accordance with Attachment A, Section 9.3.17.

(2) A Resource's RUC make whole payment eligibility period is equal to the set of a Resource's contiguous RUC Commitment Periods and adjacent Day-Ahead Market Ceommitment Pp~~p~~eriods except:

(a) For Resources with a set of contiguous Day-Ahead and RUC Commitment Periods that continue from one Operating Day to the next Operating Day, a RUC make whole payment eligibility period is created for each Operating Day in which there is a RUC commitment. A RUC make whole payment eligibility period is created for each Operating Day with a RUC commitment. The start of a RUC make whole payment eligibility period is the later of (1) beginning of the Operating Day or (2) the beginning of the set of contiguous Day-Ahead Market and RUC commitments. The end of a RUC

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make whole payment eligibility period is the earlier of (1) the end of the set of contiguous Day-Ahead Market and RUC commitments or (2) the end of the Operating Day; or

(b) For an MCR that cleared in the Day-Ahead Market and was transitioned to a different configuration in real-time by the Market Operator, the costs in the intervals preceding the RUC commitment for the purpose of buying back Flexibility Reserve Products while the Resource transitions to the RUC committed configuration, as defined by the Transition State Time submitted in the Resource Offer, are included in the RUC make whole payment calculation.

(3) The following cost recovery rules apply to each RUC make whole payment eligibility period. Resource production costs are calculated using the RTBM Offer prices in effect at the time the commitment decision was made for start-up, transitions, no-load, and minimum-_Eenergy; and the RTBM Offer price in effect at the solving of a _Ddispatch _Iinterval for the Energy above minimum _Eenergy and Flexibility Reserve Products.

(a) If a Market Commitment is canceled by a Markets+ Transmission Service Provider, Balancing Authority, or Reliability Coordinator prior to the start of the associated RUC make whole payment eligibility period, the Asset Owner will receive reimbursement for a time-based pro-rata share of the Resource's RTBM Start-Up Offer unless precluded by Attachment A, Section 9.3.16(3)(e)(i).

(b) In order to receive the full amount of Start-Up Offer recovery within a RUC make whole payment eligibility period, the Resource must be a Synchronized Resource in at least one Dispatch Interval in the RUC make whole payment eligibility period.

(c) In order to receive recovery of No-Load Offer costs in any Dispatch Interval in the RUC make whole payment eligibility period, the Resource must be a Synchronized Resource in that Dispatch Interval.

(d) There may be more than one RUC make whole payment eligibility period for a Resource in a single Operating Day. A single RUC make whole payment eligibility period is contained within a single Operating Day.

(e) A Resource's RUC commitment level offer costs include Start-Up Offer cost and Transition State Offer cost for a RUC make whole payment eligibility period in which that Resource is committed with a RTBM Resource Offer commitment status as defined under Attachment A, Section 4.1(7)(a) or (c). The commitment level cost eligible for recovery is calculated by subtracting: (1) all Start-Up Offer cost and Transition State Offer cost associated with the schedule created by combining all Day-Ahead Market ~~commitments~~ Commitments with a Day-Ahead Market Resource Offer commitment status as defined under Attachment A, Section 4.1(7)(a) or (c)contained within a RUC make whole payment eligibility period and all RUC commitments that are associated with a RTBM Resource Offer commitment status as defined under Attachment A, Section 4.1(7)(a) or (c)within a RUC make whole payment eligibility period; from (2) all eligible commitment level offer costs associated with the final Resource schedule in a RUC make whole payment eligibility period. The resulting difference can represent a charge or a payment and is considered as an adjustment when determining a RUC make whole payment.

(i) Except for an MCR that is committed by RUC in a different configuration than in the Day-Ahead Market, when a RUC make whole payment eligibility period is created after a Day-Ahead make whole payment eligibility period and is adjacent and preceding that Day-Ahead make whole payment eligibility period where the Day-Ahead Start-Up Offer Amount defined in Attachment A, Section 9.2.10(3)(b)(i)was considered, the Day-Ahead Start-up Offer Amount is used in place of the RUC ~~Start~~start-up costs.

(ii) In any RUC make whole payment eligibility period for which the Simultaneous Co-optimization Methodology did not consider the Resource's Start-Up Offer in the original commitment decision, except for commitments made as described under Attachment A, Sections 2.2.2(3) the Resource's Start-Up Offer will equal zero.

(iii) A Resource's RTBM ~~Start~~start-~~Up~~ up costs are not eligible for recovery in the

following RUC make whole payment eligibility periods:

Any RUC make whole payment eligibility period for which a Resource is a Synchronized Resource prior to this commitment period at a time one (1) hour prior to that Resource's RUC Commit Time in addition to the Resource's Sync-To-Min Time unless the RUC make whole payment eligibility period is following a Day-Ahead Market or RUC make whole payment eligibility period that ends within the one (1) hour in addition to the Resource's Sync-To-Min Time.

(iv) When there is a cost transferred from the Day-Ahead Market make whole payment as described in Attachment A, Section 9.2.10(3)(b)(iii) ~~of this Attachment A~~, the commitment level cost in the RUC make whole payment is increased by the amount allocated to the RUC make whole payment as described in Attachment A, Section 9.2.10(3)(b)(iii). ~~of this Attachment A.~~

(v) In any RUC make whole payment eligibility period for which the Simultaneous Co-optimization Methodology considered the Resource's Transition State Offer in the original commitment decision, or the RTBM Transition State Offer is associated with a manual commitment as described under Attachment A, Sections 2.2.2(3) ~~of this Attachment A~~, the Transition State Offer cost is eligible for recovery when the following conditions are met:

(1) In at least one Dispatch Interval during the scheduled configuration period, the Resource is in the target "from" configuration and the Resource must be a Synchronized Resource; and

(2) In at least one Dispatch Interval during the scheduled configuration period, the Resource is in the target "to" configuration and the Resource must be a Synchronized Resource.

(vi) If a transition is canceled by a Markets+ Transmission Service Provider, Balancing Authority, or Reliability Coordinator between configurations prior to the scheduled transition associated with a RUC make whole payment eligibility

period, the Asset Owner will be eligible to recover a time-based pro-rata share of the Resource's RTBM Transition State Offer through the RUC make whole payment unless precluded by Attachment A, Section 9.3.12(3)(e)(i). ~~of this Attachment A.~~

(vii) When a Resource loses eligibility to recover a Start-Up Offer cost for the reason described in Attachment A, Section 9.3.12(3)(e)(iii)(1) ~~of this Attachment A~~, or loses eligibility to recover Transition State Offer costs for the reason described in Attachment A, Section 9.3.12(3)(v) ~~of this Attachment A~~, to prevent overstating avoided costs, the commitment level cost is adjusted by the lesser of: (1) its Start-Up Offer cost and Transition State Offer cost associated with commitments that have a RTBM Resource Offer commitment status as defined under Attachment A, Section 4.1(7)(a) or (c) ~~of this Attachment A~~; or (2) the ineligible RTBM Start-Up Offer cost plus the ineligible Transition State Offer costs.

(viii) For each RUC make whole payment eligibility period within an Operating Day, a Resource's eligible ~~Start~~start-~~Up~~ up cost is divided by the lesser of (1) the hours of RUC commitment within the Resource's applicable Minimum Run Time multiplied by twelve (12), rounded down to the nearest whole interval, or (2) twenty-four (24) hours multiplied by twelve (12), to achieve a Dispatch Interval proration for the purpose of allocating ~~Start~~start-~~Up~~ up costs across adjacent Day-Ahead Market or RUC make whole payment eligibility periods.

(1) If the number of participating Dispatch Intervals meets or exceeds the duration of the divisor as described in (viii) above, the full cost of the Start-Up Offer is included in the commitment level cost for the RUC make whole payment eligibility period.

(2) If the number of participating Dispatch Intervals is less than the duration of the divisor as described in (viii) above, the proration is multiplied by the number of participating Dispatch Intervals to achieve a single Start-

Up Offer amount to be included in the commitment level cost for that RUC make whole payment eligibility period. Any remaining eligible RUC ~~Start~~start-~~Up~~ up cost will be included in the commitment level cost for the following and adjacent Day-Ahead Market make whole payment eligibility period or the following and adjacent RUC make whole payment eligibility period in the next Operating Day.

(f) If the Resource has been committed in the Day-Ahead Market in a period adjacent to and following a RUC make whole payment eligibility period to the extent that the full amount of the eligible RTBM ~~Start~~start-~~Up~~ up cost is not accounted for in the RUC make whole payment eligibility period, any remaining eligible RTBM ~~Start~~start-~~Up~~ up cost is carried forward for recovery in the Day-Ahead make whole payment eligibility period.

(g) If a Resource has operated outside of its Operating Tolerance in any Dispatch Interval, any cost associated with Eenergy injection or withdrawal above the Resource's economic operating point is not eligible for recovery for that Dispatch Interval where such cost is calculated.

(h) If a Resource becomes non-dispatchable in any Dispatch Interval, any cost associated with Eenergy injection or withdrawal above the Resource's economic operating point is not eligible for recovery for that Dispatch Interval where such cost is calculated.

(i) If a Resource's ~~m~~Minimum Economic Capacity ~~o~~Operating L~~l~~imit is increased above the Resource's ~~m~~Minimum Economic ~~o~~Operating L~~l~~imit that was used to make the commitment decision, the increase is greater than the Resource's Operating Tolerance and the Resource remains dispatchable in any Dispatch Interval, any cost associated with Eenergy injection or withdrawal above the Resource's economic operating point is not eligible for recovery for that Dispatch Interval where such cost is calculated, or (2) if a Resource is committed and subsequent to that commitment, the Resource's originally submitted limits are modified such that the Resource's availability switches from injection to withdrawal, any cost associated with Eenergy withdrawal below the

Resource's economic operating point resulting from changing its availability from injection to withdrawal is not eligible for recovery for the Dispatch Interval for which such cost is calculated. If a Resource is committed and subsequent to that commitment, the Resource's originally submitted limits are modified such that the Resource's availability switches from withdrawal to injection, any cost associated with Eenergy injection above the Resource's economic operating point resulting from changing its availability from withdrawal to injection is not eligible for recovery for the Dispatch Interval for which such cost is calculated.

(j) If a Resource's self-commitment period is less than the Resource's Minimum Run Time, the Market Operator will relax the Resource's Minimum Run Time to equal the self-commit period. For an MCR the applicable Minimum Run Time is the greatest of (a) Plant Minimum Run Time, or (b) Group Minimum Run Time.

(k) If a Resource is committed by the Market Operator, Markets+ Transmission Service Provider, Balancing Authority, or Reliability Coordinator in the RTBM, the Resource will be eligible to recover applicable recurring costs for that period in the RUC make whole payment eligibility period.

(l) For an MCR, additional costs of revenues incurred when the Resource has cleared Flexibility Reserve Products in the Day-Ahead Market and must buy back that position in real-time will be considered as an adjustment when determining a RUC make whole payment. These costs or revenues must be incurred during time periods in which the Resource is ineligible to clear Flexibility Reserve Products due to transitioning between configurations in real-time where at least one configuration is the result of a RUC commitment, and the transition is not forced by the Resource Offer. The Market Participant may also be eligible to recover Flexibility Reserve Product buy back costs incurred during a Real-Time transition if the Resource is transitioned by a Markets+ Transmission Service Provider, Balancing Authority, or Reliability Coordinator. The Market Participant is not eligible to recover Flexibility Reserve Product buy back costs if the Market Monitor determines such Resources were selected in a discriminatory

manner by the Markets+ Transmission Service Provider, Participating Balancing Authority, or Reliability Coordinator, as determined pursuant to Attachment A, Section 2.3.1.4.1 ~~of Attachment A to the Tariff~~Markets+ Tariff, and such Resources were affiliated with the Markets+ Transmission Service Provider, Participating Balancing Authority, or Reliability Coordinator. In such cases, the adjustment is equal to the sum of the cleared Day-Ahead Market Flexibility Reserve Products revenue as calculated from the Day-Ahead Flexibility Reserve Products MCP and the cleared incremental RTBM Flexibility Reserve Products revenue as calculated from the RTBM Flexibility Reserve Products MCPs. For Flexibility Reserve Products the adjustment is limited to the time period defined as the Transition State Time submitted in the Resource Offer.

(4) The payment to each Asset Owner for each eligible Settlement Location in the applicable ~~Markets+~~ Participating Balancing Authority Area, for a given RUC make whole payment eligibility period is calculated as follows:

RUC Make Whole Payment Amount =

Maximum of [Either Zero or (RUC Make Whole Payment Commitment Cost Amount + RUC Make Whole Payment Cost Amount in the RUC Make Whole Payment Eligibility Period + RUC Make Whole Payment Revenue Amount in the RUC Make Whole Payment Eligibility Period – Uninstructed Resource Deviation Cost Disallowance – Non-Dispatchable Cost Disallowance – Minimum Limit Cost Disallowance + Real-Time Combined Cycle Flexibility Reserve Products Adjustment Amounts)]

(a) An Asset Owner's Real-Time Make Whole Payment Commitment Cost Amount for each eligible Resource in the RUC make whole payment eligibility period is equal to:

(i) Start-Up Offer used to make the commitment decision which was committed by the Market Operator, Markets+ Transmission Service Provider, Participating Balancing Authority, or Reliability Coordinator; plus

(ii) The Transition State Offer used to make the transition decision for an MCR that cleared in the Day-Ahead Market or committed by ~~the~~ a RUC process that was transitioned by the Market Operator, Markets+ Transmission Service

Provider, Participating Balancing Authority, or Reliability Coordinator into a different configuration in real-time; plus

(iii) Real-Time Cancelled Transition Amount; plus

(iv) Amount of shared ~~Start~~start-~~Up~~ up costs between Day-Ahead Market and RUC make whole payment eligibility periods; plus

(v) Amount of costs where the Resource loses eligibility to recover~~,~~; minus

(vi) The sum of all Start-Up Offer costs and Transition State Offer costs associated with the schedule created by combining (1) all Day-Ahead Market ~~commitments~~ Commitments with a Day-Ahead Market Resource Offer commitment status contained within a RUC make whole payment eligibility period and (2) all RUC commitments that are associated with an RTBM Resource Offer commitment status within a RUC make whole payment eligibility period.

(b) An Asset Owner's RUC Make Whole Payment Cost Amount for each eligible Resource is equal to the sum for all Dispatch Intervals in ~~the~~ a RUC commitment of:

(i) No-Load Offer used to make ~~the~~ a RUC commitment decision, less any Day-Ahead Market ~~No~~no-~~Load~~ load from an MCR resulting from a different Day-Ahead Market committed configuration;

(ii) Energy cost at minimum injection or withdrawal as calculated from the Energy Offer Curve used to make the commitment decision;

(iii) Energy cost above minimum injection or withdrawal as calculated from the Energy Offer Curve that applied to the current Dispatch Interval;

(iv) GHG cost above minimum injection associated with Internal GHG Resources and Specified Source Resources, as calculated ~~by multiplying Day-Ahead Cleared GHG quantity by the~~ from the Specified GHG Adder that applied to the current Dispatch Interval.

(~~i~~v) For MCRs, the Energy cost will be calculated from the Energy Offer Curve used in the Day-Ahead Market from zero to the lesser of (1) Day-Ahead

Market cleared Energy or (2) the submitted meter in real-time, multiplied by (-1);

(vi) For an MCR that was cleared in the Day-Ahead Market and was committed into a different configuration in real-time and is not transitioning into that configuration, the Flexibility Reserve Products cost associated with cleared real-time Flexibility Reserve Products minus Day-Ahead Flexibility Reserve Products cost associated with the lesser of (1) cleared real-time Flexibility Reserve Products or (2) cleared Day-Ahead Flexibility Reserve Products;

(c) An Asset Owner's RUC Make Whole Payment Revenue Amount for each eligible Resource that is committed by the Market Operator, Markets+ Transmission Service Provider, Participating Balancing Authority, or Reliability Coordinator is equal to the sum of the following for all Dispatch Intervals in ~~the~~ a RUC commitment:

(i) Dispatch Interval revenue associated with Energy calculated by multiplying actual Dispatch Interval Energy injection or withdrawal by real-time LMP, except for MCRs that cleared in the Day-Ahead Market and were transitioned into a different configuration in real-time, in which case such revenue is calculated by multiplying real-time LMP by the incremental increase of the actual Dispatch Interval Energy injection or withdrawal above the Day-Ahead cleared Energy;

(ii) Energy revenue associated with payments made under Attachment A, sSection 9.3.18 ~~of the Attachment A~~;

(iii) Real-Time Base Obligation Short-Term Flex Up Amount as calculated under Attachment A, sSection 9.3.2 ~~of this Attachment A~~.

(iv) Real-Time Increased Obligation Short-Term Flex Up Amount as calculated under Attachment A, Ssection 9.3.3 ~~of this Attachment A~~.

(v) Real-Time Short-Term Flex Down Amount as calculated under Attachment A, Ssection 9.3.4 ~~of this~~.

(vi) Real-Time Base Obligation Mid-Term Flex Up Amount as calculated under

Attachment A, sSection 9.3.5 ~~of this Attachment A~~.

(vii) Real-Time Increased Obligation Mid-Term Flex Up Amount as calculated under Attachment A, Ssection 9.3.6 ~~of this Attachment A~~.

(viii) GHG revenue as calculated under Attachment A, Section 9.3.29.

(d) An Asset Owner's Uninstructed Resource Deviation Cost Disallowance, Non-Dispatchable Cost Disallowance, or Minimum Limit Cost Disallowance is equal to the positive difference between the Resource's Energy cost at actual injection or withdrawal as calculated from the Resource's current Dispatch Interval Energy Offer Curve and the Resource's Energy cost at the Resource's economic operating point as calculated from the Resource's current Dispatch Interval Energy Offer Curve.

(e) A Resource's economic operating point is the MW injection or withdrawal where the cost on the Resource's current Dispatch Interval Energy Offer Curve first exceeds the real-time DLMP for that Resource.

(f) For MCRs that have been transitioned into a different configuration in real-time and are transitioning into that configuration, the real-time Combined Cycle Flexibility Reserve Products Adjustment Amount will be equal to the sum of the cleared Day-Ahead Market Flexibility Reserve Products revenue as calculated from the Day-Ahead Flexibility Reserve Products MCP and the cleared incremental RTBM Flexibility Reserve Products revenue as calculated from the RTBM Flexibility Reserve Products MCPs.

9.3.17 Reliability Unit Commitment Make Whole Payment Distribution Amount

An RTBM Balancing Authority Area charge will be calculated at each Settlement Location for each Asset Owner for each hour in order to fund the payments made under Attachment A, Sections 9.2.13, 9.3.2~~8~~9 and 9.3.~~3~~32029 ~~of this Attachment A~~. The Balancing Authority Area amount will be determined by multiplying an Asset Owner's Balancing Authority Area distribution volume by a daily Balancing

Authority Area RUC make whole payment rate as described in Attachment A, Section 9.3.14(A) ~~of this Attachment A~~.

A. The RUC Balancing Authority Area Make Whole Payment Distribution Amount will be calculated as follows:

The RUC Balancing Authority Area Make Whole Payment Distribution Amount =
[(RUC Balancing Authority Area Make Whole Payment Distribution Rate) *
(RUC Balancing Authority Area Make Whole Payment Distribution MW quantity)]

(1) The RUC Balancing Authority Area Make Whole Payment Distribution Rate is the sum of all make whole payments for the Operating Day as calculated under Attachment A, Section 9.2.13 divided by the sum of Asset Owners' RUC Balancing Authority Area Make Whole Payment Distribution MW quantity for all Settlement Locations for the entire Operating Day.

(2) An Asset Owner's RUC Balancing Authority Area Make Whole Payment Distribution MW quantity at a Settlement Location for an hour is equal to the sum of following values that are calculated for each Dispatch Interval within the hour:

(a) The absolute value of the sum of actual real-time Settlement Location deviations from Day-Ahead Market cleared amounts for load, cleared Self-Charging MSR Offers, Virtual Offer transactions and Iinterchange Ttransactions except that, during any Dispatch Interval in which the Transmission Provider has declared an Emergency Condition due to a capacity shortage, real-time actual load deviations from Day-Ahead Market cleared amounts will be limited to deviations associated with actual real-time load and actual real-time Self-Charging MSRs in excess of amounts cleared in the Day-Ahead Market;

(b) For Resources cleared in the Day-Ahead Market, except MCRs with an RTBM Resource Offer commitment status as defined under Attachment A, Section 4.1(7)(a) or (c) ~~of this Attachment A~~, that have been transitioned in real-time by the Market Operator, Markets+ Transmission Service Provider, Balancing Authority, or Rcliability Coordinator into a rcal-timc configuration

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with a higher applicable ~~m~~Minimum Economic ~~e~~Capacity ~~o~~Operating ~~l~~Limit than the Day-Ahead Market committed configuration, the positive difference between the RTBM Resource applicable ~~m~~Minimum Economic Capacity Operating ~~l~~Limits and Day-Ahead Market Resource cleared Energy quantity provided that:

(i) The applicable RTBM Resource ~~m~~Minimum Economic Capacity Operating ~~l~~Limit is greater than the comparable Day-Ahead Market Resource ~~m~~Minimum Economic Capacity Operating ~~l~~Limit by more than the Resource's Operating Tolerance; and

(ii) The applicable RTBM Resource M~~m~~inimum Economic limit is greater than the Day-Ahead Market cleared Energy amount; and

(iii) The Resource received a Dispatch Target less than or equal to the RTBM applicable minimum limit for at least one Dispatch Interval in the hour.

(c) For Resources cleared in the Day-Ahead Market, except combined cycle Resources with an RTBM Resource Offer commitment status as defined under Attachment A, Section 4.1(7)(a) or (c) ~~of this Attachment A~~ that have been transitioned in real-time by the Market Operator, Markets+ Transmission Service Provider, Balancing Authority, or Reliability Coordinator into a Real-Time configuration with a lower applicable M~~m~~aximum Economic ~~e~~Capacity O~~o~~perating L~~l~~imit than the Day-Ahead Market committed configuration, the positive difference between the Resource Day-Ahead Market cleared Energy quantity and the RTBM Resource applicable maximum limit provided that:

(i) The applicable RTBM Resource ~~m~~Maximum Economic Capacity Operating ~~l~~Limit is less than the comparable Resource ~~m~~Maximum Economic Capacity Operating ~~l~~Limit submitted for use in the Day-Ahead Market by more than the Resource's Operating Tolerance; and

(ii) The applicable RTBM Resource maximum limit is less than the Day-

Ahead Market cleared Energy amount; and

(iii) The Resource received a Dispatch Target greater than or equal to the RTBM applicable maximum limit for at least one Dispatch Interval in the hour.

(d) For Resources cleared in the Day-Ahead Market, the Resource's Day-Ahead Market cleared amount if that Resource is off-line in the RTBM and if the Resource has not been de-committed by a Markets+ Transmission Service Provider, Balancing Authority, or Reliability Coordinator or dispatched to zero by the Market Operator;

(e) For Resources that cleared in the Day-Ahead Market that are not able to follow Dispatch Targets, including an MCR that is not in its committed configuration, the absolute value of the difference between a Resource's actual injection or withdrawal and the Resource's economic operating point. The Resource's economic operating point is calculated as described under Attachment A, Section 9.3.13(4)(e)~~, of this Attachment A~~;

(f) For Resources that self-committed following the close of the Day-Ahead Market, the actual Resource injection or withdrawal if the Resource received a Dispatch Target with an absolute value less than or equal to the RTBM applicable minimum charge or discharge limit for at least one Dispatch Interval in the hour;

(g) A Resource's economic operating point, as calculated as described under Attachment A, Section 9.3.13(4)(e)~~ of this Attachment A~~, for Resource or MCR configuration that was committed following the close of the Day-Ahead Market if that Resource is off-line in the RTBM and that Resource was not de-committed by the Markets+ Transmission Service Provider, Balancing Authority, or Reliability Coordinator including, for an MCR, the amount of the incremental MWs from Day-Ahead Market cleared Energy to real-time economic operating point; and

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(h) The absolute value of a Resource's URD if that Resource operated outside of its Operating Tolerance and the Resource has not been exempted from URD as described under Attachment A, Section 9.4.1. ~~of this Attachment A.~~

9.3.18 Real-Time Out-of-Merit Amount

An RTBM Out-of-Merit Amount payment will be made for each Market Participant with a Resource that meets one of the following conditions when that condition creates a cost to the Market Participant or adversely impacts the Market Participant's Day-Ahead Market position for Energy, GHG for Internal GHG Resources, or Flexibility Reserve Products. The conditions are: 1) The Resource receives an OOME; 2) The Resource or MCR configuration is de-committed by the Markets+ Transmission Service Provider, Participating Balancing Authority, or Reliability Coordinator; or 3) A price correction has occurred under Attachment A, Section 7.8.1. Resources issued an OOME that the Market Monitor determines were selected in a discriminatory manner, as determined pursuant to Attachment A, Section 2.3.1.4.1, and such Resources were affiliated with the issuing party, are not eligible to receive a RTBM OOME payment. RTBM OOME payments made to Market Participants will be recovered as described under Attachment A, Section 9.3.19. The amount will be calculated on a Dispatch Interval basis as follows:

(1) If the instruction is for Energy above the Resource's economic operating point and the Energy Offer Curve cost plus applicable GHG cost associated with Internal GHG Resources, as calculated by multiplying Real-Time GHG Dispatch Interval MW Quantity by the RTBM Specified GHG Adder associated with the Resource's additional injection or withdrawal attributable to its response (instructed MW) is greater than the RTBM LMP plus the applicable Real-Time Marginal GHG Price, the Market Participant will receive a payment for the difference multiplied by the instructed MW. The payment will be limited to the amount necessary to compensate the Market Participant for any under-recovery resulting from the Resource's response to the instruction. The instructed MW is calculated as the positive difference between (i) the lesser of the actual Resource injection or withdrawal or the Resource's Setpoint Target, OOME floor, or OOME fixed MW, whichever is applicable, and

(ii) the Resource's economic operating point. The Resource's economic operating point is calculated as described under Attachment A, Section 9.3.13(4)(e);

(2) If the instruction is for Energy below the Resource's economic operating point (including a Resource de-commitment or movement of an MCR to a configuration with a lower applicable Maximum Economic Capacity Operating Limit) and the RTBM LMP plus the applicable Real-Time Marginal GHG Price is greater than the Day-Ahead Market LMP plus the applicable Day-Ahead Marginal GHG Price, the Market Participant will receive a payment equal to the difference multiplied by the Resource's reduction in output or increased withdrawal attributable to its response (instructed MW). The payment will be limited to the amount necessary to compensate the Market Participant for any increase in net settlement costs resulting from its response to the instructed MW. The instructed MW is calculated as the maximum of zero (0) or the difference between the Resource's Day-Ahead Market cleared Energy MW and the greater of (i) actual Resource injection or withdrawal or (ii) the Resource's Setpoint Target, OOME cap, or OOME fixed MW, whichever is applicable;

(3) If an instruction (including a Resource de-commitment instruction or movement of an MCR to a configuration with a lower applicable Maximum Economic Capacity Operating Limit) causes the RTBM cleared amount of a Flexibility Reserve Product to be less than the Day-Ahead Market cleared amount of the corresponding Flexibility Reserve Product and the RTBM MCP is greater than the Day-Ahead Market MCP, the Market Participant will receive a payment for the difference multiplied by the OOME Flexibility Reserve Product MW. The OOME Flexibility Reserve Product MW is calculated as the maximum of zero (0) or the difference between the Resource's Day-Ahead Market cleared Flexibility Reserve Product MW and the Resource's RTBM cleared Flexibility Reserve Product MW.

9.3.19 Real-Time Out-of-Merit Distribution Amount

Within each Participating Balancing Authority Area, a real-time Out-of-Merit distribution amount charge

or payment will be calculated for each Market Participant, at each Settlement Location, for each 5-minute interval to fund payments made under Attachment A, Section 9.3.18 as follows:

Real-Time Out-of-Merit Distribution Amount =

(Real-Time Out-of-Merit Amount) * (Real-Time Load Ratio Share)

(1) Within each Balancing Authority Area, the Real-Time Out-of-Merit Amount is equal to the sum of all Market Participants' charges and payments made under Attachment A, Section 9.3.18.

(2) Real-Time Load Ratio Share as defined under Section 1 ~~of this Markets+ Tariff~~.

9.3.20 Real-Time Demand Reduction Amount

A Real-Time Balancing Market payment or charge will be calculated for each Market Participant with registered load Settlement Locations containing one or more Demand Response Loads associated with the difference between actual Demand Response Resource output and cleared Day-Ahead Market Demand Response Resource Offers for each applicable Settlement Location and each Dispatch Interval as follows:

(1) Real-Time Demand Reduction Dispatch Interval Amount =

[(Real-Time LMP) * (Real-Time Total Demand Response Resource Billing Meter Quantity – Day-Ahead Total Demand Response Resource Hourly Quantity)] / 12

(a) Real-Time LMP, as defined under Attachment A, Section 3.2, for a load Settlement Location containing one or more Demand Response Loads associated with committed and dispatched Dispatchable Demand Response Resources.

(b) A Market Participant's Real-Time Total Demand Response Resource Billing Meter Quantity is equal to the sum of that Market Participant's Real-Time Demand Response Resource Billing Meter Quantities for each Demand Response Resource associated with the load Settlement Location referenced in (1) above.

(c) A Market Participant's Real-Time Demand Response Resource Billing Meter Quantity

for each Demand Response Resource Settlement Location is:

(i) For a Dispatchable Demand Response Resource selecting the submitted Resource production option as described under Attachment A, Section 4.2.1(1)(a), either:

(1) the five (5) minute actual meter MWh Resource output quantity submitted by the Meter Agent to the Market Operator, multiplied by twelve (12); or

(2) the hourly actual meter MWh Resource output quantity profiled into five (5) minute increments by the Market Operator using the method described under Attachment A, Section 9.3.1.1 if the Market Participant elects to submit hourly Meter Data.

(ii) For a Dispatchable Demand Response Resource selecting the calculated Resource production option as described in Attachment A, Section 4.2.1(1)(b), either:

(1) the five (5) minute actual meter MWh output quantity of the associated Demand Response Load submitted by the Meter Agent to the Market Operator, multiplied by twelve (12); or

(2) the hourly actual meter MWh output quantity of the associated Demand Response Load profiled into five (5) minute increments by the Market Operator using the method described in Attachment A, Section 9.3.1.1 if the Market Participant elects to submit hourly Mmeter Ddata. The Market Operator then calculates the Demand Response Resource output as described in Attachment A, Section 4.2.1(1)(b)(ii) and multiplies the result by (-1).

(d) A Market Participant's Day-Ahead Total Demand Response Resource Hourly Quantity is the value calculated in Attachment A, Section 9.2.12 for the applicable load

Settlement Location.

(2) Real-Time Demand Reduction Hourly Amount =
Sum of Real-Time Demand Reduction Dispatch Interval Amount over all Dispatch Intervals in the Hour.

9.3.21 Real-Time Demand Reduction Distribution Amount

The real-time demand reduction distribution amount is an hourly payment or charge to Asset Owners at each Settlement Location to account for the sum of the hourly demand reduction amounts calculated under Attachment A, Section 9.3.18(2) and is calculated as:

Real-Time Demand Reduction Distribution Amount =
(Real-Time Demand Reduction Distribution Rate) * (Real-Time Demand Reduction Distribution Quantity)

(1) Within each Balancing Authority Area, Real-Time Demand Reduction Distribution Rate is the sum of all demand reduction payments for the Hour as calculated under Attachment A, Section 9.3.19 ~~of this Attachment A~~ multiplied by (-1), divided by the sum of all Asset Owner's Real-Time Demand Reduction Distribution Quantities for all Settlement Locations within the applicable Participating Balancing Authority Area, for the hour.

(2) An Asset Owner's Real-Time Demand Reduction Distribution Quantity for an hour is equal to that Asset Owner's net actual Energy withdrawals at that Settlement Location for that hour. The net actual Energy withdrawal at a Settlement Location is calculated as the sum of an Asset Owner's load consumption and the real-time Self-Charging MSRs and the positive MWh value for the Asset Owner's net Export and Import Interchange Transactions.

9.3.22 Real-Time Combined Interest Resource Adjustment Amount

A charge or credit will be calculated at each Settlement Location for each Asset Owner with a Resource registered using Combined Interest Resource modeling, as defined in Attachment A, Section 6.2(3)(b), for each Operating Day. The charge or credit represents each Asset Owner's share of all Real-Time Balancing Market charges and credits associated with the Resource and will be calculated based on the Interest Percent Share for each Asset Owner's registered individual share.

9.3.23 Real-Time Uninstructed Resource Deviation Amount

(1) For the purposes of determining URD exemptions for Resources that are part of a Common Bus, each Market Participant's Resources' combined average ramped MW dispatch instruction and combined actual average MW output at the Common Bus will be used to calculate URD at the Common Bus for the Dispatch Interval for each Market Participant.

(2) A Resource's URD is allocated a portion of the RUC make whole payment costs, in any Dispatch Interval where Resource's ~~Uninstructed Resource Deviation~~URD MW is outside of its Operating Tolerance unless that Resource has been exempted from URD.

(3) Resource's Operating Tolerances are as follows:

(a) If a Resource's RTBM Maximum Economic Capacity Operating Limit is greater than fifty (50) MW, the Operating Tolerance in each Dispatch Interval is equal to the Resource's RTBM Maximum Economic Capacity Operating Limit multiplied by five percent (5%), subject to a maximum of twenty (20) MW. If the Resource's RTBM Maximum Economic Capacity Operating Limit is less than or equal to 50 MW, the Resource's Operating Tolerance in each Dispatch Interval is equal to the Resource's RTBM Maximum Economic Capacity Operating Limit multiplied by ten percent (10%).

(b) If Resources' on a Common Bus combined RTBM Maximum Economic Capacity Operating Limit is greater than fifty (50) MW, the Operating Tolerance for each Market Participant registered at a Common Bus is equal to the sum of that Market Participant's Resources' RTBM Maximum Economic Capacity Operating Limits for Resources that are on-line multiplied by five percent (5%), subject to a maximum of twenty (20) MW. If the Resources' combined RTBM Maximum Economic Capacity Operating Limit is less than or equal to fifty (50) MW, the Operating Tolerance for each Market Participant registered at a Common Bus is equal to the sum of that Market Participant's Resources' RTBM Maximum Economic Capacity Operating Limits for Resources that are on-line multiplied by ten percent (10%).

(c) If the Resource's ~~Uninstructed Resource Deviation~~URD MW is greater than the Resource's Operating Tolerance in any Dispatch Interval, the Resource's Dispatch Interval URD is included in the hourly allocation of RUC make whole payment cost allocation. The Hourly URD amount is calculated as the sum of Dispatch Interval URD for the hour. Additionally, if that Resource was eligible to receive a RUC make whole payment, the payment may be reduced.

(d) If the absolute value of an MSR's RTBM Maximum Charge Limit or the Maximum Discharge Limit is greater than fifty (50) MW, the Operating Tolerance in each Dispatch Interval is equal to the greater of the absolute value of the RTBM Maximum Charge Limit and the Maximum Discharge Limit multiplied by five percent (5%), subject to a maximum of 20 MW. If the greater of the absolute value of the RTBM Maximum Charge Limit or the Maximum Discharge Limit is less than or equal to fifty (50) MW, the Resource's Operating Tolerance in each Dispatch Interval is equal to the greater of the absolute value of the RTBM Maximum Charge Limit and the Maximum Discharge Limit multiplied by ten percent (10%).

(e) A Resource's Operating Tolerance in each Dispatch Interval is adjusted by the quantity of ancillary service being deployed on the Resource as communicated by the Market Participant in real-time, for the Dispatch Interval.

(4) An RTBM charge will be calculated in any Dispatch Interval in which a Resource operates outside of its Operating Tolerance and the Resource has not been exempted from URD per Attachment A, Section 9.3.25.1. An Asset Owner's URD charge is calculated as follows:

(1) Real-Time Uninstructed Resource Deviation Dispatch Interval Amount = ((The absolute value of the URD MW - Operating Tolerance) * (The absolute value of the Real-Time LMP)) / 12

a. URD MW as defined under Attachment A, Section 1.

b. Operating Tolerance as defined under Attachment A, Section 1.

c. Real-Time LMP, as defined under Attachment A, Section 1, associated with that load, Self-Charging MSR, or station power from offline generation Settlement Location

9.3.23.1 Real-Time Uninstructed Resource Deviation Exemptions

A. A Resource will receive a URD exemption in a Dispatch Interval under the following situations:

(1) The Resource trips off-line or is derated after receiving dispatch instructions; or

(2) There is missing or bad Resource SCADA data in the Dispatch Interval; or

(3) If during Emergency Conditions the URD is due to a Resource output above the Resource's dispatch instruction in a shortage condition or the URD is due to a Resource output below the Resource's dispatch instruction during an excess generation condition; or

(4) If a Setpoint Target is issued to a Resource beyond the reported capabilities due to the application of a VRL; or

(5) If the URD results from an event of Force Majeure as defined in Part I, Section 3.1 or, in the case of a Variable Energy Resource, if the URD results from extreme weather-related conditions materially and directly impacting a Variable Energy Resource's ability to provide or reduce output of Energy. Market initiated curtailments do not qualify; or

(6) If the Resource has been issued an OOME for Energy; or

(7) If the Resource is part of a Common Bus and the URD calculated at the Common Bus is less than the Operating Tolerance calculated at the Common Bus.

B. In the event a Resource does not receive a URD exemption in a Dispatch Interval, the Market Operator will determine through the dispute process, whether an exemption to an ~~Uninstructed Resource Deviation~~URD will be given.

9.3.24 Real-Time Uninstructed Resource Deviation Distribution Amount

Within each Participating Balancing Authority Area, an RTBM charge will be calculated for each Asset Owner at each Settlement Location for each hour for the purposes of funding payments made under Section 9.3.25 as follows:

(1) Real-Time Uninstructed Resource Deviation Distribution Amount = [(Real-Time Uninstructed Resource Deviation Amount) * (Real-Time Load Ratio Share)] * (-1)

(a) The Real-Time Uninstructed Resource Deviation Amount ~~shall~~ will be equal to the sum of all payments made under Section 9.3.25 for the hour.

(b) Real-Time Load Ratio Share is as defined under Section 1 ~~of this Markets+ Tar iff~~.

9.3.25 Real-Time Must Offer Penalty Charge Amount

A) Each Market Participant will satisfy the must offer obligation in an Operating Hour by offering Resource capacity greater than or equal to the sum of (1) cleared Day-Ahead Market Energy, (2) cleared Day-Ahead Flexibility Reserve Products, and (3) incremental Market Commitments from the RUC process, adjusted by (4) obligations to supply to or rights to receive from the Resource Adequacy Program and adjusted by (5) deviation in net position.

(1) A Market Participant's cleared Day-Ahead Market Energy is the sum of Energy

cleared in the Day-Ahead Market for all Resources registered to the Market Participant for the Operating Hour.

(2) A Market Participant's cleared Day-Ahead Market Flexibility Reserve Products is the sum of Short-Term Flex Up and Mid-Term Flex Up cleared in the Day-Ahead Market for all Resources registered to the Market Participant for the Operating Hour.

(3) A Market Participant's incremental commitments from the RUC process is the sum of e Energy dispatch associated with incremental commitments from the initial RUC process for all Resources registered to the Market Participant for the Operating Hour, further described in the Markets+ Protocols.

(4) A Market Participant's obligation to supply Eenergy to or right to receive Eenergy from the Resource Adequacy Program is described in the Markets+ Protocols.

(5) A Market Participant's deviation in net position is determined by comparing the final net position to the net position that cleared in the Day-Ahead Market for the Operating Hour and further described in the Markets+ Protocols.

The resource capacity of a Market Participant is reduced by the total Self-Charging MWs of all MSRs registered to that Market Participant for the Operating Hour.

B) During the binding season each Market Participant will satisfy the must offer obligation by offering Resources greater than or equal to the higher of the Day-Ahead compliance amount described in Section 5.1.1(B) and the Real-Time must offer amount described in Section 5.1.2(A) (1, 2 & 3), adjusted by (1) further obligation to supply Eenergy to or receive Eenergy from the Resource Adequacy Program not accounted for in the Day-Ahead Market, adjusted by (2) net position not accounted for in the Day-Ahead Market and adjusted by (3) fleet performance changes not accounted for in the Day-Ahead Market.

During a non-binding season each Market Participant will satisfy the must offer obligation by offering Resources during the non-binding season greater than or equal to the Real-Time must offer amount described in Section 5.1.2, adjusted by (2) net position not accounted for in the Day-Ahead Market and adjusted by three (3) fleet performance changes not accounted for in

the Day-Ahead Market.

(1) A Market Participant's obligation to supply Eenergy to or receive Eenergy from the Resource Adequacy Program is described in the Markets+ Protocols.

(2) A Market Participant's net position not accounted for in the Day-Ahead Market are further described in the Markets+ Protocols.

(3) A Market Participant's adjustment for fleet performance changes not accounted for in the Day-Ahead Market is the sum of unplanned unavailability or reduction of capacity of Resources registered to the Market Participant for the Operating Hour compared to the unplanned unavailability or reduction of capacity of the Market Participant for the Operating Hour offered into the Day-Ahead Market and further described in the Markets+ Protocols.

C) A Market Participant not meeting the conditions described in Sections 5.1.2(A) or (B), the Market Participant will be deemed noncompliant with the must offer obligation for that Operating Hour. The Market Operator will assess a penalty amount equal to the product of the shortfall capacity and the associated RTBM LMP as described below.

(1) A Market Participant's shortfall capacity for the Operating Hour is equal to the lesser of the difference between the resource capacity and Real Time Balancing Market must offer obligation, as described above in Section 5.1.2 (A) and (B).

(2) The Must-Offer Penalty LMP is calculated as the weighted average of the RTBM LMP for the Market Participant's Resources in the Operating Hour with the shortfall. If a Market Participant has no registered Resources, then the ~~Markets+~~ Marginal Energy Component will be used. In no case will the penalty be less than $0.00

9.3.26 Real-Time Must Offer Penalty Distribution Amount

The Market Operator will distribute any collected penalties for an Operating Hour in the RTBM to Market Participants deemed compliant with the must offer obligation for that Operating Hour, weighted by resource capacity in excess of the must offer obligation for the Operating Hour.

(a) The Market Operator will distribute any collected penalty revenue for an Operating Hour using the Revenue Neutrality Uplift allocation method, as described under Attachment A, Section 9.4,

for any Operating Hour in which no Market Participant with a Resource capacity, as described above in Section 9.3.23 (A) and 9.3.23 (B), exceeds the must offer obligation for the Operating Hour.

(b) A market wide total Real-time Must Offer Payment Amount = SUM of all Real-time Must Offer Penalty Amount from all Market Participants

(c) A Market Participant's Real-time Must Offer Payment Ratio = Total Excess capacity amount of All Asset Owners under this Market Participant / SUM of all Excess capacity amount from all Market Participants

(d) A Market Participant's Real-time Must Offer Penalty Distribution Amount = A market wide total Real-time Must Offer Payment Amount * The Market Participant's Real-time Must Offer Payment Ratio

9.3.27 Real-Time Incremental Energy Make Whole Payment Amount

(1) The Real-Time incremental Energy make whole payment amount is a payment to a Market Participant when a Resource's Real-Time incremental Energy costs are greater than the eligible Real-Time incremental revenues received during Ddispatch iIntervals when the Resource is dispatched in Real-Time above the Resource's Day-Ahead cleared Energy MW. The make whole payment is equal to the difference between the incremental costs and revenues. Recovery of such compensation will be collected in accordance with Attachment A, Section 9.3.17.

(2) Eligible costs and revenues for a Real-Time incremental Energy make whole payment are for Resources dispatched in Real-Time above a Resource's Day-Ahead cleared Energy MW and when the Market Monitor has not verified the Resource Offers associated with Attachment B, Section 3.4(K) prior to the approval of RTBM or the Resource Offer exceeds the Energy Offer

Hard Cap of $2,000.

(3) The Real-Time incremental Energy make whole payment cost is the Energy cost associated with actual Resource Energy, including MSRs providing a market service, from the Resource Energy Offer as described under Attachment A, Section 2.3.1.1 plus the GHG cost associated with cleared Internal GHG Resources and Specified Source Resources, as calculated by multiplying the difference of Real-Ttime cleared GHG quantity above Day-Ahead Cleared GHG quantity by the Real-tTime Specified GHG Adder. Thcis Energy cost is calculated by multiplying actual Resource Energy by the cost of such Energy as calculated from the Resource's applicable Energy Offer Curve.

The applicable Energy Offer Curve used to determine a Real-Time incremental make whole payment amount for Energy above Day-Ahead cleared MW is the Real-Time Energy Offer Curve as verified by the Market Monitor.

a. Cost Disallowances:

A Market Participant's Uninstructed Resource Deviation Cost Disallowance, Non-Dispatchable Cost Disallowance, or Minimum Limit Cost Disallowance is equal to the positive difference between the Resource's Energy cost at actual injection or withdrawal as calculated from the Resource's current Dispatch Interval Energy Offer Curve and the Resource's Energy cost at the Resource's economic operating point as calculated from the Resource's current Dispatch Interval Energy Offer Curve. A Resource's economic operating point is the MW injection or withdrawal where the cost on the Resource's current Dispatch Interval Energy Offer Curve first exceeds the Real-Time LMP for that Resource.

i. If a Resource has operated outside of its Operating Tolerance in any Dispatch Interval, any cost associated with Energy injection or withdrawal above the Resource's Desired Dispatch is not eligible for recovery for that Dispatch Interval where such cost is calculated.

ii. If a Resource becomes non-dispatchable in any Dispatch Interval, any cost associated with

Energy injection or withdrawal above the Resource's Desired Dispatch is not eligible for recovery for that Dispatch Interval where such cost is calculated.

iii. If a Resource's Minimum Economic Capacity Operating Limit is increased above the Resource's Minimum Economic Capacity Operating Limit that was used to make the commitment decision, the increase is greater than the Resource's Operating Tolerance and the Resource remains dispatchable in any Dispatch Interval, any cost associated with Energy injection or withdrawal above the Resource's Desired Dispatch is not eligible for recovery for that Dispatch Interval where such cost is calculated, or;

iv. If a Resource is committed, and, subsequent to that commitment, the Resource's originally submitted limits are modified such that the Resource's availability switches from injection to withdrawal or from withdrawal to injection, any cost associated with Energy output above the Resource's Desired Dispatch is not eligible for recovery for the Dispatch Interval for which such cost is calculated.

(4) Real-Time incremental Energy make whole payment revenue is calculated as follows:

(a) A Market Participant's Real-Time incremental Energy make whole payment revenue amount for each eligible Resource for Real-Time dispatched MWs that exceed Day-Ahead cleared MW is equal to the sum of the Energy revenue associated with cleared Resource Energy for all eligible Dispatch Intervals plus the sum of GHG revenue associated with cleared Resource GHG quantities for all eligible Dispatch Intervals.

(b) Energy revenue associated with cleared Resource Energy, including MSRs providing a market service, from Resource Energy Offers as described under Attachment A, Section 2.3.1.1, is calculated by multiplying Resource Energy above Day-Ahead cleared MW by Real-Time LMP at that Resource Settlement Location.

(c) GHG revenue associated with cleared Resource GHG quantities is calculated by multiplying Real-Time Resource GHG quantity above Day-Ahead cleared GHG quantity by Real-Time Marginal GHG Price for that GHG Pricing Zone.

9.3.28 Reliability Unit Commitment Self-Committed Incremental Energy Make Whole Payment Amount

(1) The RUC self-committed incremental Energy make whole payment amount is a payment to a Market Participant when a Resource's RUC incremental eligible costs are greater than the eligible RUC incremental revenues received during those Ddispatch Iintervals where the Resource's actual output is above the Resource's RUC as committed Minimum Economic Capacity Operating Limit. The make whole payment is equal to the difference between the incremental costs and revenues.

(2) Eligible costs and revenue for a RUC self-committed incremental Energy make whole payment are for Resources where actual output is above the Resource's RUC as committed Minimum Economic Capacity Operating Limit and when the Market Monitor has not verified the Resource Offers associated with Attachment B, Section 3.4(K) prior to the approval of the RTBM or the Resource Offer exceeds the Energy Offer Hard Cap of $2,000.

(3) The RUC self-committed incremental Energy make whole payment cost is the Energy cost associated with cleared Resource Energy, including MSRs providing a market service, from the Resource Energy Offer as described under Attachment A, Section 2.3.1.1~~.~~ plus the GHG cost associated with cleared Internal GHG Resources and Specified Source Resources, as calculated by multiplying the Real-Ttime cleared GHG quantity above Minimum Economic Capacity Operating Limit by the Real-Ttime Specified GHG Adder. The Energy~~is~~ cost is calculated by multiplying actual Resource Energy by the cost of such Energy determined from the Resource's applicable RTBM as dispatched Energy Offer Curve.

The Energy Offer Curve used to determine a RUC self-committed incremental make whole payment amount for Energy above the Minimum Economic Capacity Operating Limit is the RTBM as Dispatched Energy Offer Curve as verified by the Market Monitor.

a. Cost Disallowances:

A Market Participant's Uninstructed Resource Deviation Cost Disallowance, Non-Dispatchable Cost Disallowance, or Minimum Limit Cost Disallowance is equal to the positive difference between the Resource's Energy cost at actual injection or withdrawal as calculated from the Resource's current Dispatch Interval Energy Offer Curve and the Resource's Energy cost at the Resource's economic operating point as calculated from the Resource's current Dispatch Interval Energy Offer Curve. A Resource's economic operating point is the MW injection or withdrawal where the cost on the Resource's current Dispatch Interval Energy Offer Curve first exceeds the Real-Time LMP for that Resource.

i. If a Resource has operated outside of its Operating Tolerance in any Dispatch Interval, any cost associated with Energy injection or withdrawal above the Resource's Desired Dispatch is not eligible for recovery for that Dispatch Interval where such cost is calculated.

ii. If a Resource becomes non-dispatchable in any Dispatch Interval, any cost associated with Energy injection or withdrawal above the Resource's Desired Dispatch is not eligible for recovery for that Dispatch Interval where such cost is calculated.

iii. If a Resource's Minimum Economic Capacity Operating Limit is increased above the Resource's Minimum Economic Capacity Operating Limit that was used to make the commitment decision, the increase is greater than the Resource's Operating Tolerance and the Resource remains dispatchable in any Dispatch Interval, any cost associated with Eenergy injection or withdrawal above the Resource's Desired Dispatch is not eligible for recovery for that Dispatch Interval where such cost is calculated, or;

iv. If a Resource is committed, and, subsequent to that commitment, the Resource's originally submitted limits are modified such that the Resource's availability switches from injection to withdrawal or from withdrawal to injection, any cost associated with Energy output above the Resource's Desired Dispatch is not eligible for recovery for the Dispatch Interval for which such cost is calculated.

(4) RUC self-committed incremental Energy make whole payment revenue is calculated as follows:

(a) A Market Participant's RUC self-incremental Energy make whole payment revenue amount for each eligible Resource that is committed by the Market Operator as specified in Attachment A, Section 2.3.1.1 is equal to the sum of the Energy revenue associated with cleared Resource Energy for all eligible Dispatch Intervals plus the sum of GHG revenue associated with cleared Resource GHG quantities for all eligible Dispatch Intervals.—

(b) Energy revenue associated with cleared Resource Energy, including MSRs providing a market service, from Resource Energy Offers as described under Attachment A, Section 2.3.1.1, calculated by multiplying Resource Energy above Resources Minimum Economic Capacity Operating Limit by Real-Time LMP at that Resource Settlement Location.

(c) GHG revenue associated with cleared Resource GHG quantities is calculated by multiplying Real-Time Resource GHG quantity above Minimum Economic Capacity Operating Limit by Real-Time Marginal GHG Price for that GHG Pricing Zone.

9.3.29 Real-Time GHG Amount

An RTBM payment or charge for deviations between cleared Real-Time GHG amount and cleared Day-Ahead Market GHG amount will be calculated at each Settlement Location by Asset Owner for each Dispatch Interval. For a Resource, its Real-Time GHG Amount is calculated as follows:

Real-Time GHG Dispatch Interval Amount =

[(Real-Time Marginal GHG Price) * (((Real-Time Resource GHG Attributed MW Quantity) – (Day-Ahead Cleared GHG Hourly Quantity)) / 12]

a) Real-Time Marginal GHG Price associated with the GHG Pricing Zone.

b) An Asset Owner's Real-Time Resource GHG Attributed MW Quantity is the minimum of the Real-Time Resource Billing Meter Quantity and the Real-Time GHG Dispatch Interval MW Quantity

i. An Asset Owner's Real-Time Resource Billing Meter Quantity as defined in Attachment A, Section 9.3.1(2)(a)(ii).

ii. An Asset Owner's Real-Time Cleared GHG Dispatch Interval MW Quantity is the RTBM cleared Energy MW quantity attributed to the GHG Pricing Zone from a Specified Source Resource, Unspecified Source Import, an Internal GHG Resource, or Import Interchange Transactions.

RTBM cleared energy MW quantities attributed to the GHG Pricing Zone from Unspecified Source Imports shall be adjusted to account for the negative difference between the Real-Time Resource GHG Attributed MW Quantity described under Section 9.3.29(b) and the Real-Time GHG Load's Billable Metered Load Quantity described under Section 9.3.30(b).

c) An Asset Owner's Day-Ahead Cleared GHG Hourly Quantity is the Day-ahead Market cleared Energy MW quantity attributed to the GHG Pricing Zone from a Specified Source Resource, Unspecified Source Import, an Internal GHG Resource, Import Interchange Transactions, or Virtual Energy Offers.

9.3.30 Real-Time GHG Distribution Amount

The Market Operator calculates the Real-Time GHG distribution amount on each GHG Load within a GHG Pricing Zone for each Dispatch Interval. The GHG distribution amount for each GHG Load in each Dispatch Interval regarding a GHG Pricing Zone is calculated as follows:

GHG Distribution Dispatch Interval Amount =

[(Real-Time Marginal GHG Price) * (Real-Time GHG Load's Billable Metered Load Quantity - Day-Ahead Market GHG Load's Cleared

Hourly MW Quantity)]

a) Real-Time GHG Load's Billable Metered Load Quantity is the Billable Metered Load Quantity for the GHG Load adjusted for losses within that GHG Pricing Zone.

b) Asset Owner's Day-Ahead Cleared GHG Hourly Quantity as described in Attachment A, Section 9.2.20(b).

9.4 Revenue Neutrality Uplift Distribution Amount

The Market Operator will perform the following calculation for each hour of the Operating Day for each Asset Owner and Settlement Location to ensure that the Market Operator is revenue neutral over the Operating Day. The Market Operator will calculate hourly summations to each Market Participant for all Asset Owners it represents and will calculate daily summations as specified in the Markets+ Protocols. The calculations below can result in residual amounts due to rounding. ~~SPP~~ The Market Operator will sum up those residual amounts per Operating Day and include them in the Markets+ budgeted expenses used to calculate the service cost.

Revenue Neutrality Uplift ("RNU") Distribution Amount =
Daily RNU Distribution Rate * RNU Distribution Volume * (-1)

(a) The Daily RNU Distribution Rate is equal to the Daily RNU Distribution Amount divided by the Daily RNU Distribution Volume.

(i) The Daily RNU Distribution Amount is equal to:

(1) The sum of all Asset Owners' charges and payments calculated under Section 9.2, 9.3, 9.5, and 9.6 for the Operating Day; plus

(2) Any other charges and credits not accounted for under Section 9.2 and 9.3 for the Operating Day.

(ii) The Daily RNU Distribution Volume is equal to the sum of all Asset Owners' RNU Distribution Volumes for the Operating Day.

(b) An Asset Owner's RNU Distribution Volume at a Settlement Location for an hour is equal to the sum of:

(i) The absolute value of actual metered generation and load in the hour; and

(ii) The absolute value of scheduled Interchange Transactions in the hour.

(iii) The absolute value of cleared Virtual Energy Offers and Bids in the hour.

9.5 Market Transmission Use Amount

The Market Operator will perform the following calculation for each Operating Day for each Markets+ Transmission Service Provider.

Market Transmission Use (MTU) Amount = Daily MTU Distribution Amount * MTU Ratio Share * (-1)

(1) The Daily MTU Distribution Amount is the value calculated in Attachment A, Section 9.69. ~~of this Attachment A.~~

(2) The MTU Ratio Share is equal to the Markets+ Transmission Service Provider Revenue Recovery Amount (MTSPRRA) divided by the approved Region-Wide Revenue Recovery Amount (RWRRA). MTSPRRA and RWRRA are as defined in Attachment A, Appendix 2. ~~of this Attachment A.~~

9.6 Market Transmission Use Distribution Amount

A charge or credit will be calculated for each Asset Owner at each Settlement Location for the Operating Day for the purposes of funding payments made under Attachment A, Section 9.5 ~~8 of this Attachment A~~ as follows:

Daily MTU Distribution Amount =

Region-Wide Market Transmission Use Rate * Sum of Asset Owners' Daily Market Activity across all Settlement Locations

(1) The Region-Wide Market Transmission Use Rate is equal to the amount calculated per the MTU formula template in Attachment A, Appendix 2 ~~of Attachment A of this Tariff~~Markets+ Tariff and is equal to ~~twice~~ the sum of all Markets+ Transmission Service Provider Revenue Recovery Amounts (MTSPRRA) divided by twice the sum of all Markets+ Transmission Service Provider Net Energy for Load (MTSPNEL). MTSPRRA and MTSPNEL are as defined in Attachment A, Appendix 2.

(2) The sum of the Asset Owner's Market Activity at a Settlement Location for an Operating Day is equal to the sum of:

(a) The absolute value of actual metered generation for the Operating Day;

(b) The absolute value of actual metered load for the Operating Day; and

(c) The absolute value of scheduled Interchange Transactions for the Operating Day; and

(d) The absolute value of cleared Virtual Energy Offers and Bids for the Operating Day.

The Market~~SPP-Wide Market~~ Activity is equal to the sum of all Asset Owners' Market Activity for the Operating Day.

9.7 Market Administration Services Amount

The Market Operator will perform calculations at each Settlement Location for each hour consistent with Schedules 1-A5 and 1-A6 of the Markets+ Tariff.

The Market Operator will perform the following calculation for each hour of the Operating Day for each Asset Owner and Settlement Location to ensure that the Market Operator is revenue neutral over the Operating Day for each GHG Pricing Zone for GHG settlement. The Market Operator will

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calculate hourly summations to each Market Participant for all Asset Owners it represents and will calculate daily summations as specified in the Markets+ Protocols for each GHG Pricing Zone. The calculations below can result in residual amounts due to rounding or the positive difference between the Real-Time Resource GHG Attributed MW Quantity described under Section 9.3.29(b) and the Real-Time GHG Load's Billable Metered Load Quantity described under Section 9.3.30(b). The Market Operator will sum up those residual amounts per Operating Day.

9.8 GHG Revenue Neutrality Uplift Distribution Amount

GHG Pricing Zone. The calculations below can result in residual amounts due to rounding or the positive difference between the Real-Time Resource GHG Attributed MW Quantity described under Section 9.3.29(b) and the Real-Time GHG Load's Billable Metered Load Quantity described under Section 9.3.30(b). The Market Operator will sum up those residual amounts per Operating Day.

GHG Revenue Neutrality Uplift ("RNU") Distribution Amount =
Daily GHG RNU Distribution Rate * GHG RNU Distribution Volume * (-1)

(a) The Daily GHG RNU Distribution Rate is equal to the Daily GHG RNU Distribution Amount divided by the Daily GHG RNU Distribution Volume.

(i) The Daily GHG RNU Distribution Amount is equal to:

(1) The sum of all Asset Owners' charges and payments calculated under Section 9.2.20, 9.2.21, 9.3.29 and 9.3.30 for the Operating Day; plus

(ii) The Daily GHG RNU Distribution Volume is equal to the sum of all Asset Owners' GHG RNU Distribution Volumes for the Operating Day within that GHG Pricing Zone.

(b) An Asset Owner's GHG RNU Distribution Volume at a Settlement Location for an hour is

equal to that Asset Owners GHG Load in the hour.

10 Billing

The Market Operator will prepare a billing statement each billing cycle in accordance with this

section of Attachment A. Such billing statements will be prepared for each Market Participant in accordance with the charges and payments specified in Attachment A, Section 9, and showing the net amount to be paid or received by the Market Participant in accordance with Attachment A, Sections 10.6 and 10.7. Billing statements will provide sufficient detail, as specified in the Markets+ Protocols, to allow verification of the billing amounts and completion of the Market Participant's internal accounting. Unresolved billing disputes will be settled in accordance with procedures specified in Section 5 of the Markets+ Tariff.

10.1 Settlement Statements

(1) The Market Operator will issue a first Scheduled Settlement Statement for an Operating Day no later than seven (7) Ccalendar Ddays following the applicable Operating Day unless the seventh (7) day following the applicable Operating Day is not a Bbusiness Dday, in which case, the preliminary Settlement Statement will be issued on the first Bbusiness Dday thereafter. This preliminary Scheduled Settlement Statement is defined as an S7 Scheduled Settlement Statement.

(2) The Market Operator will issue a second Scheduled Settlement Statement for an Operating Day no later than fifty-three (53) Ccalendar Ddays following the applicable Operating Day unless the fifty-third (53) Ccalendar Dday following the applicable Operating Day is not a Bbusiness Dday, in which case, the S53 Scheduled Settlement Statement will be issued on the first Bbusiness Dday thereafter. This second Scheduled Settlement Statement is defined as an S53 Scheduled Settlement Statement.

(3) The Market Operator will issue a final Scheduled Settlement Statement for an Operating Day no later than one hundred and twenty (120) Ccalendar Ddays following the applicable Operating Day unless the one hundred and twentieth (120) Ccalendar Dday following the applicable Operating Day is not a Bbusiness Dday, in which case, the S120 Scheduled Settlement Statement will be issued on the first (1) bBusiness Dday thereafter. This final Scheduled Settlement Statement is defined as an S120 Scheduled Settlement Statement.

(4) The Market Operator will make corrections to Settlement Statements for an Operating Day for Data Errors, Software Errors, and Settlement Statement disputes in accordance with Attachment A, Section 10.1.1. Settlement associated with a specific Operating Day will be considered final at the end of the three hundred sixty-fifth (365) Ccalendar Dday following the applicable Operating Day.

(5) To the extent that a Market Participant, or its designated Meter Agent, does not submit Meter Data representing that Market Participant's actual Resource output and load consumption, either on a five (5) minute basis or an hourly basis in accordance with the timelines specified in the Markets+ Protocols, the Market Operator will use estimated

data for that Market Participant that is equal to that Market Participant's telemetered generation and load for the applicable intervals or State Estimator values if telemetered values are not available for the purposes of calculating the preliminary statements. To the extent a Meter Agent does not submit data representing the metering of each interconnecting tie-line between Settlement Areas, the Market Operator will substitute State Estimator values. In the event that actual Meter Data is not submitted prior to the issuance of an S120 Scheduled Settlement Statement, the Market Operator will use the best available data, which may include estimated Meter Data as developed by the Market Operator, for the purposes of calculating S120 Scheduled Settlement Statements.

10.1.1 Resettlements

Resettlements for a given Operating Day will be considered by the Market Operator for the following reasons:

(1) Software Errors and Data Errors

(a) The Market Operator, in its discretion, may correct its Software Errors and/or Data Errors and resettle the relevant Operating Day(s), as closely as practicable, to the outcome that would have resulted but for the relevant Software Error or Data Error based on the following:

(i) Software Errors and/or Data Errors that are identified by the Market Operator or submitted through the dispute process within ninety (90) Ce alendar Ddays of the affected Operating Day will be considered for Resettlement.

(ii) Software Errors and/or Data Errors that result in incremental differences between any two consecutive Settlement Statements subsequent to S7 Scheduled Settlement Statement will be considered for Resettlement if identified by the Market Operator or submitted through the dispute process within thirty (30) Cealendar Ddays of the posting of the applicable Settlement

Statement.

(b) If the correction of the relevant Software Error and/or Data Error would require Day-Ahead or Real-Time Balancing Market price corrections, the Market Operator will address such errors.

(2) Granted Disputes

(a) The Market Operator will resettle Operating Days for a granted dispute in accordance with the guidelines in Attachment A, Section 10.3.

(3) Per FERC or court order

(a) The Market Operator will resettle Operating Days as required by FERC or court order.

10.2 Invoices

(1) The Market Operator will issue an invoice detailing all charges and payments on a weekly basis in accordance with the invoice issue dates specified in the Markets+ Protocols.

(2) The Market Operator will make payments to the Market Participant for any net credit shown on the invoice and the Market Participant must make payment to the Market Operator for any net charge shown or the invoice, including disputed amounts. Resolution of disputed amounts will be shown as an adjustment on future invoices.

(3) Market Participants must make payment to the Market Operator that is equal to the net charge shown on the invoice by no later than 1500 PPT on the 4th Bbusiness Dday following the day the invoice was issued.

(4) The Market Operator will make payment to the Market Participant that is equal to the net credit shown on the invoice by no later than 1500 PPT on the 6th Bbusiness Dday following the day the invoice was issued.

(5) All payments to the Market Participant and all payments to the Market Operator will be made by electronic funds transfer in U.S. dollars.

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10.3 Invoice Disputes

In the event that a dispute arises between the Market Participant and the Market Operator concerning any Settlement Statements contained within an invoice that cannot be resolved to the Market Participant's satisfaction, such disputes will be resolved as follows:

(1) Disputes relating to an S7 Scheduled Settlement Statement or S53 Scheduled Settlement Statement:

The Market Participant must notify the Market Operator within ninety (90) Ccalendar Ddays of the applicable Operating Day of the items that the Market Participant disputes.

(2) Disputes relating to the S120 Scheduled Settlement Statement, or any subsequent Settlement Statement:

a. Must relate only to material incremental changes between issuance of the relevant consecutive Settlement Statements. Material for the purpose of this section is defined as a dispute wherein more than $2,000.00 is at issue for the Market Participant for the impacted Operating Day. The Market Participant must submit documentation supporting the materiality of the dispute for consideration.

b. Provision 10.3(2)a. does not apply on the first Settlement Statement that includes or should include offers for a Market Participant above $1,000/MWh, verified by the Market Monitor as reflecting actual costs as described in Attachment B, Section 3.4(k).

c. Must be filed within thirty (30) Ccalendar Ddays following the posting of the applicable Settlement Statement that the Market Participant disputes.

(3) The notice of dispute must contain the following minimum information:

- Request Type
- Subject
- Full Description
- Statement Type
- Charge Type
- Settlement Location

- Operating Day
- Start Interval
- End Interval
- Dispute Amount
- Proposed Resolution
- Market Participant
- Asset Owner

(4) If the Market Operator determines that additional information is required concerning a submitted notice of dispute, the Market Operator will notify the Market Participant no later than thirty (30) days following the date the notice of dispute was submitted to the Market Operator. The Market Participant must then submit additional information to the Market Operator within thirty (30) days in order to have the notice of dispute considered valid.

(5) The Market Operator will use its best efforts to notify the Market Participant of approval or denial of the submitted notice of dispute within twenty (20) Bbusiness Ddays following the close of the applicable ninety (90) day or thirty (30) day window specified under Subsection 10.3(1) or Subsection 10.3(2). If the Market Operator estimates that it will take longer than the twenty (20) Bbusiness Dday window to analyze a specific billing dispute, the Market Operator will notify the Market Participant and provide an estimate of the amount of time required to complete the analysis.

(6) If the Market Operator denies a Market Participant's notice of dispute or the Market Participant is not satisfied that it is receiving timely consideration of the dispute, the Market Participant may initiate the dispute resolution procedures.

10.4 Interest on Unpaid Balances

Interest on any unpaid amounts will be calculated in accordance with the methodology specified for interest on refunds in FERC's regulations at 18 C.F.R. § 35.19a(a)(2)(iii). Interest on delinquent amounts will be calculated from the due date of the invoice to the date of payment.

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10.5 Market Participant Default

Defaults by a Market Participant will be handled in accordance with Attachments H (~~SPP~~ Credit Policy) and I (Distribution of Other Revenues) of the Tariff.

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10.6 Further Clarification Regarding Right to Net

The Markets+ Counterparty and the Market Participant will discharge mutual debts and payment obligations for multiple transactions due and owing to each other on the same date through netting, in which case all amounts a party owes to the other party under Attachment A will be replaced by a single payment obligation and netted so that only the net amount remaining due will be paid by the owing party.

10.7 Markets+ Counterparty Limitation of Liability

The liability of the Markets+ Counterparty to settle Markets+ transactions will be limited such that the aggregate of payments owed to a Market Participant will not exceed the aggregate amount of payments that has been paid to or recovered by the Markets+ Counterparty, from that Market Participant (including by way of realization of financial security) in respect of that settlement period.

11. Confidentiality Provisions

This Section 11 will apply to Confidential Information disclosed by a Market Participant to the Market Operator, or by the Market Operator to the Market Monitor, FERC, the CFTC, or an Authorized Requestor.

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11.1 Restrictions on Confidential Information Provided to Receiving Party

A party in receipt of Confidential Information ("Receiving Party") may not disclose Confidential Information received from a party disclosing said Confidential Information ("Disclosing Party") to any person, corporation, or any other entity except as specifically permitted in this Attachment A, Section 11 ~~of this Attachment A~~.

11.1.1 Procedures for Confidentia Information

Receiving Party will adopt procedures within its organization to maintain the confidentiality of all Confidential Information. Such procedures must provide that:

(1) The Confidential Information will be disclosed to Receiving Party's directors, officers, employees, representatives, and agents only on a "need to know" basis;

(2) Receiving Party will make its directors, officers, employees, representatives, and agents aware of Receiving Party's obligations under this Section 11;

(3) Receiving Party will cause any copies of the Confidential Information that it creates or maintains, whether in hard copy, electronic format, or other form, to identify the Confidential Information as such, and to retain confidential markings; and

(4) Before disclosing Confidential Information to a contractor or vendor of Receiving Party, Receiving Party will require a non-disclosure agreement with each such contractor or vendor. Such non-disclosure agreement will contain confidentiality provisions substantially similar to the terms of this Section 11.

11.1.2 Exceptions

Without violating the confidentiality provisions of this Section 11, a Receiving Party may disclose certain Confidential Information:

(1) As required by any law, regulation, or order, or as expressly required or permitted by this ~~Tariff~~Markets+ Tariff, provided that the Receiving Party must make reasonable efforts to restrict public access to the disclosed Confidential Information by protective order, by aggregating information, or otherwise if reasonably possible; or

(2) If the Disclosing Party that supplied the Confidential Information to the Receiving Party has given its prior written consent to the disclosure as set forth in Attachment A, ~~Subsection~~ Section 11.1.4(3), which consent may be given or withheld in Disclosing Party's sole discretion; or

(3) If, before it is furnished to Receiving Party, the Confidential Information is in the public domain; or

(4) If, after it is furnished to Receiving Party, the Confidential Information enters the public domain other than through a manner inconsistent with the provisions of this section; or

(5) If reasonably deemed by the Receiving Party to be required to be disclosed in connection with a dispute between Receiving Party and Disclosing Party; provided that the Receiving Party must make reasonable efforts to restrict public access to the disclosed Confidential Information by protective order, by aggregating information, or otherwise if reasonably possible; or

(6) To a vendor or prospective vendor of Market Operator so long as such vendor or prospective vendor: (i) is not a Market Participant; (ii) has a need to know in connection with its business with the Market Operator; and (iii) executes a confidentiality agreement with terms substantially similar to those in ~~this~~ Attachment A, Section 10~~1~~1.

11.1.3 Injunctive Relief and Specific Performance

It may be impossible or very difficult to measure, in terms of money, the damages that would accrue due to any breach by Receiving Party of this section, or any failure to perform any obligation contained in this section, and, for that reason, among others, a Disclosing Party affected by such a disclosure or threatened disclosure may be entitled to injunctive relief, including specific performance of this section (but is not hereby precluded from seeking other forms of relief). In the event that a Disclosing Party institutes any proceeding to enforce any part of this section, the affected Receiving Party, by entering any agreement incorporating this ~~Tariff~~Markets+ Tariff, agrees that it will not assert any claim or defense that an adequate remedy at law or other remedy would be adequate for such a breach.

11.1.4 Market Participant Access and Market Operator Use of Confidential Information

(1) No Market Participant will have a right hereunder to receive or review any documents, data, or other information of another Market Participant, including documents, data, or other information provided to the Market Operator, to the extent such documents, data, or information is Confidential Information under this Ssection 11; provided, however, a Market Participant may receive and review any composite documents, data, and other information that may be developed based on such Confidential Information if the composite does not, directly or by its nature, disclose any individual Market Participant's Confidential Information.

(2) The Market Operator will collect and use Confidential Information only in connection with its authority under this ~~Tariff~~Markets+ Tariff and the retention of such information will be in accordance with the Market Operator's retention policies. Except as otherwise provided in Sections 11.1.2, 11.1.5, 11.2, and 11.3, the Market Operator will not disclose to a Market Participant or to any third party, any Confidential Information of a Market Participant or a Market Participant applicant; provided that nothing contained herein will prohibit the Market Operator from providing a Market Participant's Confidential Information to requesting entities to the extent that: (i) the Market Operator determines, in its reasonable discretion, that the exchange of such information is required for reliability within the Markets+ Footprint; (ii) such receiving entity is bound by a written agreement to maintain such confidentiality; and (iii) the Market Operator has notified the affected Market Participant of its intention to release such information no less than five (5) Business Days prior to the release.

(3) Nothing contained herein will prevent the Market Operator from releasing a Market Participant's Confidential Information to a third party provided that the Market Participant has delivered to the Market Operator specific, written authorization for such release setting forth the data or information to be released, to whom such release is authorized, and the period of time for which such release will be authorized. The

Market Operator will limit the release of a Market Participant's Confidential Information to that specific authorization received from the Market Participant. Nothing herein will prohibit a Market Participant from withdrawing such authorization upon written notice to the Market Operator who will cease such release as soon as practicable after receipt of such withdrawal notice.

11.1.5 Required Disclosure

(1) If a Receiving Party is required by applicable law, or in the course of administrative or judicial proceedings, other than ~~Commission~~FERC, CFTC, or state regulatory proceedings or investigations, to disclose to third parties, other than to ~~the Commission~~ FERC, the CFTC, or their respective staffs~~,~~ Confidential Information that is otherwise required to be maintained in confidence pursuant to this ~~Tariff~~Markets+ Tariff, the Receiving Party subject to such disclosure requirement may disclose such information; provided, however, that the Receiving Party will not release the data until the affected Disclosing Party(ies) provide written consent or until the affected Disclosing Party's(ies') legal avenues to prevent the disclosure are exhausted, except as provided in Sections 11~~0~~.2, 11~~0~~.3, and 11~~0~~.4. As soon as the Receiving Party learns of the disclosure requirement and prior to making disclosure, it will notify the affected Disclosing Party(ies) of the requirement and the terms thereof and the date on which it may be required to disclose the information. The affected Disclosing Party(ies) may direct, at their sole discretion and cost, any challenge to or defense against the disclosure requirement. The Receiving Party will cooperate with such affected Disclosing Party(ies) to the maximum extent practicable to minimize the disclosure of the Confidential Information consistent with applicable law. To the extent reasonably possible, the Receiving Party will maintain the confidentiality of Confidential Information subject to this Section 11~~0~~.1.5 with (a) a protective order, (b) other procedures available for protecting confidential data, or (c) by aggregating data to prevent disclosure of Confidential Information. Each Receiving Party will cooperate with the affected Disclosing Party's(ies') effort or pursuit to obtain proprietary or confidential treatment of such Confidential Information by the person to whom such information is disclosed prior to any such disclosure.

(2) Section 10~~1~~.1.5(1) does not apply to disclosure of information to ~~the Commission~~ FERC or its staff, the CFTC or its staff, or to a state regulator or its staff.

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11.1.6 Limitations

Nothing contained in Section ~~10~~11.1 through and including Section ~~10~~11.1.5 will require any Receiving Party to violate any law or file a lawsuit in order to prevent disclosure of Confidential Information.

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11.2 Confidentiality Provisions Applicable to the Market Monitor

(1) The Market Operator is authorized to provide Confidential Information to the Market Monitor. For purposes of Confidential Information provided by the Market Operator to the Market Monitor, the Market Operator will be considered to be a Disclosing Party, and for purposes of this Section ~~10~~11.2, the Market Monitor will treat both the Market Operator and, if known to the Market Monitor, the Market Participant originally providing specific Confidential Information as Disclosing Parties in the event the Market Monitor receives a request for Confidential Information under this Section ~~10~~11.2.

(2) The Market Monitor will use all reasonable procedures necessary to protect and preserve the confidentiality of all Confidential Information it receives.

(3) The Market Monitor will not disclose Confidential Information to any person or entity except to ~~the Commission~~ FERC or its staff or the CFTC or its staff, without prior written consent. However, the Market Monitor may disclose its referrals to FERC's Office of Enforcement to a market monitoring unit of an ISO or RTO without written consent if (i) the substance of the referral relates to or may reasonably be expected to involve interregional behavior affecting the ISO or RTO, (ii) reasonable precautions are taken to ensure that all referral information remains non-public, and (iii) such disclosure is otherwise permitted by and in accordance with applicable FERC orders.

(4) Upon receipt of a subpoena or other compulsory process from a source other than ~~the Commission~~ FERC or its staff, or the CFTC or its staff, for the disclosure of Confidential Information, the Market Monitor will promptly notify the affected Disclosing Party(ies) that originally provided the data and will provide all reasonable assistance requested by the affected Disclosing Party(ies) to prevent disclosure, and if possible under the terms of the subpoena or other compulsory process will not release the data until the affected Disclosing Party(ies) provide written consent or until the affected Disclosing Party's(ies') legal avenues to prevent disclosure are exhausted. To

the extent reasonably possible, the confidentiality of Confidential Information subject to Section 10<u>1</u>.2(2) will be maintained with (i) a protective order, (ii) other procedures available for protecting confidential data, or (iii) by aggregating data to prevent disclosure of Confidential Information.

11.3 Disclosure to ~~Commission~~ FERC or CFTC

(1) If ~~the Commission~~ FERC, ~~or~~ CFTC, or their respective staffs requests Confidential Information from the Market Operator and/or the Market Monitor that is otherwise required to be maintained in confidence pursuant to this ~~Tariff~~Markets+ Tariff, the Market Operator and/or the Market Monitor, as applicable will provide the requested information to ~~the Commission~~FERC, CFTC, or their respective staffs within the time provided for in the request for information. Should the Market Operator and/or the Market Monitor require additional time to provide the information requested due to logistical matters such as the volume of information requested or technical complexity involved, the Market Operator and/or the Market Monitor will promptly communicate that need to the entity requesting the information and will establish the time for production of the requested information.

(2) In providing the information to ~~the Commission~~ FERC or its staff, the Market Operator and the Market Monitor will, consistent with 18 C.F.R. §§ 1b.20 and/or 388.112, request that the Confidential Information be treated as confidential and non-public by ~~the Commission~~ FERC and its staff and that the Confidential Information be withheld from public disclosure. The Market Operator and/or the Market Monitor will promptly notify the affected Disclosing Party(ies) that originally submitted the requested Confidential Information when it receives from ~~the Commission~~ FERC or its staff a request for disclosure of Confidential Information.

(3) In providing the information to the CFTC or its staff, the Market Operator and the Market Monitor will, consistent with 17 C.F.R §§ 11.3 and 145.9, request that the Confidential Information be treated as confidential and non-public by the CFTC and its staff and that the Confidential Information be withheld from public disclosure. If the Market Operator and/or the Market Monitor receives notice from the CFTC or its staff that Confidential Information provided by the Market Operator and/or the Market Monitor is to be released, it will promptly notify the affected Disclosing Party(ies) in

order to afford the affected Disclosing Party(ies) an opportunity to respond before such information would be made public.

11.4 Disclosure to Authorized Agencies

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11.4.1 Basic Requirements for Disclosure

The Market Operator or Market Monitor will only disclose Confidential Information to an Authorized Requestor under the following conditions:

(1) The Authorized Requestor has executed the ~~n~~Non-~~d~~Disclosure Aagreement in Attachment F with the Market Operator; and

(2) The Market Operator is able to verify that the Authorized Agency employing or retaining the Authorized Requestor has provided the Market Operator with the following information pursuant to Attachment F, Section 2.2 ~~of Attachment F to this Tariff~~Markets+ Tariff:

(a) A list of authority (including statutory) specifying the particular Authorized Agency's duty, responsibility, or authority in fulfillment of which it will make requests to the Market Operator or the Market Monitor under this section for information, including, but not limited to, that enumerated and described as available to the Market Monitor in Attachment C ~~of this Tariff~~Markets+ Tariff; or, in the case of a regional state committee, a FERC order prohibiting the release of Confidential Information by the regional state committee, except in accordance with the terms of the N~~n~~on-~~d~~Disclosure ~~a~~Agreement;

(b) A statement notifying and identifying to the Market Operator that the Authorized Agency has practices or procedures in place adequate to protect against the unauthorized release of Confidential Information; and

(c) Confirmation in writing that the Authorized Requestor is authorized by the Authorized Agency to enter into the N~~n~~on-~~d~~Disclosure A~~a~~greement and to receive Confidential Information under Attachment A ~~of this Tariff~~Markets+ Tariff.

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11.4.2 Use of Confidential Information

The Authorized Requestor will use the Confidential Information for the purpose of assisting an Authorized Agency in discharging its duty, responsibility or authority in fulfillment of which it authorizes Authorized Requestors to make requests for Confidential Information and for no other purpose. Any and all Authorized Requestors authorized by the same Authorized Agency may have access to the Confidential Information that is provided to that Authorized Agency.

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11.4.3 Limited Oral Disclosures

The Market Operator or the Market Monitor may, in the course of discussions with an Authorized Requestor or Authorized Requestors in meetings or teleconferences, orally disclose information otherwise required to be maintained in confidence, without the need for a prior Information Request. The Market Operator or the Market Monitor will not make any written or electronic disclosures of Confidential Information to the Authorized Requestor pursuant to this section. The Market Operator or Market Monitor will also be authorized to assist Authorized Requestors in interpreting Confidential Information that is disclosed.

11.4.4 Information Requests

(1) Form: Information Requests to the Market Operator or the Market Monitor will be in writing and will include electronic communications addressed to the Market Operator or to the Market Monitor as appropriate.

(2) Content: Each Information Request will describe, in as much detail as possible, the particular information sought, including the time period for the requested information; provide a description of the purpose for which the information is being sought, and state the time period for which it is expected that the information will need to be retained by the Authorized Requestor.

(3) Notice: The Market Operator or the Market Monitor will provide an affected Market Participant with notice of, and a copy of, an Information Request by an Authorized Requestor as soon as practicable.

(4) Disclosure: -Subject to the provisions of Section 11.4.4(6) and (7) below, the Market Operator or the Market Monitor will supply the information sought to the Authorized Requestor in response to any Information Request within ten (10) Business Days after the receipt of the Information Request, or within such longer period as may be specified by the Information Request, unless a timely objection has been made to the Information Request, or unless the requested information can only reasonably be made available within an extended time period.

To the extent that the Market Operator or the Market Monitor cannot reasonably prepare and deliver the requested information within a ten (10) Business Day period or any longer period specified in the Information Request, it will, within such period, hold discussions with the Authorized Requestor and provide the Authorized Requestor with a mutually agreed upon written schedule for the provision of such remaining information. Upon providing the requested information to the Authorized Requestor, the Market Operator or the Market Monitor may provide a copy of the disclosed information to the affected Market Participant(s), or provide a listing of the Confidential Information disclosed; provided, however, that the Market Operator or the Market Monitor will not

reveal any affected Market Participant's Confidential Information to any other Market Participant.

(5) Objection and Clarification: Notwithstanding Section 10~~1~~.4.4(4) above, should the Market Operator, the Market Monitor or an affected Market Participant object to an Information Request or any portion thereof to the Authorized Agency, any of them or the Authorized Agency may, within ten (10) Business Days following the Market Operator's or the Market Monitor's receipt of the Information Request, request, in writing, a conference with the Authorized Agency, or the Authorized Requestor, to resolve differences concerning the scope or time period covered by the Information Request; provided, however, nothing herein will require the Authorized Agency to participate in any conference.

Any party to the conference may seek assistance from FERC staff in resolution of the dispute or initiate legal action at FERC. Any complaints filed at FERC objecting to a particular Information Request will be designated by the party as a "fast track" complaint.

If no FERC proceeding regarding the Information Request is commenced within five (5) Business Days following notice from any participant refusing or terminating such conference, the Market Operator or the Market Monitor may respond to the Information Request within five (5) Business Days or any longer period that may be specified by the Information Request, counted from the expiration of such five-day period.

(6) Opportunity to Respond to Confidentiality Claims: If the affected Market Participant, the Market Operator, or the Market Monitor considers the information sought by the Information Request as Confidential Information, the Authorized Requestor will be provided an opportunity to challenge, through the dispute resolution process set forth in Part I, Section ~~6~~5, the designation or classification of the requested information as Confidential Information.

(7) Response to Tailored Request for Information from State Commissions: Market Monitor may respond to tailored requests for information from state

commissions regarding general market trends and the performance of the wholesale market, but not for information designed to aid state enforcement actions. Granting or refusing such requests will be at the Market Monitor's discretion.

(8) Limitation On Disclosure Obligation: The Market Operator or the Market Monitor will not be required to make disclosure in response to an Information Request:

(a) In circumstances where an electronic data link, dedicated communication circuit, or other hardware or third party services would be necessary to effectuate the disclosure;

(b) That is of a scope or extent materially similar to the flow of data from Market Participants to the Market Operator or from the Market Operator to the Market Monitor;

(c) That is unduly burdensome; or

(d) That is not pertaining to general market trends or the performance of the Market Operator.

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11.4.5 Breach of Non-Disclosure Obligations

In the event of any breach of a Nnon-Ddisclosure Aagreement entered into in connection with Attachment A,this Section 1011.4:

(1) The Authorized Requestors and/or their respective Authorized Agency will promptly notify the Market Operator or the Market Monitor, who will, in turn, promptly notify any affected Market Participant of any unauthorized release of Confidential Information provided pursuant to any Nnon-dDisclosure aAgreement.

Upon notification, the Market Operator will cease disclosure to the Authorized Requestor pursuant to any Information Request and will make no disclosure pursuant to any Information Request pending from the Authorized Requestor until it can be determined after consultation with the Authorized Requestor, the corresponding Authorized Agency, and the affected Market Participant that an appropriate combination of the following factors justifies resumption of the Authorized Requestor's access to Confidential Information: (i) the unauthorized disclosure was not due to the intentional, reckless or negligent action or omission of the Authorized Requestor; (ii) there was no harm or economic damage suffered by the affected Market Participant; (iii) there are now practices or procedures in place adequate to prevent a recurrence of the unauthorized disclosure; and/or (iv) similar good cause shown.

(2) If the Market Operator or the Market Monitor receives from an Authorized Requestor or Authorized Agency a written notice that a breach has occurred, or FERC has made a ruling that a breach has occurred, the Market Operator and/or the Market Monitor may terminate the Nnon-dDisclosure Aagreement and require either the immediate return of all Confidential Information obtained by the Authorized Requestor pursuant to the Nnon-dDisclosure Aagreement or a certification of its destruction.

The Market Operator will verify the breach in consultation with the Authorized Agency. If it is subsequently determined that there was no breach, or if otherwise justified by circumstances described in Subsection Section 11.4.5(2) above, the Market Operator will restore the status of the Authorized Requestor. Any other rights and

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remedies will be pursuant to the terms of the Nnon-dDisclosure Aagreement.

(3) No Authorized Requestor, who is an employee of an Authorized Agency, will have responsibility or liability whatsoever under the Nnon-dDisclosure Aagreement or Attachment A to this TariffMarkets+ Tariff for any and all liabilities, losses, damages, demands, fines, monetary judgments, penalties, costs, and expenses caused by, resulting from, or arising out of, or in connection with, the release of Confidential Information to persons not authorized to receive it.

However, nothing in this Section 1011.4.57(3) is intended to limit the liability of any person who is not an employee of, or a member of, an Authorized Agency, to the degree not granted limitations as to liability under applicable state law of the Authorized Agency's state, when such a person is under contract to perform services for the Authorized Agency, for any and all economic losses, damages, demands, fines, monetary judgments, penalties, costs, and expenses caused by, resulting from, or arising out of, or in connection with, such unauthorized release.

11.5 Preservation of Rights

A Disclosing Party will have the right to pursue all appropriate actions to prevent or contest any attempt to remove the confidential status or any order removing such confidential status of its Confidential Information. Any Receiving Party seeking to dispute the designation of information as Confidential Information may challenge such designation through the dispute resolution process as established in Part I, Section ~~6~~ 5~~of this Tariff~~Markets+ ~~Tariff~~.

Appendix 1 to Attachment A

Violation Relaxation Limit Values

This Appendix 1 to Attachment A sets forth the VRL values to be used in SCOM.

Constraint Type	Description	VRL [$/MW]
(1) Resource Capacity	The minimum and maximum MW dispatchable output of a Rresource as indicated in a Resource Offer.	100,000
(2) Global Power Balance	Energy needed to balance Rresources and load.	50,000
(3) Resource Ramp	The ramp capability of a Rresource as indicated in the resource plan.	5,000
(4a) Operating Constraint not subject to Market-to-Market coordination	A MW limit that can be imposed on SPP thMarket Operator related to MW flow across a market node, a manually-identified transmission constraint, a Watch List transmission constraint, a flowgate constraint, or a transmission constraint identified by the Market OperatorSPP's real-time contingency analysis (all of which could be physical transmission constraints or Sservice Fflow Ce onstraints).	$750/*$1,750 when the loading is greater than 100% and less than or equal to 101% at each network constraint at each Operating Constraint.
		$1,000/*$2,000 when the loading is greater than 101% and less than or equal to 102% at each network constraint
		$1,250/*$2,250 when the loading is greater than 102% and less than or equal to 103% at each network constraint
		$1,500/*$2,500 when the loading is greater than 103% and less than or equal to 104% at each network constraint
		$1,750/*$2,750 when the loading is greater than 104% at each network constraint

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* Applies only when ~~MMU~~ Market Monitor has authorized one or more Resource Offers in excess of $1,000.

Appendix 2 to Attachment A

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Market Transmission Use Rate Template

A. Calculation of Region-Wide Market Transmission Use Revenue Recovery Amount

In calculating the Market Transmission Use—_Region-Wide Revenue Recovery Amount_ (RWRRA), the Market Operator will sum the applicable Markets+ Transmission Service Provider's Revenue Recovery Amounts (MTSPRRA) submitted for input to this Formula Rate Template. Each Markets+ Transmission Service Provider's (MTSP's) portion of such Region-Wide Recovery Amount (RWRRA) will be adjusted according to Attachment A, Section 7.11(F).

B. Calculation of Region-Wide Market Transmission Use Net Energy For Load

In calculating the Market Transmission Use Region-Wide Net Energy for Load (RWNEL), the Market Operator will sum the applicable Markets+ Transmission Service Provider's Net Energy for Load (MTSPNEL) submitted for input to this Formula Rate Template.

C. Billing Determinants

Definitions: These definitions are to be used in this Appendix 2 only; in the event of a conflict between these definitions and other definitions in the ~~Tariff~~Markets+ Tariff, these definitions control in the interpretation of this Appendix 2; other capitalized terms are defined elsewhere in this ~~Tariff~~Markets+ Tariff.

1. **Markets+ Transmission Service Provider Qualified Revenue Amount (MTSPQRA)** – The amount of Short-Term Firm (STF) and Non-Firm (NF) Point-to-Point (PTP) revenues for an MTSP as an average of the last three (3) year period prior to the MTSP joining Markets+.

2. **Region-Wide Net Energy for Load (RWNEL)** – Aggregation of Markets+ Transmission Service Provider's Net Energy for Load (MTSPNEL) for each Markets+ Transmission Service Provider included in the MTU rate basis for the

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Markets+ ~~footprint~~Footprint. Billing Determinant is used in the Region-Wide Market Transmission Use Rate (RWMTURt) denominator.

3. **Region-Wide Market Transmission Use Rate (RWMTURt)** – Markets+ Footprint-wide rate for ~~Market Transmission Use~~MTU per ~~megawatt hours~~MWh of market activity as defined in Attachment A, Section 7.11(C) ~~iii~~.

4. **Region-Wide Revenue Recovery Amount (RWRRA)** – Aggregated total of all participating Markets+ Transmission Service Provider's Revenue Recovery Amount (MTSPRRA) in the Markets+ F~~f~~ootprint used in rate basis for MTU recovery; it is also the denominator for MTU revenue distribution pro-rata determination for each participating MTSP.

5. **Markets+ Transmission Service Provider's Net Energy for Load (MTSPNEL)** – Individual MTSP's net generation of generating units that are system-owned or system-operated, plus Eenergy receipts minus Eenergy deliveries.

6. **Markets+ Transmission Service Provider's Revenue Recovery Amount (MTSPRRA)** – Total estimated recovery amount per MTSP for MTU recovery; this is the MTU revenue distribution numerator for each MTSP.

7. **Markets+ Transmission Service Provider Annual Transmission Revenue Requirement (MTSPATRR)** – MTSP's current year effective Annual Transmission Revenue Requirement (ATRR) amount.

8. **Markets+ Transmission Service Provider Annual Transmission Revenue Requirement Average (MTSPATRRAVG)** – MTSP's prior three (3) year average of ~~Annual Transmission Revenue Requirements (~~ATRR~~)~~ prior to the MTSP joining Markets+.

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9. **Markets+ Transmission Service Provider Prior-Year Market Transmission Use Offset (MTSPPYMO)** – Individual MTSP's calculated prior year MTU over-/-under recovery of MTU revenue in relation to that year's Markets+ Transmission Service Provider Revenue Recovery Amount (MTSPRRA) for the same MTSP.

10. **Markets+ Transmission Service Provider Carryover Market Transmission Use Offset (MTSPPYMCO)** – Individual MTSP's carryover under/over recovery amount unable to be realized into the following year's Markets+ Transmission Service Provider Revenue Recovery Amount (MTSPRRA) due to reducing the MTSPRRA to zero.

11. **Markets+ Transmission Service Provider Recovery Scaling Factor (MTSPRSF)** – The estimated percentage, limited between 0 – 100%, of Market+ Transmission Service Provider Qualified Revenue Amount (MTSPQRA) that would be affected by Markets+ participation.;

12. **Markets+ Transmission Service Provider Qualified Revenue Ratio (MTSPQRR)** – Individual MTSP's Transmission Service Provider Qualified Recovery Amount (MTSPQRA) divided by its MTSP Annual Transmission Revenue Requirement (ATRR) as an average of the last three (3) year period prior to MTSP joining Markets+.

13. **Markets+ Transmission Service Provider Short-Term Firm Point-To-Point Revenue (MTSPSTFRev)** – MTSP's revenue amount from Short-Term Firm (STF) Point-to-Point (PTP) Transmission Service sales.

14. **Markets+ Transmission Service Provider Non-Firm Point-To-Point Revenue (MTSPNFRev)** – MTSP's revenue amount from Non-Firm (NF) Point-to-Point (PTP) Transmission Service sales.

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15. **Expected Markets+ Transmission Service Provider Qualified Revenue Amount (EMTSPQRA)** – MTSP current year ATRR multiplied by the Markets+ Transmission Service Provider's Qualified Recovery Ratio (MTSPQRR).; This ~~In termediate~~ step ~~in~~ assists in determining~~ing~~ an annual update for Markets+ Transmission Service Provider's Recovery Scaling Factor (MTSPRSF) representing an MTSP's expected level of Short-Term Firm (STF) and Non-Firm (NF) Point-to-Point (PTP) revenues based on its currently effective ATRR. 33

D. Formula

where RWMTURt = RWRRA/RWNEL
RWRRA = SUM MTSPRRA
RWNEL = ((SUM MTSPNEL) X 2)

where MTSPRRA = (((MTSPATRR * MTSPQRR) * MTSPRSF) + MTSPPYMO + MTSPPYMCO)
MTSPQRR = MTSPQRA / MTSPATRRAVG
MTSPQRA = 3YR AVG MTSPTFRev & MTSPNFRev
MTSPATRRAVG = 3YR AVG MTSPATRR

Worksheet A – Market Transmission Use Calculation

Markets+ Transmission Service Provider Qualified Recovery Amount (MTSPQRA)

I.

Line No.		**MTSP1**
1	Year 1 Prior to Markets+ Short-Term Firm Revenue	-
2	Year 2 Prior to Markets+ Short-Term Firm Revenue	-
3	Year 3 Prior to Markets+ Short-Term Firm Revenue	-
4	3 Year Average ln1 : ln3	-
5	Year 1 Prior to Markets+ Non-Firm Revenue	-
6	Year 2 Prior to Markets+ Non-Firm Revenue	-
7	Year 3 Prior to Markets+ Non-Firm Revenue	-
8	3 Year Average ln5 : ln7	-

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9	**MTSPQRA:** ln4 + ln8	-

II. *Markets+ Transmission Service Provider ~~ATSTR)~~ ~~(1)~~ Annual Transmission Revenue Requirement Average (MTSPATRRAVG)*

Line No.		**MTSP1**
1	Year 1 Prior to Markets+ ATRR	-
2	Year 2 Prior to Markets+ ATRR	-
3	Year 3 Prior to Markets+ ATRR	-
4	**MTSPATRRAVG**: 3 Year Average ln1 : ln3	-

III. *Markets+ Transmission Service Provider Qualified Revenue Ratio (MTSPQRR)*

Line No.		**MTSP1**
1	Markets+ Transmission Service Provider Qualified Recovery Amount~~;~~, Section I; ln9 Above	-
2	Markets+ Transmission Service Provider ATTR Average~~;~~, Section II; ln4 Above	-
3	**MTSPQRR:** ln1 / ln2	**0.000%**

IV. *Markets+ Transmission Service Provider Revenue Recovery Amount (MTSPRRA)*

Line No.		**MTSP1**
1	**MTSPATRR**[1] : Markets+ Transmission Service Provider Annual Revenue Requirement	-
2	Markets+ Transmission Service Provider Qualified Revenue Ratio **(MTSPQRR)**~~;~~, Section III; ln3 above	0.000%
3	**Expected MTSPQRA (EMTSPQRA)**: ln1 x ln2	-
4	Markets+ Transmission Service Provider Revenue Scaling Factor **(MTSPRSF);** Worksheet C, ln5	0%
5	**Unadjusted MTSPRRA**: ln3 x ln4	-
6	**MTSPPYMO:** Markets+ Transmission Service Provider Prior Year (Over)/Under Recovery; Worksheet B, ln3	-
7	Greater of ~~ln4~~ ln5 + ~~ln5~~ln6, or 0	-
8	**MTSPPYMCO:** Markets+ Transmission Service Provider Carry Over (Over)/Under Recovery~~;~~, Worksheet B, ln7	-
9	**MTSPRRA:** Greater of ln7 + ln8, or 0	-

1- Current Year ATRR

V. *Markets+ Transmission Service Provider Net Energy Load (MTSPNEL)*

Line No.		**MTSP1**
1	Current Year Net Energy Load	-
2	**MTSPNEL**: ln1 x 2	-

VI. Region Wide ~~Markets+ Transmission Service Provider~~ Net Energy Load (RW~~MTSP~~

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NEL)

Line No.		
1	**RWNEL**: Sum Section V; ln2 above for all MTSPs	-

VII. Region Wide ~~Markets+ Transmission Service Provider~~ Revenue Recovery Amount (RWM~~M~~RRA)

Line No.		
1	**RWRRA:** Sum Section IV; ln9 above for all MTSPs	-

VIII. Region Wide Market Transmission Use Rate (RWMTURt)

Line No.		
1	**RWMTURt**: Section VII; ln1 aAbove / Section VI; ln1 above	-

Worksheet B - (Over) / Under Recovery Carryover Worksheet

Line No.		**MTSP1**
1	Prior Year MTSPRRA (0 if Year 1)	-
2	Prior Year Actual MTU Revenue (0 if Year 1)	-
3	**MTSPPYMO:** Markets+ Transmission Service Provider Prior Year (Over)/Under Recovery; ~~(~~ln-1 - ln2~~)~~	-
4	**Unadjusted MTSPRRA:** ~~Part~~ Worksheet A; Section IV; ln5 a~~A~~bove	-
5	Unused Prior Year (Over)/Under Recovery: Lesser of 0 or ln3- + ln4	-
6	~~Part~~ Worksheet A; Section IV; ln7 a~~A~~bove	-
7	**MTSPPYMCO:** Markets+ Transmission Service Provider Carry Over (Over)/Under Recovery; ~~(~~Prior Year Formula Rate Template; ~~Part~~Worksheet B, ln9~~)~~	-
8	Unused Carryover (Over)/Under Recovery: Lesser of 0 or ln6 + ln7	-
9	**Total (Over)/Under Recovery Carryover Amount: ln8 + ln5**	-

Worksheet C - Revenue Scaling Factor (RSF)

Line No.		**MTSP1**
1	**Expected MTSPQRA~~;~~ : Worksheet A;** Section IV; ~~,~~ln3 above	$ -
2	Prior Year Short-Term~~T~~ Firm/Non-Firm Revenue~~,~~ (0 if Year 1)~~If Year 1 = 0~~	$ -
3	Short-Term Firm/Non-Firm Revenue loss or (gain); ~~(~~ln1 – ln2~~)~~	$ -
4	Short-Term Firm/Non-Firm loss or (gain) as a % of E~~xpected~~ MTSPQRA; ~~(~~ln 3 / ln 1~~)~~	0%
5	**Current Year RSF: If ln 4 > 0, RSF = ln4~~-~~, if ln4 <= 0, RSF=0, if Year 1 RSF = 50%**	**0%**

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ANNUAL FORMULA RATE IMPLEMENTATION PROTOCOLS

Section 1 **Applicability**

The formula rate template and these Annual Formula Rate Implementation Protocols (collectively, the "Formula Rate") comprise the Markets+ Region-Wide MTU rates. The Market Operator will follow the Formula Rate to calculate annually its Region-Wide MTU rate. The Formula Rate and the charges produced thereunder will be effective on and after [MONTH, DAY, YEAR] implementation of the Markets+ Tariff. Thereafter, the Formula Rate will be applicable on and after each calendar year (the "Rate Year") after Markets+ implementation, subject to the true-up procedures of this Appendix 2.

Section 2 **Annual Updates**

a. Within fifteen (15) Cealendar Ddays after the conclusion of the Rate Year period, the MTSP will submit most recent audited data for input into the Formula Rate template for calculation of the next Rate Year's MTU rRate.

i. Billing Determinants needed in the calculation of each MTSP's portion of the overall rate, as defined in this Appendix 2, will be sent to Market Operator via secure, electronic format and contain all data necessary to complete the template.;

~~ii. supporting~~ Supporting documentation from MTSP, including, but not limited to, fully functioning Excel files (or such other native format files), required to support, demonstrate, and explain information upon which the Annual Update is based will accompany the Billing Determinants listed above;.

b. Within ten (10) Bbusiness Ddays after the Market Operator receives applicable data for updates from the MTSP, the Market Operator, will determine and post

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; the annual update to be effective during the next Rate Year, which will consist of the following ("Annual Update"):

i. Aa data-populated version of the Formula Rate template setting forth the MTU Rrate for the next Rate Year, as defined in this Appendix 2, produced by operation of the Formula Rate;

ii. Ssupporting documentation from MTSPs, including, but not limited to, fully functioning Excel files (or such other native format files), required to support, demonstrate, and explain information upon which the Annual Update is based; and

iii. Ddisclosure of the following changes, to the extent any has taken effect since Markets+ Tariff implementation, and materially affects the Formula Rate or calculation of the Annual Update or the allocation of costs or revenues to the MTU Rrates:

(a) Aany ~~Federal Energy Regulatory Commission ("FERC" or "Commission")~~ ratemaking orders applicable to the MTU ~~Market Transmission Use Rate~~ratc; and

(b) Tthe accounting practices or procedures of the Market Operator and/or the MTSP.

Changes in items (a) ~~and~~ and/or (b) are collectively referred to as "*Material Changes*".

c. The Market Operator will post the Annual Update on the Market Operator's website and notify interested parties via the Market Operator's email exploder titled "Market Transmission Use Formula Rate Posting Information Notification". The posting will include fully functioning Excel files (or such other native format file) of all materials contained in the Annual Update.

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d. The Annual Update for the new Rate Year will:

i. ~~be~~ Be based upon the MTSP's most recent Billing Determinants as defined in this Appendix 2, and other information for the new Rate Year, that reasonably reflect amounts comprising the MTU r~~R~~ate, consistent with the MTSP's practices or procedures, and the Market Operator's ~~Tariff~~Markets+ Tariff; and

ii. ~~compute~~ Compute the MTU r~~R~~ate.

e. In the posting of the Annual Update, the Market Operator will request written comments be provided for the period of two (2) weeks after the posting of the Annual Update.

f. The Market Operator will file the revised Annual Update with ~~the Commission~~ FERC once the MTU r~~R~~ate is calculated and posted as described in this Appendix 2.

Section 3 Intra-Rate Year Updates

In instances where a new ~~Markets+ Transmission Service Provider~~MTSP joins the Markets+ F~~f~~ootprint during a current MTU Rate Year, the current MTU r~~R~~ate will be updated to reflect that ~~Markets+ Transmission Service Provider's~~ MTSP's Billing Determinants at the time of that ~~Markets+ Transmission Service Provider's~~MTSP's joining Markets+, provided:

1) The ~~Markets+ Transmission Service Provider~~MTSP submits all required Annual Update information listed in this Appendix 2, Section 2 (i) and (ii) above, as well as any other required information, at least ninety (90) days prior to their joining Markets~~+~~+~~,~~;

2) The Market Operator is able to compile all necessary data, recalculate the active MTU rate with these additions, and adhere to any other applicable requirements listed in the Appendix 2 prior to the new ~~Markets+ Transmission Service Provider~~MTSP joining Markets~~+~~+~~,~~; and

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3) The subsequent Formula Rate changes are approved by ~~the Commission~~FERC.

Such Intra-Rate Year updates will become effective at the beginning of the ~~Operating~~calendar m~~M~~onth the ~~Markets+ Transmission Service Provider~~MTSP joins Markets+, provided conditions (1) and (2) above were met in such time that allows ~~the Commission~~FERC's approval to be granted prior to that date; otherwise, they will become effective at the beginning of the first full calendar~~Operating~~ m~~M~~onth after ~~Commission~~FERC's approval.

After joining Markets+ and having its Billing Determinants update the Formula Rate Intra-Rate Year, the ~~Markets+ Transmission Service Provider~~MTSP must adhere to Annual Update terms and conditions as normal.

Section 4 Changes to Formula Rate Initiated by the Markets+ Transmission Service Provider or Market Operator

Any changes to the Formula Rate initiated by the MTSPs or the Market Operator, including any changes necessitated by Material Changes, may only be implemented as a result of a filing and approval by ~~the Commission~~FERC.

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Appendix 3~~Addendum 1~~ to Attachment A

Attestation Regarding Resource Adequacy and ~~the~~ Participation in the Western Resource Adequacy Program ("WRAP")

~~Prior to participation in Markets+, a Load Responsible Entity with load registered in Markets+ will submit to the Market Operator an attestation signed by an authorized officer in the form attached as "Appendix A." The Market Operator may terminate the Load Responsible Entity's registration in Markets+ if: (i) the Load Responsible Entity fails to submit the attestation; or (ii) the Market Operator deems the attestation insufficient.~~

~~**Appendix A**~~

This Attestation is made for and on behalf of_____ (the "Load Responsible Entity"), and submitted to the Market Operator as a requirement for registration in Markets+.

I, [Name], the [Title] of the Load Responsible Entity, in my capacity as an [officer/authorized delegate] of the Load Responsible Entity, and not in my personal capacity, hereby attest that:

a) I have authority to make these statements on behalf of the Load Responsible Entity;

b) The Load Responsible Entity is a Participant (as defined in the WRAP Tariff) in WRAP;

c) As of the date of this Attestation, to the best of my knowledge after due inquiry, the Load

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Responsible Entity satisfies all applicable requirements of the WRAP Tariff, including the Forward Showing Program as defined and set forth in the WRAP Tariff, as amended and approved by FERC; and

d) The Load Responsible Entity acknowledges that it must notify the Market Operator if, at any time, the Load Responsible Entity ceases to be a Participant and, if the Load Responsible Entity ceases to be a Participant, the Market Operator may terminate the Load Responsible Entity's registration in Markets+, all in accordance with the Markets+ Tariff.

IN WITNESS WHEREOF, the undersigned has executed this certificate as of [Date].

Signature: _____
Name: _____
Title: _____

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ATTACHMENT B
Market Power Mitigation Plan

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1. Purpose and Objective

The Market Mitigation Measures contained within this Market Power Mitigation Plan provide for mitigation of the exercise of horizontal and vertical market power by Market Participants in certain specified circumstances. The Market Operator will implement the Market Power Mitigation Plan as defined.

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2. Definitions

For purposes of this Market Power Mitigation Plan, capitalized terms have the meanings specified below:

2.1 Performance Factor

The calculated ratio of actual fuel burn to either theoretical fuel use (design heat input) or the most recent heat rate performance test, consistent with the Markets+ Protocols.

2.2 Resource-to-Load Distribution Factor (RLDF)

The simulated impact of incremental power output from a specific Resource ("source") on the loading of a specific flowgate based on delivery to a representation of the locational weighting of all loads within all Settlement Locations ("sink").

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3. Mitigation Measures for Economic Withholding – Market Power in Energy and Flexibility Reserve Products

This section sets forth the market power mitigation measures that are applied in the Day-Ahead Market, Reliability Unit Commitment processes, and the Real-Time Balancing Energy Market, collectively referred to as Markets+.

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3.1 Market Power Test

A Resource satisfying at least one of the following conditions is determined to have market power:

(1) The Resource has a Resource
percent (-5%) relative to a binding transmission constraint;

(2) The Resource is committed, or the ~~Multi-Configuration Resource (~~MCR~~)~~ is transitioned, as a Reliability Must Run; or

(3) Within a Reserve Zone, the total Supplier Capacity plus unused deliverable import capacity is not sufficient to meet the Market Adjusted Obligation without a Market Participant's Supplier Capacity in a Dispatch Interval.

(a) Supplier Capacity is the sum of Maximum Output Limits of each Supplying Resource.

(i) The Maximum Output Limit is defined by Resource type:

(1) For a forecasted Variable Energy Resource, the Maximum Output Limit is the lesser of its (i) output forecast or (ii) its Maximum Economic Capacity Operating Limit.

(2) For an MSR with a commitment that allows it to be dispatched above zero (0) ~~megawatts~~MWs, the Maximum Output Limit is its Maximum Discharge Limit. For an MSR with a commitment that allows it to charge only, the Maximum Output Limit is zero (0) ~~megawatts~~MWs.

(3) For a Resource type that is not specified above, the Maximum Output Limit is the Resource's Maximum Economic Capacity Operating Limit for that interval;

(ii) A Supplying Resource is a Resource that is both:

(1) Registered under that Market Participant or its Affiliate(s), where "Affiliate" is defined in 18 CFR § 35.36(a)(9); and

(2) Available to the market:

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(a) For a dispatch process, a Resource is available when it:

(i) Has a Commitment;

(ii) Is an off-line Fast-Start Resource that is eligible to be dispatched above zero (0) ~~megawatts~~MWs; or

(iii) Is a Variable Energy Resource that has a Commitment Status other than 'Outage' or 'Not Available'.

(b) For a commitment process, a Resource is available when it has a commitment status other than 'Outage' or 'Not Available'.

(b) The Market Adjusted Obligation is equal to (i) the forecasted obligation adjusted by (ii) the Net Scheduled Interchange plus (iii) the sum of Maximum Charge Limits of available MSRs.

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3.2 Mitigated Offer Calculation Methodology

Market Participants must submit a mitigated offer calculation methodology, including accurate cost data and/or verifiable supporting documentation, as applicable, sufficient to replicate the ~~m~~Mitigated Eenergy Oo~~f~~ffer Ceurve to the Market Monitor for approval for each Resource. Market Participants must keep the methodology up to date. Mitigated offers must be calculated according to the approved methodology.

For a new Market Participant registering a new Resource in the market, the Market Participant must submit the methodology no less than 120 Calendar Days before its first offer. For an existing Market Participant registering a new Resource, the Market Participant must submit the methodology no less than thirty (30) Calendar Days before its first offer.

If the Market Monitor communicates to a Market Participant that a methodology is not approved, the Market Monitor will identify the reasons, and the Market Participant must re-submit as soon as practicable. The methodology is effective beginning on the Operating Day following Market Monitor approval. If the Market Monitor does not respond to a submitted methodology in fifteen (15) Calendar Days, then the submitted methodology is allowed until the Market Monitor communicates otherwise.

3.3 Mitigation Measures for Energy Offer Curves

A. A Market Participant must submit Mitigated Energy Offer Curves daily in accordance with the mitigated offer development guidelines in the Markets+ Protocols.

   1) For MCRs, for which a single configuration allows physical units to be swapped (e.g.,

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Combustion Turbine 2 for Combustion Turbine 1), the costs used in the mitigated offer development for that configuration must be those of the least cost physical unit that is available and can be swapped in such configuration.

2) The mitigated Energy Offer Curve may be updated up to the close of the Day-Ahead Market for use in the Day-Ahead Market.

i. For Resources committed by the Day-Ahead Market, the mitigated Energy Offer Curve submitted as of the close of the Day-Ahead Market will apply to the Day-Ahead Market on the day before the Operating Day and the RTBM on the Operating Day unless an exception is allowed in Attachment B, Section 3.4(J);

ii. For any period a Resource is not committed by the Day-Ahead Market or the RUC, the mitigated Energy Offer Curve for that period may be updated for use in the RUC and RTBM.

B. The conduct threshold is a 10% increase above the mitigated Energy Offer Curve. The Market Operator applies mitigation measures by placing a cap on the Energy Offer Curve of 10% above the mitigated Energy Offer Curve if:

(1) The Resource's Energy Offer Curve exceeds the mitigated Energy Offer Curve by the conduct threshold; and

(2) The Resource has market power as determined in Sections 3.1(1) or 3.1(3); and

(3) The Resource fails the Market Impact Test as described in Section 3.8.

C. For a Resource that has market power as determined in Section 3.1(2), the Market Operator applies mitigation measures by placing a cap on the Energy Offer Curve of 10% above the mitigated Energy Offer Curve.

D. Except for Resources following the Seasonal Hydroelectric Offer Curve methodology outlined in Section 3.4(M), the mitigated Energy Offer Curve must be the Resource's short-run marginal cost of producing Eenergy as determined by the unit's heat rate or similar production efficiency ratio; fuel costs and the costs related to fuel usage, such as transportation and emissions costs ("total fuel related costs"); ~~and~~ Energy Offer Curve variable operations and maintenance costs

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(VOM); and the charges incurred from Schedule 1-A of this Tariff.

E. For Resources that are not ESRs that are not eligible or do not elect the Seasonal Hydroelectric Offer Curve methodology outlined in this Section 3.3(M), opportunity cost must be an estimate of Markets+ revenues net of short run marginal costs for the marginal forgone run time during the timeframe when the Resource experiences the run-time restrictions.

The forecasted Locational Marginal Prices are based on (i) the relationship between (a) the monthly average on-peak and off-peak system LMP and (b) the expected price of natural gas and (ii) hourly deviations between (a) the LMP at the Resource Settlement Location and (b) the system LMP, as determined by the Market Monitor. The formulas and instructions in the price forecast model are determined by the Market Monitor and published in the Markets+ Protocols as part of the Mitigated Offer Development Guidelines, updated, as needed, by the Market Monitor. Historic LMPs are considered for the three-year period immediately preceding the period of time in which the Resource is bound by the referenced restrictions. The forecasted costs to generate Energy at the Resource's Settlement Location are subtracted from the forecasted Locational Marginal Prices, as specified in more detail in the Markets+ Protocols. If the difference between the forecasted LMPs and forecasted costs to generate Energy is negative, the resulting opportunity cost is zero (0). The Market Monitor will verify all Market Participants' opportunity cost calculations for consistency and accuracy. When the Market Monitor determines that the market price for any period was not competitive, it will adjust the LMP forecasting process used in the opportunity cost calculations to ensure that forecasted LMPs do not reflect non-competitive market conditions.

Except for Resources that elect the Seasonal Hydroelectric Offer Curve methodology, the following formula applies to all mitigated Energy Offer Curves unless specified otherwise in Attachment B, Section 3.2(E):

Mitigated Energy Offer ($/MWh) = HeatRate (mmBtu/MWh) * Performance Factor * Total Fuel Related Costs ($/mmBtu) + Energy Offer Curve VOM ($/MWh) +

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Opportunity Costs ($/MWh) +–

The run-time restrictions must be updated more frequently as fewer hours remain available. The Market Participant may include in the calculation of its mitigated Energy Offer Curve an amount reflecting the resource-specific opportunity costs expected to be incurred under the following circumstances:

(1) Externally imposed environmental run-hour restrictions as verified by the Market Monitor;

(2) Physical equipment limitations on the number of starts or run-hours, as verified by the Market Monitor and determined by reference to the manufacturer's recommendation or bulletin, or a documented restriction imposed by the applicable insurance carrier; or

(3) Fuel supply or transportation limitations, for up to one (1) year, resulting from an event of force majeure or other circumstances as verified by the Market Monitor.

F. For Resources that are not eligible or do not elect the Seasonal Hydroelectric Offer Curve Methodology outlined in Section 3.3(M), the Market Participant must submit if applicable, heat rate curves, descriptions of how spot fuel prices and/or contract prices are used to calculate fuel costs, variable fuel transportation and handling costs, emissions costs, and VOM to the Market Monitor. All cost data and cost calculation descriptions are subject to the review and approval of the Market Monitor to ensure reasonableness and consistency across Market Participants. The submitted information must be sufficient for replication of the mitigated Energy Offer Curve and must include, among other data, the following information:

(1) For fuel costs, Market Participants must provide the Market Monitor with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

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(2) For emissions costs, Market Participants must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants must submit VOM costs, calculated in adherence with the Markets+ Protocols, reflecting short-run marginal costs, exclusive of fixed costs.

Further details associated with the development, validation, and updating of these costs are included in the Markets+ Protocols.

G. For Demand Response Resources utilizing Behind-th~~T~~he-Meter Generation, the mitigated Energy Offer Curve methodology must be developed in the same manner as a generating Resource as described above. For load reduction Demand Response Resources, the mitigated Energy Offer Curve methodology must include the quantifiable opportunity costs associated with the reduction, net of related offsetting increases in usage.

H. For DVERs, the mitigated Energy Offer Curve methodology may include, but must not exceed, any calculation of quantifiable costs that vary by MWh output, including short-run incremental VOM. Mitigation does not apply to Non-Dispatchable Variable Energy Resources in the Real-Time Balancing Market.

I. For an ESR, the mitigated Energy Offer Curve methodology may include, but must not exceed, (i) charging cost and (ii) opportunity cost, both adjusted for round-trip efficiency. Charging cost is the cost at which the ESR charged, and opportunity cost is the average profit in the next hour forgone by charging or discharging in the current hour. The sum of the charging cost and opportunity cost is the average LMP that is expected for the next Operating Hour. This expected average LMP for the next Operating Hour is the unweighted average of the LMPs for the most recent forty-five (45) days comparing like Operating Hours. The mitigated Energy Offer Curve for MSRs must have at least two (2) breakpoints: one for charging and another for

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discharging. More breakpoints may be added to the extent that other costs vary. A Market Participant may submit for approval by the Market Monitor a modified mitigation methodology for an ESR that takes into account the ESRs' storage horizon and any cycling limitations.

The following formula applies to mitigated Energy Offer Curves for ESRs:

Charging Mitigated Energy Offer ($/MWh) =

Performance Factor * Average LMP Expected for the Next Hour ($/mmBtu) * Round-Trip Efficiency - Energy Offer Curve VOM ($/MWh)

Discharging Mitigated Energy Offer ($/MWh) =

Performance Factor * Average LMP Expected for the Next Hour ($/mmBtu) / Round-Trip Efficiency + Energy Offer Curve VOM ($/MWh)

J. Intra-day changes to the mitigated Energy Offer Curve are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past their initial commitment period by the Day-Ahead Market or a RUC process, the Market Participant may submit an updated mitigated Energy Offer Curve that reflects the procurement of higher cost fuel; or

(2) A Resource must switch fuels due to unforeseen operating conditions; or

(3) The Resource is an ESR; or

(4) As approved by the Market Monitor during periods of high intraday fuel price volatility.

Intra-day changes to the mitigated Energy Offer Curve must follow the mitigated offer development guidelines in the Markets+ Protocols and will be validated by the Market Monitor.

K. A Market Participant that has a Resource with short-run marginal costs greater than the Energy Offer Soft Cap may submit an Energy Offer Curve using the same guidelines for development of the Resource's mitigated Energy Offer Curve established in the Markets+ Protocols. The Energy Offer Curve above $1,000/MWh must be equal to the mitigated Energy Offer Curve and may include an adder with a maximum of $100/MWh due to the uncertainty of expected costs. For purposes of LMP calculation, the Energy Offer Curve will be limited to a maximum

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of $2,000/MWh and must be verified by the Market Monitor prior to the start of the applicable market clearing process. If the Energy Offer Curve cannot be verified prior to the start of the applicable market clearing process, then the Resource may be eligible to receive make whole payments for its actual costs after verification by the Market Monitor. The default value is $1,000/MWh for any offer above $1,000/MWh until the offer can be verified. If the verified Energy Offer Curve is greater than $2,000/MWh, the Energy Offer Curve will be capped at $2,000/MWh in the applicable market clearing process, and the Resource may be eligible for make whole payments for actual costs exceeding $2,000/MWh. Market Participants must submit evidence of actual costs to the Market Monitor. The Market Monitor must verify the actual costs for use in make whole payments. In order to include the costs in the make whole payments of the S120 Settlement Statement, the submission must occur within seventy-five (75) Calendar Days after the Operating Day and the verification must be complete no later than noon on the ~~b~~Business ~~D~~day prior to 105 Calendar Days after the Operating Day.

L. Cost data submitted for the development of mitigated offers, including opportunity cost data, are subject to the confidentiality provisions set forth in Attachment A, Section 11.

M. Market Participants may elect to use the Seasonal Hydroelectric Offer Curve (SHOC) calculation for hydroelectric Resources with storage capability, including a Resource aggregation, as defined in this Section 3.3.

(1) Market Participants electing the SHOC will calculate that curve in the following manner for all hours of every Operating day, except as provided in Section 3.3M(10). For each Operating Day, the Market Participant will calculate the Seasonal Hydroelectric Offer Curve as the maximum of the (a) gas floor, (b) short-term component, and (c) long-term/geographic component, which are all calculated as specified below.

(2) The Market Participant will calculate the gas floor as the most recent average heat rate for a typical natural gas turbine generator, as defined in the Markets+ Protocols, multiplied by the natural gas price for the fuel region applicable to the location of the hydroelectric resource, multiplied by 1.1.

(3) The Market Participant will calculate the short-term component as 1.4 multiplied by the

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maximum of:

(a) the most recent Dday-Aahead peak price at the applicable electric pricing hub;

(b) the on-peak balance of the month futures price for the current month at the applicable electric pricing hub; and

(c) the on-peak monthly index futures price at the applicable electric pricing hub for one (1) month after the current month.

(4) The Market Participant will calculate the long-term/geographic component calculated based on multiple electric pricing hubs in addition to the default electric pricing hub consistent with Attachment B, Section 3.3. The Market Participant will calculate the long-term/geographic component as 1.1 multiplied by the maximum of:

(a) the most recent Dday-Aahead on-peak price at the applicable electric pricing hub(s);

(b) the on-peak balance of the month futures prices for the current month at the applicable electric pricing hub(s); and

(c) the on-peak monthly index futures price at the applicable electric pricing hub(s) for all future months up to the maximum storage horizon after the current month.

(5) As part of its request for a ~~Seasonal Hydroelectric Offer Curve~~SHOC, the Market Participant must submit to the Market Monitor:

(a) For each month and for each electric pricing hub requested that is not the default electric pricing hub, the Market Participant must (1) demonstrate that it holds firm transmission rights to enable delivery from the hydroelectric resource's default market region to the requested electric pricing hub or to a delivery point that is similarly priced location; or (2) provide documentation that supports a historical practice of acquiring monthly firm transmission rights to the requested electric pricing hub(s) or similarly priced location. Market Participants may demonstrate transmission rights to multiple locations and, based on the Market Monitor's evaluation of such information, the Market Participant may include multiple electric pricing hubs, in addition to the default

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electric pricing hubs, in the long-term/geographic component of the SHOC for the affected resources. The Market Participant will attest through its submission that it reasonably expects it will be able to use the demonstrated transmission rights to deliver incremental sales from the hydroelectric resource because the rights are not fully committed and that there is an actual opportunity to use these rights. If the Market Participant includes multiple electric pricing hubs in the long-term/geographic component, the SHOC calculation will use the maximum of the electric price indices published for each electric pricing hub as determined for each Operating Day. On Operating Days for which there are no relevant published electric price indices at an electric pricing hub, the Market Participant will use the most recently published index for the applicable electric pricing hub.

(b) For Resources that the Market Participant demonstrates a quantity of firm transmission rights to a requested electric pricing hub or similarly priced location that is less than the hydro Resource's capacity, the Market Participant will include the requested electric pricing hub up to the quantity of demonstrated transmission rights, and apply a proportional weighting of the Resource's transmission rights to calculate a weighted average of those bilateral electric pricing hub prices when calculating the value of the long-term/geographic component of the SHOC.

(c) In the absence of Market Monitor approved supporting transmission rights information when calculating the long-term/geographic component of the SHOC, the Market Participant will revert to the default bilateral l electric hub price specified in Section 3.4M(7~~8~~).

(d) If during the term of the annual period the Market Participant no longer has the firm annual transmission rights previously demonstrated, or can no longer continue a historical practice of acquiring monthly firm transmission rights, the Market Participant must inform the Market Monitor within five (5) Business Days of no longer holding such firm transmission rights.

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(e) The Market Monitor may audit the Market Participant and request additional information in support of the Market Participant's assertions.

(f) If the Market Monitor determines the Market Participant has submitted substantively inaccurate information, the Market Monitor will take actions to require the Market Participant to change which electric pricing hub it uses in the SHOC calculation.

(6) The maximum hydroelectric Resource storage horizon submitted by the Market Participant must:

(a) Reflect the typical storage duration of a hydroelectric Resource's reservoir, defined as the length of time between which the reservoir cycles from a maximum elevation to a new maximum elevation during a hydro cycle. The Market Participant will compute the reservoir's cycling time based on multiple years of reservoir elevation data. For purposes of calculating the maximum storage horizon for a hydroelectric Resource (including an Resource aggregation) with multiple reservoirs, the Market Participant will use data from the reservoir with the longest storage duration.

(b) Be supported by (1) a written attestation by a representative who has the authority to bind the Market Participant stating that the value used by the Market Participant as the maximum storage horizon is consistent with the requirements specified in this Section 3.4 or (2) corroborating information submitted to the Market Monitor, which may include several years of historic reservoir levels for the specific hydroelectric Resource and regulatory filings related to the operations of the hydroelectric Resource.

(7) The default electric pricing hub will be as specified in the Markets+ Protocols, which will also include a process for modifying or adding electric pricing hubs to the list of default electric pricing hubs.

(8) -Run-of-river hydroelectric Resources are defined as those resources with 1 hour of storage or less. Run-of-river hydroelectric Resources will use the greater of (a) the most

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recent Dday-Aahead peak price at the applicable electric pricing hub, and (b) $0/MWh, as their mitigated offer curve for all hours of the year.

(9) Hydroelectric Resources with a maximum hydroelectric Resource storage horizon of thirty (30) days or less shall must not include the price for the first month after the current month in the calculation of the SHOC until such hydroelectric Resource's maximum storage horizon extends into such month, as measured from the Operating Day.

(10) Notwithstanding the maximum hydroelectric Resource storage horizon, any hydroelectric Resource for which the hydro operator reasonably expects no usable storage within the Operating Day, then its Hydroelectric Offer Curve shall must be the greater of (a) the most recent Dday-Aahead peak price at the applicable electric pricing hub, and (b) $0/MWh. For purposes of this section, no usable storage will be defined as conditions under which generating less than the maximum output at all available units for all intervals of the Operating Day would not conserve additional water in any of the reservoirs of the hydroelectric Resource for use in a future period.

N. For a Specified GHG Adder in a Resource Offer, the same requirements for establishing and submitting a mitigated offer calculation methodology to the Market Monitor apply as found in Attachment B, Section 3.2. The Specified GHG Adder must reflect the applicable emissions allowance price multiplied by the applicable emissions factor assessed by the relevant authority for each Resource. The Specified GHG Adder is subject to the same requirements and tariff provisions for offer validation as mitigated offers in Attachment B, Section 3.7. Additional requirements for the Specified GHG Adder are found in the Markets+ Protocols.

3.4 Mitigation Measures for Start-Up Offers and No-Load Offers

A Market Participant must submit a mitigated Start-Up Offer and a mitigated No-Load Offer for each Resource in accordance with the mitigated offer development guidelines in the Markets+ Protocols. The mitigated Start-Up and No-Load Offers may be updated up to the close of the Day-Ahead Market for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead Market,

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the Start-Up and No-Load Offers may be updated until the RUC begins. The mitigated Start-Up and No-Load Offers submitted at the time the RUC begins will apply to the RUC on the day before the Operating Day unless an exception is allowed in Section 3.3(G).

A. The Start-Up and No-Load Offer conduct threshold is a 25% increase above the mitigated Start-Up or mitigated No-Load Offer, as applicable.

B. The Market Operator applies mitigation measures by placing a cap on the Start-Up or No-Load Offer of 25% above the applicable mitigated Start-Up or No-Load Offer if:

(1) The Resource's Start-Up or No-Load Offer exceeds the mitigated Start-Up or mitigated No-Load Offer, as applicable, by the applicable conduct threshold; and

(2) The Resource has market power as determined in Sections 3.1(1) or 3.1(3); and

(3) The Resource fails the Market Impact Test as described in Section 3.8.

C. For a Resource that has market power as determined in Section 3.1(2), the Market Operator applies mitigation measures by placing a cap on the Start-Up Offer or No-Load Offer of 10% above the mitigated Start-Up Offer or No-Load Offer, as applicable.

D. The mitigated Start-Up Offer must represent the cost per start as determined from start fuel usage and the costs related to that fuel usage, Performance Factor, cost of electricity for station use to start (Station Service), start-up VOM cost, start major maintenance cost, and start additional labor costs, if required above normal station staffing levels. Further guidelines for the mitigated Start-Up Offer are documented in the Markets+ Protocols.

The mitigated Start-Up Offer for Dispatchable Demand Response ~~r~~Resources must be:

1) For load that is shut down or curtailed, the cost to shut down or curtail the load for a given period, which varies with the number of deployments rather than the amount of response, and

2) For load that is not shut down or curtailed, the start cost of Behind-t~~T~~he-Meter Generation utilizing the mitigated Start-Up Offer calculation applicable to other generation Resources as defined above.

The mitigated Start-Up Offer for Variable Energy Resources must be zero (0).

E. The mitigated No-Load Offer must be the hourly fixed cost, represented in $/hr, required to

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operate the Resource at zero electricity output to the grid. The mitigated No-Load Offer can be calculated using either (1) the no-load fuel approach that includes no-load fuel (mmBtu/hour), Performance Factor, no-load VOM cost ($/mmBtu), total fuel related cost ($/mmBtu), and no-load major maintenance cost ($/hr); or (2) calculated using the no-load cost approach that includes heat input at Minimum Economic Capacity Operating Limit (mmBtu), Performance Factor, total fuel related cost ($/mmBtu), no-load VOM cost ($/mmBtu), incremental cost up to Minimum Economic Capacity Operating Limit ($/MWh), Minimum Economic Capacity Operating Limit (MW), and no-load major maintenance cost ($/hr). Further guidelines for the mitigated No-Load Offer are documented in the Markets+ Protocols.

The mitigated No-Load Offer for Dispatchable Demand Response Resources utilizing Behind-t ~~T~~he-Meter Generation must adhere to the same definition above as a generating Resource. For Dispatchable Demand Response Resources utilizing load reduction, the mitigated No-Load Offer must not exceed the quantifiable ongoing hourly costs associated with load reduction.

The mitigated No-Load Offer for Variable Energy Resources ~~shall~~ must be zero (0).

F. The Market Participant must submit all inputs used in calculating mitigated Start-Up and mitigated No-Load Offers to permit the Market Monitor to verify submitted offers. Required information includes: heat rate curves, descriptions of how spot fuel prices and/or contract prices are used to calculate fuel costs, variable fuel transportation and handling costs, emissions costs, and VOM cost. All cost data and cost calculation descriptions are subject to the review and approval of the Market Monitor to ensure reasonableness and consistency across Market Participants. Information to be provided by the Market Participant must include the following:

(1) For fuel costs, Market Participants must provide the Market Monitor with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

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(2) For emissions costs, Market Participants must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants must submit VOM costs reflecting short-run marginal costs, exclusive of fixed costs.

(4) For start-up and no-load major maintenance cost, Market Participants may include these costs as a component of the mitigated Start-Up Offer and the mitigated No-Load Offer. Such cost must be based solely on Rresource-specific information derived from actual variable maintenance costs, when available, or estimated variable maintenance costs. The maintenance period for start-up major maintenance cost must be tied to the number of starts, and the maintenance period for no-load major maintenance cost must be tied to the number of Resource run hours.

Further details associated with the development, validation and updating of

these costs are included in the Markets+ Protocols.

G. Intra-day changes to the mitigated Start-Up and mitigated No-Load Offers are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past its commitment period, the Market Participant may submit updated mitigated Start-Up and mitigated No-Load Offers that reflect the procurement of higher cost fuel; or

(2) A Resource must switch fuels due to unforeseen operating conditions; or

(3) The Resource is an ESR.

Intra-day changes to the mitigated Start-Up and mitigated No-Load Offers must follow the

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mitigated offer development guidelines in the Markets+ Protocols and will be validated by the Market Monitor.

H. Cost data submitted for the development of mitigated offers, including opportunity cost data, is subject to the confidentiality provisions set forth in Attachment A, Section 11.

3.4.1 Mitigation Measures for Transition State Offers

The mitigation measures in this section apply only to MCRs. A mitigated Transition State Offer must be submitted daily by the Market Participant in accordance with the mitigated offer development guidelines specified in the Markets+ Protocols for each potential transition state changes. The mitigated Transition State ~~offer~~ Offer may be updated up to the close of the Day-Ahead Market before the Operating Day as defined in Attachment B, Section 3.4 for use in the Day-Ahead Market. If a Resource is not committed by the Day-Ahead Market, the mitigated Transition State Offer may be updated until the Day-Ahead RUC process begins. The mitigated Transition State Offer submitted at the time the Day-Ahead RUC process begins will apply to the Day-Ahead RUC process on the day before the Operating Day and Intra-Day RUC processes on the Operating Day.

A. The Transition State Offer conduct threshold is a 25% increase above the mitigated Transition State Offer.

B. The Market Operator applies mitigation measures by placing a cap on the Transition State Offer of 10% above the mitigated Transition State Offer if:

   (1) The Resource's Transition State Offer exceeds the mitigated Transition State Offer by the applicable conduct threshold; and

   (2) The Resource has market power as determined in Sections 3.1(1) or 3.1(3); and

   (3) The Resource fails the Market Impact Test as described in Section 3.8.

C. For an MCR that has market power as determined in Section 3.2(3), the Market Operator applies mitigation measures by placing a cap on the Transition State Offer of 10% above the mitigated Transition State Offer.

D. The mitigated Transition State Offer for an MCR must represent the costs of moving from the current configuration to another configuration as determined from the fuel costs incurred during

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the transition, the costs related to that fuel usage, Performance Factor, and additional maintenance and labor costs incurred during the transition, including transition VOM cost and transition major maintenance cost. Further guidelines for the mitigated Transition State Offer are documented in the Markets+ Protocols.

The Market Participant must submit documentation of the method and any cost data for calculating the mitigated Transition State Offer that is necessary to allow the Market Monitor to validate submitted offers. Further details associated with the development of these costs are included in the Markets+ Protocols.

E. Intra-day changes to the mitigated Transition State Offers are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past its commitment period, the Market Participant may submit an updated mitigated Transition State Offer that reflects the procurement of higher cost fuel; or

(2) A Resource must switch fuels due to unforeseen operating conditions.

Intra-day changes to the mitigated Transition State Offers must follow the mitigated offer development guidelines in the Markets+ Protocols and will be validated by the Market Monitor.

F. Cost data submitted for the development of mitigated offers, including opportunity cost data, is subject to the confidentiality provisions set forth in Attachment A, Section 11.

3.5 Mitigation Measures for Flexibility Reserve Product Offers

For each Flexibility Reserve Product offered, a mitigated offer must be submitted by the Market Participant in accordance with the mitigated offer development guidelines in the Markets+ Protocols. For MCRs for which a single configuration allows physical units to be swapped (e.g., Combustion Turbine 2 for Combustion Turbine 1), the costs used in the mitigated offer development for that configuration must be those of the least cost physical unit that is available and can be swapped in such configuration. The mitigated Flexibility Reserve Product Offers may be updated up to the close of the

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Day-Ahead Market for use in the Day-Ahead Market. If a Resource is not committed by the Day-Ahead Market, the mitigated Flexibility Reserve Product Offers may be updated until the Day-Ahead RUC begins. For Resources committed by the Day-Ahead Market, the mitigated Flexibility Reserve Product Offers submitted as of the close of the Day-Ahead Market will apply to the Day-Ahead Market on the day before the Operating Day and the RTBM on the Operating Day unless an exception is allowed in Attachment B, Section 3.4(G); for all other Resources, the mitigated Flexibility Reserve Product Offers submitted at the time the Day-Ahead RUC begins will apply to the RTBM on the Operating Day.

For each Flexibility Reserve Product offered, the conduct threshold is a 10% increase above the mitigated offer for the applicable Flexibility Reserve Product Offer.

A. The Market Operator applies mitigation measures by placing a cap on the Flexibility Reserve Product Offer of 10% above the applicable mitigated Flexibility Reserve Product Offer if:

(1) The Resource's Flexibility Reserve Product Offer exceeds the applicable mitigated offer by the conduct threshold; and

(2) The Resource has market power as determined in Sections 3.1(1) or 3.1(3); and

(3) The Resource fails the Market Impact Test as described in Section 3.8(b) is manually committed by the Markets+ Transmission Service Provider, Balancing Authority, or Reliability Coordinator.

B For a Resource that has market power as determined in Section 3.1(2), the Market Operator applies mitigation measures by placing a cap on the Flexibility Reserve Product Offer of 10% above the applicable mitigated Flexibility Reserve Product Offer.

C. Intra-day changes to the mitigated Flexibility Reserve Product Offers are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource that is supplying Flexibility Reserve Products remain online past their commitment period by the Day-Ahead Market or a RUC process, the Market Participant may submit an updated mitigated Flexibility Reserve Product Offer that reflects the procurement

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of higher cost fuel;

(2) A Resource must switch fuels due to unforeseen operating conditions; or

(3) Intra-day changes to the mitigated Flexibility Reserve Product Offers are allowed after the RUC clears on the day before the Operating Day under the following condition:

a. The Resource incurs the uncompensated cost in Attachment B, Section 3.2(E)(3), for which the mitigated offer calculation is described in the Markets+ Protocols.

Intra-day changes to the mitigated Flexibility Reserve Product Offer must follow the mitigated offer development guidelines in the Markets+ Protocols and will be validated by the Market Monitor.

D. The Market Participant may include in the calculation of its mitigated Flexibility Reserve Product Offer an amount reflecting the Resource-specific opportunity costs if the Market Participant is able to demonstrate to the satisfaction of the Market Monitor that such costs are legitimate and verifiable and not otherwise included in market outcomes. To the extent such costs include run-time restrictions, such run-time restrictions must be updated as specified in the Markets+ Protocols, with more frequent updating to occur the fewer hours that remain available, consistent with the Markets+ Protocols. The formulas and instructions in the price forecast model for any such opportunity costs are determined by the Market Monitor and published in the Markets+ Protocols as part of the Mitigated Offer Development Guidelines, updated, as needed, by the Market Monitor. Opportunity costs for mitigated Flexibility Reserve Product Offers must not include Energy and Flexibility Reserve Product Markets revenues associated with forgone Energy or other types of Flexibility Reserve Product production to the extent that such costs are included in market outcomes.

E. All cost data and cost calculation descriptions are subject to the review and approval of the Market Monitor to ensure reasonableness and consistency across Market Participants. The

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information must be sufficient for replication of the mitigated Flexibility Reserve Product Offers and must include, among other data, the following information:

(1) For fuel costs, Market Participants must provide the Market Monitor with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants must submit VOM costs, calculated in adherence with the Markets+ Protocols, reflecting short-run marginal costs, exclusive of fixed costs.

F. Cost data submitted for the development of mitigated offers, including opportunity cost data, is subject to the confidentiality provisions set forth in Attachment A, Section 11.

3.6 Validation of Mitigated Resource Offers

If the Market Monitor determines that the Market Participant has incorrectly applied the formulas and definitions in Attachment B, Sections 3.2A to 3.2L, 3.5, 3.5.1, and 3.6 and in the Markets+ Protocols or determines that a mitigated offer deviates from the approved mitigated offer methodology, or is otherwise unacceptable, the Market Participant must submit the mitigated offer calculated by the Market Monitor going forward. The Market Monitor calculated mitigated offer must continue to be submitted until any dispute is resolved. The procedures for submitting and processing disputes related to mitigated offers are specified in the Markets+ Protocols. The Market Operator remedies mitigated offer disputes resolved in favor of the Market Participant by providing make whole payments, as necessary, to the Market Participant whose mitigated offer was improperly determined by the Market Monitor.

Each Market Participant is obligated to provide to the Market Monitor any cost data necessary

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to allow the Market Monitor to validate its mitigated Resource Offer.

The Market Monitor will keep such data confidential, and all cost data submitted, including any opportunity cost data, are subject to the confidentiality provisions set forth in Attachment A, Section 11. The Market Monitor maintains the mechanism and procedures to allow Market Participants to submit such cost data on the Market Operator's website.

3.7 Additional Mitigation Measures for Resource Offer Parameters

The mitigation measures in this section apply to all Resource Offer parameters expressed in non-currency-based units and apply only in the presence of market power. A reference level for each applicable Resource Offer parameter that reflects the physical capability of the Resource is determined prior to the start of Markets+ by one or both of the following methods: (i) consultation between the Market Participant and the Market Monitor; and/or (ii) based on averages of Resource Offer parameters from similar Resources. This methodology for setting reference levels for Offer parameters applies to all Resources at the start of Markets+ and to all Resources that register subsequent to the start of Markets+. The Market Operator's output forecast for a wind and solar-powered Variable Energy Resource is used as the reference maximum output limit for the wind and solar-powered Variable Energy Resource.

The following thresholds are used by the Market Monitor to identify Resource Offers that may warrant mitigation and are determined with respect to the corresponding reference level:

1. Time-based Resource Offer parameters: An increase of three (3) hours, or an increase of six (6) hours in total for multiple time-based Resource Offer parameters.
2. Resource Offer parameters expressed in units other than time or dollars: One hundred percent (100%) increase for Resource Offer parameters that are minimum values, or a fifty percent (50%) decrease for Resource Offer parameters that are maximum values.

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3. Minimum Economic Capacity Operating Limit, Minimum Discharge Limit, or Maximum Charge Limit, as applicable, threshold for Resources committed to address a Local Reliability Issue: twenty-five percent (25%) increase.

4. Maximum Charge Limit, as applicable, threshold for Resources committed to address a Local Reliability Issue: twenty-five percent (25%) decrease.

In the case that a Resource Offer fails the thresholds described above, the Market Monitor will determine the impact on prices or make whole payments. If an impact exceeds the LMP, MCP or make whole payment thresholds in Section 3.8, the Market Monitor will initiate a discussion with the Market Participant concerning an explanation of the parameter changes. The Market Monitor will inform the Market Operator of any potential issue. If the Market Operator, in consultation with the Market Monitor, concludes that the Market Participant has demonstrated the validity of the submitted Resource Offer parameter, no further action will be taken. If not, the Market Operator will replace the Resource Offer parameter with the corresponding reference level. Mitigation measures will remain in place until such time that the Market Participant demonstrates the validity of the Resource Offer parameter or the Market Participant notifies the Market Monitor that the Resource Offer parameter has been changed to a value that is within the tolerance range as described above, and the Market Monitor has verified that this change has occurred. In the event that the Market Participant submits a dispute, the mitigation measure will remain in place until the resolution of the dispute.

Cost data submitted for the development of mitigated offers, including opportunity cost data, is subject to the confidentiality provisions set forth in Attachment A, Section 11.

3.8 Market Impact Test

If any Resource meets the conditions in Attachment B, Section 3.2, then the Market Operator compares a market solution with no mitigation measures to a market solution

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with mitigation measures applied. The Market Operator will apply mitigation measures to all such Resources when:

(1) An LMP or MCP at a Settlement Location exceeds the corresponding price from the market solution with mitigation measures applied by the applicable impact test threshold, or

(2) A make whole payment for any Resource exceeds the corresponding make whole payment from the market solution with mitigation measures applied by make whole payment impact test threshold.

The LMP, MCP, and make whole payment impact threshold is calculated as the product of (i) the MEC from the market solution with mitigation measures applied and (ii) the Slope Factor, where the impact threshold is between the minimum and maximum impact thresholds, inclusive.

(1) The Slope Factor determines how much the MEC affects the impact threshold between the minimum impact threshold and maximum impact threshold. The Slope Factor is 0.5; and

(2) The minimum impact threshold is five dollars ($5) and the maximum impact threshold is one hundred dollars ($100).

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4 Miscellaneous Provisions

4.1 Rights and Remedies

The Market Power Mitigation Plan does not restrict the Market Operator and Market Participants from asserting any rights they may have under state and federal regulation and laws, including initiating proceedings before FERC regarding any matter which is subject to this Market Power Mitigation Plan.

Except as otherwise stated in this Market Power Mitigation Plan, disputes as to the implementation of, or compliance with, this Market Power Mitigation Plan are subject to the dispute resolution procedures under this Tariff or the ~~SPP~~ Markets+ Bylaws as applicable or may be raised with FERC.

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ATTACHMENT C
Market Monitoring Plan

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1. Purpose and Objective

1.1 Purpose of the Plan

This plan is intended to provide for the monitoring of Markets and Services and submissions of recommendations to FERC and the SPP Board of Directors.

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1.2 Market Monitoring Plan ("Plan")

The Plan is developed, implemented and maintained by SPP's Market Monitor. The Market Monitor has the responsibility for implementing the Plan by (a) continuously monitoring Markets and Services, (b) recommending compliance and corrective actions per this Markets+ Tariff, (c) collecting and retaining the data and information necessary for the performance of the Plan, (d) recommending updates to the monitoring plan contained within Attachment C, and (e) periodically reporting on Markets and Services.

1.3 Mission Statement and Objectives of the Market Monitor

1.3.1 Mission Statement

The mission of the Market Monitor is to (a) monitor and report on possible abuses of horizontal and vertical market power and gaming in Markets and Services by any Market Participant (b) identify market design flaws and recommend any changes in design to improve the operation of Markets and Services for the benefit of consumers and Market Participants and (c) monitor Market Participants' compliance with market rules.

1.3.2 Objectives

The Market Monitor will work to ensure that its functions and activities are implemented fairly and consistently, and that it protects and fosters competition while minimizing interference with open and competitive markets. The Market Monitor's preferred approach is to make recommendations to improve the operation of markets and to prevent the exercise of market power in advance rather than punishing offenders afterward.

The Market Monitor will evaluate existing and proposed market rules, Markets+ Tariff provisions, and market design elements and recommend proposed rules and Markets+ Tariff changes to the Market Operator, FERC, and other interested entities such as state commissions and Market Participants. The Market Monitor will limit distribution of its identifications and recommendations to the Market Operator and FERC in the event that the Market Monitor believes that broader dissemination could lead to exploitation, with an explanation of why further dissemination should be avoided.

The Market Monitor will review the performance of the Markets and Services and provide an annual report on the state of the market as provided in Attachment C, Section 7.

The Market Monitor will recognize that entities otherwise identified as having market power may engage in conduct giving the impression of market power but, after analysis by the Market Monitor, may prove to be pro-competitive and efficient. In making this distinction, the Market Monitor will generally focus on an analysis of the identified conduct and associated market impacts, rather than seeking to determine the intent of the Market Participant (e.g., conducting profitability analyses that would require comprehensive information on all the physical and final positions of a participant).

1.4 Independence of the Market Monitor

The Market Monitor independently performs those activities necessary to provide impartial and effective market monitoring within the scope of the Plan. The Market Monitor may verify information with affected Market Participants prior to making recommendations or reports.

1.5 Resolution of Conflicts

In the event there is a conflict between this Attachment C and any other provision of this Markets+ Tariff, this Attachment C will control.

2. Definitions

For purposes of this Plan, capitalized terms have the meanings specified below:

2.1 Confidential Information

The term defined under the Markets+ Tariff.

2.2 Data and Information

Writings, documents and records of every type, including audio recordings and electronic files.

2.3 Interested Government Agencies

The FERC and any state regulatory commission or agency with relevant regulatory oversight responsibilities.

2.4 Markets and Services

The markets and services offered under the Markets+ Tariff.

3. Market Monitor

The Market Monitor is responsible for implementing the Market Monitoring Plan as defined in this Attachment C.

3.1 Staffing and Resources

The Market Monitor is an organization within SPP reporting to the Board of Directors, excluding any SPP management representatives serving on the Board of Directors. The Market Monitor will be comprised of employees of SPP with the necessary experience and qualifications to perform the duties of the Market Monitor. The duties and responsibilities of the Market Monitor are assigned by the Board of Directors. However, the Market Monitor's duties and responsibilities will not include purely administrative matters (e.g., enforcement of late fees and the untimely submission of outage reports and Meter Data). SPP management representatives on the Board of Directors will be excluded from the Board of Directors' oversight of the Market Monitor. SPP must establish and provide appropriate staffing and/or resources for the Market Monitor and must ensure that the Market Monitor has such adequate employees, funding and/or other resources, access to required information, and the full cooperation of SPP Staff, organizational groups, and other persons, as necessary, for the effective functioning of the Market Monitor and implementation of this Plan. The Market Monitor has full responsibility for implementing Attachment C.

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3.2 Relationships and Notifications

As a general principle, the Market Monitor may obtain input from SPP staff, FERC, the Markets+ State Committee, and affected state regulatory authorities for the purpose of executing its duties. In accordance with this Markets+ Tariff, the Market Monitor must at any time bring any instances of market behavior that may require investigation (including, but not limited to, suspected Tariff violations, suspected violations of FERC-approved rules and regulations, suspected market manipulation, and inappropriate dispatch) to the attention of FERC's Office of Enforcement (or its successor organization) staff.

In the event the Market Monitor identifies a significant market design or policy problem that may require (a) a change to this Markets+ Tariff or (b) referral to FERC, the Market Monitor must provide notification to the M+ Independent Panel Board of Directors, the President of SPP, and the appropriate FERC staff, and other interested and relevant entities such as state regulatory commissions, as soon as practicable. In the event the Market Monitor believes broader dissemination could lead to exploitation, it may limit distribution of its identifications and recommendations to M+ Independent Panel, the Board of Directors, the President of SPP, and FERC with an explanation of why further dissemination should be avoided at that time.

The Market Monitor may also interface with FERC and other RTO and ISO market monitors in adjacent regions as needed for the purpose of addressing electricity market issues in a comprehensive manner.

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3.3 Independence and Ethics Standards

The Market Monitor and its employees must abide by SPP's Standards of Conduct, which are appropriate for establishing the professional and financial independence of the Market Monitor. Consistent with this requirement, the Market Monitor and its employees must:

(a) have no material affiliation with any Market Participant or any affiliate of a Market Participant;

(b) not serve as an officer, employee, or partner of a Market Participant;

(c) have no material financial interest in any Market Participant or any affiliate of a Market Participant (allowing for such potential exceptions as mutual funds and non-directed investments);

(d) not engage in any market transactions other than the performance of their duties under this Tariff;

(e) not be compensated, other than by SPP, for any expert witness testimony or other commercial services to SPP or to any other party in connection with any legal or regulatory proceeding or commercial transaction relating to SPP;

(f) not accept anything of value from a Market Participant in excess of a de minimis amount;

(g) advise their relevant supervisor (or, in the case of the Market Monitoring management, SPP's Board of Directors) in the event they seek employment with a Market Participant, and must disqualify themselves from participating in any matter that would have an effect on the financial interest of such Market Participant.

These restrictions are not exclusive of the other requirements specified in SPP's Standards of Conduct. In the event there is a conflict between this Attachment C and SPP's Standards of Conduct, this

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Attachment C will control.

The Market Monitor must certify compliance with such policies to the President of SPP. The Market Monitor must require any external consultants or experts to certify compliance with these policies.

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4. Market Monitoring

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4.1 Markets to be Monitored

The Market Monitor will monitor Markets and Services. The Market Monitor will not monitor bilateral energy, transmission or capacity markets and services not administered, coordinated or facilitated by SPP, except to assess the effect of these markets and services on Markets and Services, or the effects of Markets and Services on these unmonitored markets. Similarly, the Market Monitor will not monitor the energy, transmission, or capacity markets and services in regions adjacent to the Markets+ Footprint except to assess the effect of these markets and services on Markets and Services, or the effects of Markets and Services on these adjacent markets.

4.2 Market Monitoring Scope

The Market Monitor will monitor Markets and Services by reviewing and analyzing market data and information including, but not limited to:

(a) Resource registration data;

(b) Resource Offer data including non-price related offer parameters required for use in either the Day-Ahead Market, Reliability Unit Commitment processes and/or Real-Time Balancing Market; including parameters related to GHG;

(c) Demand Bids for the purchase of Energy in the Day-Ahead Market;

(d) Virtual Energy Bids for the purchase of Energy in the Day-Ahead Market and Virtual Energy Offers for the sale of Energy in the Day-Ahead Energy Market;

(e) Export Interchange Transaction Bids and Import Interchange Transaction Offers for the purchase and sale of Energy in the Day-Ahead Market and the Real-Time Balancing Market;

(f) Actual commitment and dispatch of Resources, including but not limited to Resource MW capability and output, MVAR capability and output, status, and outages;

(g) Locational Marginal Prices and zonal Market Clearing Prices at all Settlement Locations in or affecting any of Markets and Services;

(h) ~~Markets+ participating~~ Participating Balancing Authority Area data, including but not limited to demand, area control error, Net Scheduled Interchange, actual total net interchange, and forecasts of operating reserves and peak demand;

(i) Conditions or events both inside and outside the Markets+ Footprint affecting the supply and demand for, and the quantity and price of, products or services sold or to be sold in Markets and Services;

(j) Information regarding transmission services and rights;

(k) Information regarding the nature and extent of transmission congestion in the region and, to the extent practicable, transmission congestion on any other system that affects Markets and Services, including but not limited to causes of, costs of and charges for transmission congestion, transmission facility loading, MVA capability, line status and outages;

(l) Settlement data for the Markets and Services;

(m) Any information regarding collusive or other anticompetitive or inefficient behavior in or affecting any of Markets and Services;

(n) Generation resource operating cost data for estimating resource incremental cost, including fuel input costs, heat rates where applicable, start-up fuel requirements, environmental costs and variable operating and maintenance expenses; and

(o) Any additional Resource and transmission facility outage data not otherwise provided for in this Section 4.2;

In addition to the monitoring of market Data and Information, the Market Monitor may communicate with SPP Staff and Market Participants at any time for the purpose of monitoring and assessing market conditions.

4.3 Referrals to FERC

(a) The Market Monitor will refer suspected market violations, as defined in 18 CFR 35.28(b)(8), to FERC's Office of Enforcement (or its successor organization) staff in accordance with FERC's reporting protocols for referrals by market monitors as specified in 18 C.F.R. § 35.28(g)(3)(iv) in a timely manner. Any such referrals by the Market Monitor to FERC Staff will be on a confidential basis, and all information and documents included in such reports will not be released to any other party except to the extent FERC directs or authorizes such release, unless such information and documents are already in the public domain.

(b) The Market Monitor will refer any perceived market design flaws and recommended Tariff language changes to FERC's Office of Energy Market Regulation or its successor office/organization in accordance with 18 C.F.R. § 35.28(g)(3)(v).

4.4 Monitoring for Potential Market Manipulation

The Market Monitor will monitor for potential instances of market manipulation as defined in 18 C.F.R. §1c.2.. The Market Monitor will report any market manipulation to FERC in a timely manner.

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4.5 Monitoring for Potential Transmission Market Power Activities

The Market Monitor will monitor Markets and Services for the exercise of transmission market power by reviewing and analyzing data and information related to the availability of transmission facilities that impact access to services under this Tariff. The Market Monitor will monitor for activities particularly with respect to the withholding of transmission facilities or transmission capacity, including activities such as but not limited to, the following:

(a) Physical withholding by Transmission Owners by providing improper information related to the availability of transmission, such as information related to the capability or other modeling data used by SPP for use in system operations;

(b) Economic withholding by Transmission Owners through the use of methods and data for estimating costs of interconnection and system upgrades that is not comparable for affiliates and non-affiliates;

(c) Unavailability of transmission facilities through planned and unplanned maintenance outages that routinely exceed historical baselines; and

(d) Withholding of transmission capacity through excess reservations that are not actually used.

The Market Monitor will refer any instance(s) of the suspected exercise of transmission market power directly to FERC's Office of Enforcement (or its successor organization) utilizing the protocols for referrals to FERC for suspected instances of the exercise of market power that may be part of a suspected market violation, such as manipulation, in accordance with 18 C.F.R. § 35.28(g)(3)(iv).

4.6 Monitoring for Market Participant Behavior Possibly Warranting Mitigation

The Market Monitor will monitor Markets and Services for potential abuse associated with the following categories of Market Participant behavior: (1) economic withholding; (2) uneconomic production; (3) physical withholding; and (4) uneconomic Virtual Bids and Virtual Offers. Abuse of these types of behaviors is prohibited. The above list is not an exhaustive list of potential signs of market manipulation. The mitigation measures for each of the behaviors identified in items (1) through (4) of this paragraph are described in Attachment B. When the Market Monitor determines that there is sufficient credible information about a specific abusive practice, the issue will be referred to FERC's Office of Enforcement (or its successor organization). Nothing in this section limits the Market Monitor's obligation to refer other suspected market violations to FERC's Office of Enforcement, even where suspected behavior does not fall explicitly within the abovementioned categories or descriptions, including for market manipulation as described in Attachment C, Section 4.4.

4.6.1 Uneconomic Production

The Market Monitor will monitor the Markets+ for uneconomic production and may recommend that the Market Operator impose appropriate mitigation measures if such conduct is detected. These measures may include recommendations to replace the market offer with the mitigated offer, or to override parameters. Uneconomic production is increasing the injection or withdrawal of a Resource to levels that would otherwise be uneconomic in order to cause and obtain benefits from (1) congestion on a transmission constraint; or (2) price separation between Reserve Zones. The provisions of this Section 4.6.1 do not apply to Dispatchable Demand Response Resources.

4.6.2 Monitoring for Virtual Energy Bids and Virtual Energy Offers

The Market Monitor will monitor the level of divergence between the Day-Ahead Market LMPs and the Real-Time Balancing Market LMPs. Section 4.6.3 defines the monitoring metric and thresholds to be used in determining the existence of excessive LMP divergence. In the case that there is excessive LMP divergence, the Market Monitor will determine if the LMP divergence is attributable to the Virtual Energy Bid and Virtual Energy Offer behavior of one or more Market Participants. If the Market Monitor identifies one or more Market Participants as having caused the excessive LMP divergence through Virtual Energy Bid and Virtual Energy Offer behavior, then the Market Monitor will recommend that the Market Operator apply the mitigation measures described in Attachment A, Section 5.4.

4.6.3 Metric and Threshold Specifications

The Market Monitor computes the hourly LMP deviation between the Day-Ahead Market and Real-Time Balancing Market using the following formula: $[(LMP_{RTBM} / LMP_{DA\ Market}) - 1] * 100$. The average hourly LMP deviation is computed over a rolling four (4) week period or any other period that the Market Monitor determines is appropriate. If the rolling average is below negative ten percent (-10%) or in excess of ten percent (10%), then the divergence is considered excessive and additional analysis is required.

4.6.4 Physical Withholding

(1) Physical withholding and unavailability of facilities includes but is not limited to:

(a) Declaring that a Resource has been derated, forced out of service or otherwise been made unavailable for technical reasons that are untrue or that cannot be verified;

(b) Refusing to provide offers or schedules for a Resource when it would otherwise have been in the economic interest to do so without market power;

(c) Operating a Resource in real-time to produce an output level that is less than the Dispatch Target minus the Resource's Operating Tolerance defined in Attachment A, Section 6.4.1 and the Resource is not exempt from URD under Attachment A, Section 9.3.23;

(d) Derating a transmission facility for technical reasons that are not true or verifiable;

(e) Operating a transmission facility in a manner that is not economic and that causes a binding transmission constraint, binding Rreserve Zzone, Local Reliability Issue, or Emergency Condition; and

(f) Declaring that the magnitude of the capability of a Resource is reduced for reasons that are not true or verifiable. This capability includes but is not limited to the following:

(i) The capability to provide Energy;

(ii) The capability to provide Flexibility Reserve Products;

(iii) In the case of MSRs, the capability to charge and/or to discharge.

(2) Market Participant will be deemed not to be physically withholding if:

(a) They are following the directions of the Balancing Authority, Reliability Coordinator, transmission service provider, or applicable reliability standards; or

(b) The Market Participant satisfies the must offer requirements as detailed in Attachment A, Section 5.1; or

(b) They are selling into another market at a higher price; or

(c) The Market Participant is reducing the magnitude of the MSR's maximum capability, either charging or discharging, from its true and verifiable physical or environmental limitations in order to provide that capability for the duration of the minimum clearable commitment period; or

(e) They are following water management requests or directives pursuant to the legal authority and operational responsibilities of the hydro operator or hydro participant; or

(f) The Market Participant is subject to the terms of a power purchase agreement, or other power supply agreement, that limits the availability of capacity or energy deliveries to Markets+ as a result of (i) the good faith exercise by the Market Participant of

contractual or operational responsibilities thereunder, (ii) the technical or operational limitations of the resource or interconnected facilities, which limitations are beyond the control of the Market Participant to mitigate, or (iii) a request, order, or directive issued by a legal authority with jurisdiction over the resource or interconnected facilities. Subject to the confidentiality provisions set forth in Attachment A, Section 11, a Market Participant that invokes this Section 4.6.4(2)(f) will provide to the Market Monitor upon request the applicable unredacted portions of the power purchase agreement, or other applicable power supply agreement, to which the Market Participant is a party and supporting explanation for the technical, operational, or legal limitations of the resource or interconnected facilities, if applicable.

4.6.4.1 Thresholds for Identifying Physical Withholding of Resource Capacity

A Market Participant is deemed to be physically withholding capacity if the Market Participant is not deemed to be not physically withholding pursuant to Section 4.6.4(2) and all of the following conditions exist:

(1) One or more transmission constraints are binding or a Reserve Zone is binding; and

(2) The Market Participant owns or controls one of more Resources that have market power as defined in Attachment B, Section 3.1; and

(3) One of the following conditions apply:

a) Such Resource(s) satisfy one of the conditions in Attachment C, Sections 4.6.4(a), 4.6.4(b), or 4.6.4(f) and the total withheld capacity exceeds the lower of 5 percent of the total capability owned or controlled by the Market Participant or 200 MW; or

b) Where the real-time output of each such Resource is less than the Dispatch Target minus the Resource's Operating Tolerance defined in Attachment A, Section 9.3.23 and the Resource is not exempt from Uninstructed Resource Deviation under Attachment A, Section 9.3.23.1.

4.6.4.2 Thresholds for Screening of Potential Physical Withholding of Transmission Facilities

A transmission facility fails the physical withholding screen if either of the following conditions is met:

(a) The transmission facility satisfies a condition in Attachment C, Section 4.6.4(d) or 4.6.4(e); or

(b) The Market Monitor identifies a pattern of scheduling outages resulting in increased market costs compared to an alternative and lower cost impact outage schedule.

4.6.4.3 Sanctions

The Market Monitor will record instances where Market Participants have failed the screens in Attachment C, Sections 4.6.4.1 and 4.6.4.2. The Market Monitor will notify FERC's Office of Enforcement, or successor organization, of suspected physical withholding behavior. In the event the Market Monitor determines there is credible evidence of a market violation, the Market Monitor will make a referral to FERC as described in Attachment C, Section 4.3.

5. Review of Market Activity

5.1 Requests

Any Market Participant or Interested Government Agency may raise any issue with the Market Monitor and request that the Market Monitor consider the issue in its monitoring and reporting. The Market Monitor may include this issue in its monitoring or reporting if it determines it is appropriate to do so. The Market Monitor should not monitor or report on any complaint pertaining to issues not related to Markets and Services or activities not monitored and overseen by the Market Monitor.

Any requests by Market Participants and Interested Government Agencies to the Market Monitor may be made confidentially. The Market Monitor will maintain the confidentiality to the extent practicable.

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6. Compliance and Corrective Actions

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6.1 Compliance

The Market Monitor will administer the Market Monitoring Plan as described in this Attachment C and will report any actual or potential abuse of market power or market design inefficiencies as part of its monitoring process. However, the Market Monitor's activities are limited to matters that (i) are expressly set forth in this Markets+ Tariff; (ii) involve objectively identifiable behavior; and (iii) do not subject the Market Participant to sanctions or other consequences other than those expressly approved by FERC and set forth in this Tariff.

As part of the monitoring process, the Market Monitor may issue a demand letter requesting Market Participants causing the issue to arise to change actions as the Market Monitor deems proper to achieve compliance and the Market Monitor may also engage in discussions with persons or entities other than Market Participants as necessary as part of any investigatory or compliance process.

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6.2 Corrective Actions for Market Design

If the Market Monitor discerns any weaknesses or failures in market design and market rules, including the determination that Markets and Services are not resulting in just and reasonable prices or providing appropriate incentives for investment in needed infrastructure, the Market Monitor will advise the appropriate organizational group of SPP, the President of SPP, the MSC, appropriate state authorities, FERC, and relevant Market Participants. In the event the Market Monitor believes providing such information could lead to exploitation, it will restrict such notification to the President of SPP, the Chairman of the SPP Oversight Committee, and FERC, and will provide a justification for such limited notification.

Should SPP not respond within sixty (60) days, the Market Monitor may recommend changes in market design and market rules to the Board of Directors, FERC, and the MSC as needed. If SPP responds but does not recommend changes to market design and market rules that are acceptable to the Market Monitor, the Market Monitor will report to the Board of Directors and the appropriate regulatory body or bodies as needed, and then SPP may file a petition or submission seeking appropriate action from FERC or any other appropriate enforcement agency. The Market Monitor may make recommendations for changes to this Markets+ Tariff as necessary to correct weaknesses or failures in Markets and Services.

In the event that any weaknesses or failures in market design require immediate corrective action to ensure just and reasonable prices, the Market Monitor may request the President of SPP to authorize an immediate FERC filing requesting implementation of a corrective action while the appropriate organizational group of SPP responds to the Market Monitor's notification as described above. The requested immediate corrective action should be the method least intrusive or disruptive to Markets and Services necessary to resolve the market weakness or failure as determined by the Market Monitor. Prior to making such a request to the President of SPP, the Market Monitor will make reasonable efforts to discuss with affected Market Participants and the staff of affected Interested Government Agencies the market weakness or failure potentially requiring immediate corrective action, unless the

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Market Monitor determines that such discussions would lead to exploitation.

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7. Periodic Reports and Updates to SPP, Government Agencies, and Market Participants

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7.1 Reports and Updates to the Board of Directors

7.1.1 State of the Market Reports

(1) The Market Monitor will publish an annual state of the market report providing details on the market for the previous year. As a part of its annual reports, the Market Monitor may make recommendations regarding any matter within its purview as defined in the Markets+_Tariff. The Market Monitor will submit and present on its annual state of the market report to the Oversight Committee and Board of Directors.

(2) The Market Monitor will publish a quarterly state of the market report providing details on the market for the previous quarter. As part of its quarterly reports, the Market Monitor may make recommendations regarding any matter within its purview as defined in the Tariff. The Market Monitor will post the quarterly state of the market report on the Market Operator's website.

Any such reports may be subject to confidentiality provisions consistent with Section 8.1.

7.1.2 Market Monitor Activities Report

The Market Monitor will also prepare and submit to the Oversight Committee quarterly updates on Market Monitor activities emphasizing any issues of concern to the Market Monitor.

7.1.3 Report Comments

SPP and Market Participants may comment on any public reports made pursuant to this section, through the appropriate stakeholder process or directly to the Market Monitor. The independent Market Monitor maintains discretion to disregard any comments or suggestions with which it disagrees.

7.2 Reports to Government Agencies, the Market Operator, and Market Participants

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After an annual review of the performance of the wholesale markets as discussed in Attachment C, Section 1.3.2, the Market Monitor will provide its annual State of the Market Report to FERC, the SPP Board of Directors, the Market Operator, state commissions, Market Participants, and other interested entities. The Market Monitor will also make available, as described below, the reports provided to the Board of Directors and other such reports as may be requested by FERC or such authorities subject to protection of confidential, proprietary and commercially sensitive information and the protection of the confidentiality of ongoing monitoring activities.

7.2.1 The Market Monitor will submit such reports to FERC and other affected regulatory authorities, including the Markets+ State Committees.

7.2.2 These Market Monitor reports are made available on the Market Operator's website.

7.2.3 The Market Monitor will hold conference calls related to these reports. Any interested party may attend these conference calls. The Market Monitor will make one or more of its staff members available for regular conference calls. Individual entities may request meetings to discuss these reports.

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8. Data Access, Collection, and Retention

8.1 Confidentiality

SPP and Market Participants may designate Data and Information as Confidential Information consistent with the terms of ~~SPP's Membership Agreement and~~ Attachment A, Section 11. If the designation of Confidential Information appears to be unreasonable, the Market Monitor may challenge such designation of Confidential Information consistent with Attachment A, Section 11.

The Market Monitor will provide Confidential Information to Interested Government Agencies consistent with the terms of Attachment A, Section 11.

8.2 Access to Data and Information

The Market Monitor must have access to all market impacting Data and Information. This Data and Information will be gathered or generated by the Market Operator, ~~participating~~ Participating Balancing Authority, or Market Participant. This Data and Information includes, but is not limited to the operational data, listed in Section 4 of this Plan, gathered or generated by all market impacting entities which may include the Market Operator, Balancing Authority, Reliability Coordinator, and transmission service provider. All Data and Information listed in Section 4 of this Plan must be retained for a minimum period of six (6) years.

8.3 Access to Market Participant Data and Information

Market Participants must retain Data and Information listed below, and in Section 4 of this Plan as applicable, that is in the custody and control of Market Participants, for a minimum of six years and must promptly provide any such Data and Information to the Market Monitor upon request, unless such Data and Information is not required for sharing with the Market Monitor as detailed in this section.

Market Participants must provide the Data and Information to the Market Monitor, upon request, unless explicitly exempted in a Markets+ Participant Agreement. Requested Data and Information must be shared in a commonly used format along with a description of the data and format. Market

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Participants will not continuously share data on Resources beyond what is necessary to represent the ŦR esource's generation capability in the market optimization software for the applicable period. If necessary, due to proprietary format restrictions, the Market Participant must provide the data to the Market Monitor in a non-proprietary format, such as CSV or XML format along with a description of the data and format. Market Participants may designate such Data and Information as Confidential Information, but such Data and Information must not be redacted or modified in any manner prior to delivery to the Market Monitor by the Market Participant.

Unless explicitly exempted in a Markets+ Participant Agreement, Market Participants must retain the following Data and Information for all parties affiliated with the Market Participant and provide it to the Market Monitor upon request:

(a) All Data and Information relating to the costs of operating a ŦResource, including but not limited to, heat rates, start-up fuel requirements, fuel purchases, environmental costs, and operating and maintenance expenses;

(b) All Data and Information regarding opportunity costs of a Rŧesource, including but not limited to, regulatory, environmental, technical, or other restrictions that limit the run-time or other Rŧ esource operating characteristics;

(c) All Data and Information relating to the operating status of a ŦResource, including but not limited to logs showing the status of a Rŧesource, including information relating to an outage or derate;

(d) All Data and Information relating to the operating status of a transmission facility, a contingency, tap setting of a phase shifting transformer, or other operating consideration, including but not limited to an outage or derate of a transmission system component;

(ŧe) All Data and Information relating to the ability of a Market Participant or its affiliate to determine the pricing or output level of Rŧesource capacity owned by another entity, including but not limited to any document setting forth the terms or conditions of such ability;

(gf) All Data and Information used in the course of business operations in arriving at a decision by a reserve sharing group member to call an operating reserve contingency and to request assistance;.

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If any additional Data and Information not listed above or in Section 4 of this Plan is required from Market Participants by the Market Monitor for the purpose of fulfilling its responsibilities, the Market Monitor may request such Data and Information from Market Participants, unless such Data and Information is explicitly excluded as a sharing obligation in this Section or exempted in a Markets+ Participant Agreement. Such eligible Data and Information must be provided in a timely manner by Market Participants. If a Market Participant receiving a request for Data and Information not listed above or in Section 4 of this Plan believes that production of the requested Data and Information would impose a substantial burden or expense, or would require the party to produce information that is not relevant to achieving the purposes or objectives of this Plan, the Market Participant receiving the request should promptly notify the Market Monitor. If the Market Monitor determines that the request can be narrowed or otherwise modified to reduce the burden or expense of compliance, the Market Monitor may modify the request. No party that is the subject of a data request will be required to produce any summaries, analyses, or reports of the data that do not exist at the time of the data request, other than a description of the data.

If the Market Monitor determines that the requested Data and Information has not or will not be provided in a timely manner, the Market Monitor may (a) follow the dispute resolution procedures under this Markets+ Tariff or under the SPP Markets+ Bylaws as applicable or (b) make a filing with the appropriate regulatory or enforcement agency to compel the production of the requested information.

8.4 Data Created by Market Monitor

Any data created by the Market Monitor, including any reconfiguration of Data and Information under this section, will remain within the Market Monitor's exclusive control. Such data may be shared at the Market Monitor's sole discretion and on a non-discriminatory basis, subject to the confidentiality provisions specified in this Attachment C and Attachment A, Section 11.

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9. Miscellaneous Provisions

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9.1 Rights and Remedies

This Plan does not restrict SPP and Market Participants from asserting any rights they may have under state and federal regulation and laws, including initiating proceedings before FERC regarding any matter which is subject to this Plan.

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9.2 Disputes

Disputes as to the implementation of, or compliance with, this Plan are subject to the dispute resolution procedures under this Tariff or under the SPP Markets+ Bylaws as applicable or subject to review by FERC.

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10. Review of Market Monitor

The activities of the Market Monitor will be reviewed from time to time by the Board of Directors.

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ATTACHMENT D
Markets+ Transmission

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The Market Operator will provide two services in support of Markets+ Transmission Capability:

1) Support transmission scheduling adjustments for market usage, as described in this Attachment D.

2) Optimize the use of the transmission system pursuant to this Attachment D.

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1.0 General

By the close of the Day-Ahead Market, Markets+ Transmission Service Providers and Markets+ Transmission Contributors will communicate pursuant to the Markets+ Protocols, operational transmission capability information to the Market Operator for deriving a market solution utilizing a Simultaneous Co-optimization Methodology pursuant to Attachment A, Section 8.3.

Once the Markets+ Dday-Aahead Market ~~clearing process~~results ~~is~~are ~~complete~~posted, the Market Operator system will send tag market adjustment(s) to the ~~participating~~ Participating Balancing Authorities to adjust the BA-to-BA Markets+ tags. The Market Operator will also communicate the cleared market volume amount via a market adjustment to reflect ~~price-sensitive~~cleared dispatchable imports or exports to be approved by the tagging entities.

Participating Balancing Authorities will communicate to the Market Operator any changes to the transmission capability communicated to the Market Operator before such change becomes effective in the next Dispatch Interval.

Markets+ will economically dispatch Energy across the Markets+ Footprint using Markets+ Transmission Contributors' and Markets+ Transmission Service Providers' flow-based transmission capability less any capacity not available for market use. The Eenergy produced within a Resource's Operating Tolerance and in response to a Markets+ dispatch instruction is considered delivered utilizing Markets+ Transmission Capability.

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1.1 Limited Markets+ Transmission Service Provider Responsibilities

Markets+ Transmission Service Providers will have the obligation to make available the otherwise unused physical capability of the transmission facilities under their tariffs for purposes of providing Markets+ Transmission Capability to support the delivery of Energy and to operate the facilities under their tariffs in accordance with Good Utility Practices.

For purposes of Markets+ Transmission Capability, Markets+ Transmission Service Providers will have no obligation to plan, construct, or maintain their transmission systems for the benefit of Markets+.

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1.2 Obligation to Communicate Markets+ Transmission Capacity Availability Changes

Markets+ Transmission Contributors and Markets+ Transmission Service Providers must communicate any changes to the availability of Markets+ Transmission Capability to the Market Operator pursuant to the Markets+ Protocols. Market Participants may update Opt-Outs no more than once per month, with notification no later than fifteen (15) days prior to the start of the upcoming calendar month for which a Markets+ Transmission Capacity Opt-Out will begin, and for the entirety of the one or more calendar months.

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1.3 Conditions Precedent for Receiving Markets+ Transmission Capability

Subject to the terms and conditions of this Attachment D ~~of the Tariff~~Markets+ ~~Tariff~~, and related attachments, Markets+ Transmission Service Providers will allow use of Markets+ Transmission Capability by any Markets+ Transmission User. Use of Markets+ Transmission Capability is allowed commensurate with Eenergy dispatched within the Markets+ Footprint pursuant to the provisions of this ~~Tariff~~Markets+ Tariff. As such, the Markets+ Transmission User is not required to separately request or make an application to use Markets+ Transmission Capability. A Markets+ Transmission Service Provider agrees to provide comparable service that it is capable of providing to all Markets+ Transmission Users on similar terms and conditions over facilities used for the transmission of electric energy in interstate commerce owned, controlled, or operated by Markets+ Transmission Service Providers.

No separate charge will be assessed by the Market Operator for the use of Markets+ Transmission Capability beyond the MTU charge as set forth in Section 7.11~~XX~~, which is not a charge for transmission service.

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1.4 Generator Transmission Requirement Review

The Market Operator will undertake a review to determine what, if any, cost shifts have occurred in the absence of a requirement for generators to purchase transmission service to conduct sales in Markets+, after the occurrence of either of the following:

(1) Two (2) years of data needed to conduct the study are available; or

(2) A Markets+ Transmission Service Provider requests such a review following a reduction of at least two percent (2%) of their long-term_-firm point-to-point revenues or 2% of their long-_-term firm point-to-point reservations on an annual basis for their transmission facilities as they existed when Markets+ began operations.

This review does not preclude a request for review from Markets+ Participants.

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1.5 Obligation to Pause Queue Processing

Markets+ Transmission Service Providers must pause processing of transmission service requests for the upcoming Operating Day between the time the Day-Ahead Market closes, and when Day-Ahead Energy Schedules ~~are~~ updates are sent ~~d~~ by the Market Operator. This pause will not affect the prioritization of requests received when queue processing is paused.

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ATTACHMENT E
Market Participant ~~Service~~ Agreement

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MARKET PARTICIPANT ~~SERVICE~~ AGREEMENT
FOR MARKET PARTICIPANTS IN MARKETS+

1. This Market Participant ~~Service~~ Agreement ("~~Service~~ MP Agreement") dated as of _____ is entered into by and between ~~Southwest Power Pool, Inc. ("SPP")~~the Market Operator and _____ ("Market Participant"). ~~SPP~~ Market Operator and Market Participant are each sometimes referred to in the MP ~~Service~~ Agreement ~~Service Agreement~~ as a "Party," and collectively as the "Parties."

2. The Market Participant has submitted an application for participation in Markets+ as part of its registration as a Market Participant in accordance with the market application and registration procedures specified in the Markets+ Tariff (the "Tariff") and Markets+ Protocols, and has provided the information specified in Appendix 1 to this MP~~Service~~ Agreement.

3. The Market Participant understands the Market Operator will use registered Resources and loads and Markets+ ~~transmission~~ Transmission ~~capability~~ Capability in the performance of its activities.

4. The Market Participant represents and warrants that it has met or will meet all applicable readiness requirements set forth in the Tariff prior to participation in Markets+.

~~5.~~ ~~SPP~~ Market Operator agrees to provide, and the Market Participant agrees to take and pay for, or to supply to ~~SPP~~Market Operator, any or all of the products defined in the Tariff in accordance with the Tariff's provisions, and to satisfy all obligations under the terms and conditions of the Tariff and the Markets+ Protocols.

~~6.~~ ~~SPP~~ Market Operator and the Market Participant agree that this MP~~Service~~ Agreement will be subject to, and will incorporate by reference, all of the terms and conditions of the Tariff.

7. The Market Participant represents and warrants that:

   (a) At any time it has registered one or more Resources, the Market Participant intends to participate in Markets+ in accordance with procedures specified in the Tariff and Markets+ Protocols, the participation of its Resource(s) in Markets+ is not precluded under the laws or regulations of the relevant electric retail regulatory authority, including state-approved retail tariff(s), and the Market Participant (a) has market-based rate authority from FERC or (b) has another FERC-approved basis for setting prices in Markets+, or (c)

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is exempt from the requirement to have rates for services on file with FERC;

(b) This MP~~Service~~ Agreement, or any transaction entered into pursuant to the MP~~Service~~ Agreement, as applicable, has been duly authorized;

(c) This MP~~Service~~ Agreement is the legal, valid, and binding obligation of the Market Participant, enforceable in accordance with its terms, except as it may be rendered unenforceable by reason of bankruptcy or other similar laws affecting creditors' rights, or general principles of equity;

8. The Market Participant agrees that, during the duration of this MP~~Service~~ Agreement, the Market Participant will be in compliance with all applicable federal, state, and local laws, rules, and regulations related to the Market Participant's performance under this MP~~Service~~ Agreement.

9. Any notice or request made to or by either Party regarding this MP~~Service~~ Agreement will be made to the representative of the other Party as indicated below:

~~SPP~~Market Operator: _____

Market Participant: _____

10. Cancellation Rights:

If FERC or any regulatory agency having authority over this MP~~Service~~ Agreement determines that any part of this MP~~Service~~ Agreement must be changed, ~~SPP~~ Market Operator will offer to the Market Participant within fifteen (15) Calendar Days of such determination an amended MP~~Service~~ Agreement reflecting such changes. In the event that the Market Participant does not execute such an amendment within thirty (30) Calendar Days of receipt of an amended MP~~Service~~ Agreement from ~~SPP~~Market Operator, or longer if the Parties mutually agree to an extension, such agreement will not be unreasonably withheld, conditioned, or delayed, this MP~~Service~~ Agreement and the amended MPService Agreement will be void.

11. Termination:

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(a) The Market Participant may terminate service under this MP~~Service~~ Agreement no earlier than ninety (90) Calendar Days after providing ~~SPP~~ Market Operator with written notice of the Market Participant's intention to terminate. The Market Participant's provision of notice to terminate service under this MP~~Service~~ Agreement will not relieve the Market Participant of its obligation to pay any rates, charges, or fees due under this MP~~Service~~ Agreement that are owed as of the date of termination.

~~(b)~~ ~~SPP~~ Market Operator may terminate service under this MP~~Service~~ Agreement if the Market Participant is in default, such default condition as defined under Article 8 of Attachment H to this Tariff, in accordance with the procedures specified under Attachment I to this Tariff and Attachment A, Section 9.12 ~~of Attachment A to this Tariff~~, as applicable.

12. The Market Participant agrees to pay all amounts due and chargeable to the Market Participant and ~~SPP~~ Market Operator agrees to pay all amounts creditable to the Market Participant in accordance with the terms of the Tariff.

IN WITNESS WHEREOF, the Parties have caused this MP~~Service~~ Agreement to be executed by their respective authorized officials.

~~SPP~~Market Operator: _____ **Market Participant:**

By: _____ **By:** _____

Printed Name: _____ **Printed Name:** _____

Dated: _____ **Dated:** _____

Title: _____ **Title:** _____

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Appendix 1 to Attachment E

MARKET PARTICIPANT INFORMATION:

Requested Change Type [1] (Add, Modify, Terminate)	Market Participant Name [2]	Market Participant Acronym [3] (4 characters)	Registered in EIR? [4] (yes/no)	Credit Customer Name[5]

ASSET OWNER INFORMATION:

Requested Change Type [1] (Add, Modify, Terminate)	Asset Owner Name [6]	Asset Owner Acronym [7] (4 characters)	Registered in EIR? [8] (yes/no)	Resource Owner [9] (yes/no)	Load Serving E 10 (yes/no)

METER AGENT INFORMATION:

Requested Change Type [1] (Add, Modify, Terminate)	Meter Agent Name [12]	Meter Agent Acronym [13] (4 characters)	Registered in EIR (yes/no)

CONTACT INFORMATION:

Contact Last Name	Contact First Name	Contact Type[15] (A,B,C)	Phone Number (nnn) nnn-nnnn	Email Address

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PROPOSED EFFECTIVE DATE[16]**:** _____

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Instructions for Populating Appendix 1 Tables

1. **Requested Change Type** – Indication of the type of change for each record. For adding an entity or relationship this will be Add. To terminate an entity or relationship from Markets+, enter Terminate. For requesting a modification or name change of an entity, enter Modify. When requesting a name change to an entity, enter the existing name followed by a forward slash "/" and then the new name.

2 **Market Participant Name** – Full name of the Market Participant.

2. **Market Participant Acronym** – The NAESB Electric Industry Registry ("EIR") acronym that will be used for the Market Participant. If the entity is not registered in the EIR, the acronym should conform to the EIR format of no more than four (4) alpha numeric characters. Any acronym for an entity that is not registered in EIR must also be unique from any abbreviation that is registered in EIR by another party.

4 **Registered in EIR** – Enter "yes" if the entity is registered at EIR.

5 **Credit Customer Name** – The name of the entity that will be providing secured and unsecured credit for the Market Participant's activities in Markets+ in accordance with Attachment H of this ~~Tariff~~Markets+ Tariff.

6 **Asset Owner Name** – The name of the Asset Owner that is registered by the Market Participant.

7 **Asset Owner Acronym** – The Asset Owner acronym abbreviation that will be used for this Asset Owner will be the same as the acronym in the EIR if the entity is registered in the EIR. If the entity is not registered in the EIR, the abbreviated name should conform to the EIR format of no more than four (4) alpha numeric characters. Any abbreviation for an entity not registered in the EIR must also be unique from any abbreviation that is registered in the EIR by another party.

8 **Registered in EIR?** – This field is used to identify if the entity is registered at EIR. For Asset Owners not registered at EIR, the Market Operator will validate the acronym used is not registered at EIR by another party currently. To ensure uniqueness against EIR in the future, the Market Operator will also append "_X" to the Asset Owner Acronym supplied for those that are not registered.

9 **Resource Owner** – This is a Yes or No answer indicating whether or not the Asset Owner is a Resource owner and will be registering Resources to participate in the Energy and Flexibility Reserves Market.

10 **Load Serving Entity** – This is a Yes or No answer indicating whether or not the Asset Owner is a Load Serving Entity and will be registering Load Assets to be supplied in the Energy and Flexibility Reserves Market.

11 **Meter Agent Name** – Any Market Participant with load and/or Resources will either be a Meter Agent or have a relationship with at least one Meter Agent. Identify the Meter Agent(s) registered with the Market Operator that will be responsible for the acquisition of end-use ~~meter~~ Meter ~~data~~Data, aggregation of ~~meter~~ Meter ~~data~~Data, application of data to Settlement

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Intervals, and transfer of ~~meter~~ Meter ~~data~~ Data to the Market Operator on behalf of this Market Participant. This entity can be a traditional utility entity or other competitive entity. If the Market Participant is not acting as its own Meter Agent, show the Meter Agent as the Entity's name as it Is Registered on the Meter Agent Agreement form in Attachment G of the ~~Tariff~~Markets+ Tariff.

12 **Meter Agent Acronym** – The abbreviation that will be used for this Meter Agent which agrees with EIR if the Entity is registered in the EIR. If the entity is not registered in the EIR, the abbreviated name should conform to the EIR format of no more than four (4) alpha numeric characters. Any abbreviation for an entity not registered in EIR must be unique from any abbreviation that is registered in EIR by another party.

13 **Registered in EIR –** This field is used to identify if the entity is registered in the EIR. For Meter Agents not registered in the EIR, the Market Operator will validate the acronym used is not registered in the EIR by another party currently. To ensure uniqueness against EIR in the future, the Market Operator will also append "_X" to the Meter Agent Acronym supplied for those that are not registered.

14 **Contact Type** – Specific points of contact for each Market Participant for questions regarding the Network and Commercial Models as well as a primary market operations contact for the Market Participant.

Type A – Primary market operations and Commercial Model point of contact – required

Type B – EMS and ICCP contacts – required for MPs with physical assets.

Type C – Secondary market operations contacts – optional.

15 **Proposed Effective Date**: The date on which the Market Participant would like these changes to be effective in the Market Operator's models and systems.

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ATTACHMENT F
Form A
Form of Non-Disclosure Agreement for Authorized Agencies

THIS NON-DISCLOSURE AGREEMENT (the "Agreement") is made this ___ day of ___ by and between, _____, an Authorized Agency, as defined below, with offices at _____, and Southwest Power Pool, Inc., an Arkansas not for profit corporation, with offices at 201 Worthen Drive, Little Rock, Arkansas 72223-4936 (~~"SPP" or~~ "Market Operator"). The Authorized Agency and ~~SPP~~ Market Operator ~~shall~~ will be referred to herein individually as a "Party," or collectively as the "Parties." Unless otherwise stated herein, capitalized terms ~~shall~~ will have the same meaning as set forth in Section 1 of the Markets+ Tariff on file with the Federal Energy Regulatory Commission (FERC).

RECITALS

Whereas, the Market Operator operates and oversees certain wholesale markets for electricity in the Markets+ Footprint pursuant to the requirements of this Markets+ Tariff; and

Whereas, the Market Monitor serves as the monitor for certain wholesale markets for electricity in the Markets+ Footprint as specified in the Markets+ Tariff; and

Whereas, Attachment A ~~to the Tariff~~ requires that Market Operator and the Market Monitor maintain the confidentiality of Confidential Information; and

Whereas, Attachment A, Section 10.4 ~~of Attachment A to the Tariff~~ enables Market Operator and the Market Monitor to disclose Confidential Information to the Authorized Agency, through its Authorized Requestor(s), upon satisfaction of conditions stated in Attachment A ~~to the Tariff~~, including the execution of this Agreement by the Authorized Agency and of Attachment F - Form B by the Authorized Requestor(s);

Whereas, the Market Operator intends to provide the Authorized Agency, through its Authorized Requestor(s), with access to Confidential Information, consistent with the Market Operator's and the Market Monitor's obligations and duties under the Markets+ Tariff and applicable law; and

Whereas, this Agreement is a statement of the conditions and requirements, consistent with the requirements of Attachment A ~~to the Tariff~~, whereby the Market Operator or the Market Monitor ~~shall~~ will provide Confidential Information to the Authorized Agency through its Authorized Requestor(s).

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NOW, THERFORE, agreeing to be legally bound, the Parties hereby agree as follows:

1. Definitions. To the extent the below definitions conflict with the Markets+ Tariff, the Markets+ Tariff ~~shall~~ will control.

1.1 Authorized Agency. (i) a State public utility commission within the geographic limits of the Market+ Footprint that regulates the distribution or supply of electricity to retail customers or is legally charged with monitoring the operation of wholesale or retail markets serving retail suppliers or customers; (ii) the Markets+ State Committee or any successor organization formed to act as a regional state committee within Markets+; or (iii) a state agency that has both access to documents in the possession of a state public utility commission pursuant to state statute and the ability to protect those documents in accordance with the Non-Disclosure Agreement.

1.2 Authorized Requestor. An individual who has executed the Acknowledgement of Non-Disclosure Agreement for Authorized Requestors in the form outlined in Attachment F - Form B and is authorized by an Authorized Agency to receive and discuss Confidential Information on behalf of the Authorized Agency.

1.3 Confidential Information. Information containing or revealing:

Any proprietary or commercially or competitively sensitive information, trade secret or information regarding a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Market Participant, which is designated as confidential by that Market Participant when supplying the information to the Market Operator, whether conveyed orally, electronically, in writing, through inspection, or otherwise; or

Any software, products of software or other vendor information that ~~SPP~~ Market Operator is required to keep confidential under its agreements.

Confidential Information does not include Critical Energy Infrastructure Information ("CEII") materials as designated by FERC, which must be obtained in accordance with FERC regulations.

Controlled Unclassified Information ("CUI"), which is unclassified information that requires safeguarding or dissemination controls pursuant to and consistent with applicable law, regulations, and government-wide policies.

1.4 Information Request. A written request in accordance with the terms of this Agreement for disclosure of Confidential Information pursuant to Attachment A, Section 10.4 ~~of Attachment A to the Tariff~~.

1.5 Markets+ Footprint. The geographic region defined by the Balancing Authorities participating in Markets+ under the Tariff.

1.6 Market Monitor. The Market Monitoring Unit established under the Markets+ Tariff.

1.7 Tariff. The Markets+ Tariff, including all schedules and attachments thereto, of the Market Operator as amended from time to time.

1.8 Third Party Request. Any request or demand by any entity upon an Authorized Agency or

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any of its Authorized Requestors for release or disclosure of Confidential Information. A Third Party Request ~~shall~~ includes, but ~~shall not be~~is not limited to, any subpoena, discovery request, request pursuant to state freedom of information or public records access statutes or regulations, or other request for Confidential Information made by any: (i) federal, state or local government subdivision, department, official, agency or court, or (ii) arbitration panel, business, company, entity or individual. This provision is subject to any applicable exception under Attachment A ~~to the Tariff~~.

2. Protection of Confidentiality.

2.1 Representation as to Status and Acceptance of Duty to Not Disclose.

The Authorized Agency states that: (a) it is an Authorized Agency as defined herein; (b) it has practices or procedures adequate to protect against the unauthorized release of Confidential Information received; (c) it will deny Third Party Requests and defend, consistent with the terms of Section 2.3.6 below, against any legal process that seeks the release of any Confidential Information in contravention of the terms of this Agreement; and (d) it is not in breach of any non-disclosure agreement entered into with Market Operator. The Authorized Agency also states that it will act consistently with the representations and confirmations made to the Market Operator and will fully comply with any other terms of Attachment A, Section 10 ~~of Attachment A of the Tariff~~.

2.2. Conditions Precedent.

The Authorized Agency ~~shall~~must, prior to the initial Information Request for Confidential Information by an Authorized Requestor on its behalf, provide the Market Operator with information and documents required of the Authorized Agency and its Authorized Requestor(s) under the Markets+ Tariff.

2.3 Care and Use of Confidential Information.

2.3.1 Control of Confidential Information. The Authorized Agency ~~shall be~~is the custodian of any and all Confidential Information received pursuant to the terms of this Agreement from the Market Operator or the Market Monitor.

2.3.2 Access to Confidential Information. The Authorized Agency ~~shall~~ must ensure that Confidential Information received by the Authorized Agency and its Authorized Requestor(s) is disclosed only as allowed under Attachment A, Section 10 ~~of Attachment A of the Tariff~~.

2.3.3 Notice of Change in Status. The Authorized Agency ~~shall~~ must promptly notify the Market Operator of any change that would affect the Authorized Agency's status as an Authorized Agency or the Authorized Requestor's status as an Authorized Requestor.

2.3.4 Use of Confidential Information. The Authorized Agency ~~shall~~ must ensure that Confidential Information received by the Authorized Agency, through its Authorized Requestor(s), is used only as provided in Attachment A, Section 10 ~~of Attachment A of the Tariff~~.

2.3.5 Return of Confidential Information. When the Authorized Agency determines that it no longer needs the Confidential Information that was disclosed to the Authorized Requestor (*e.g.*, if for any reason the Authorized Requestor is not, or will no longer be an Authorized Requestor, and/or the Confidential Information they received is no longer needed by the Authorized Agency), the Authorized Agency or Authorized Requestor ~~shall~~must: (a) return the Confidential Information and all copies thereof to the Market Operator or the Market Monitor, or (b) certify to the Market Operator or the Market Monitor that all paper copies have been destroyed and all electronic copies of the Confidential Information have been deleted, or (c) identify the time by which it will comply with either (a) or (b) above consistent with state document retention laws. The Market Operator or the Market Monitor ~~shall~~ will waive this condition in writing if such Confidential Information has become publicly available or non-confidential in the course of business or pursuant to the Attachment A ~~to the Tariff~~ or applicable rule or order of ~~the~~ FERC.

2.3.6 Defense Against Third Party Requests

2.3.6.1 The Authorized Agency will deny any Third Party Requests for which it or its Authorized Requestor is not legally compelled to comply. For any other Third Party Requests made to the Authorized Agency or its Authorized Requestor(s), the Authorized Agency will defend against any such Third Party Requests by seeking to obtain any necessary protective orders. The Authorized Agency ~~shall~~ must provide the Market Operator with prompt notice of any such Third Party Request or legal proceedings, and ~~shall~~ must consult and cooperate with Market Operator in its efforts to deny the request or defend against such legal process. In the event a requested protective order or other remedy is denied, and the Authorized Agency or its Authorized Requestor(s) are legally compelled to furnish Confidential Information, Authorized Agency agrees to (and cause its Authorized Requestor to) furnish only the portion of the Confidential Information which the Authorized Agency's legal counsel advises the Market Operator in writing is legally required to be furnished.

2.3.6.2 In the event that counsel for the Authorized Agency discloses a state law that prohibits or prevents the Authorized Agency from defending against any disclosure of Confidential Information, the Authorized Agency will be excused from the obligation to defend in Section 2.3.6.1, including, but not limited to, obtaining any necessary protective orders.

2.4 Ownership and Privilege. Nothing in this Agreement, or incident to the provision of Confidential Information to the Authorized Requestor pursuant to any Information Request, is intended, nor ~~shall~~ will it be deemed, to be a waiver or abandonment of any legal privilege that may be asserted against subsequent disclosure or discovery in any formal proceeding or investigation. Moreover, no transfer or creation of ownership rights in any intellectual property comprising Confidential Information is intended or ~~shall~~ will be inferred by the disclosure of Confidential Information by the Market Operator or by the Market Monitor, and any and all intellectual property comprising Confidential Information disclosed and any derivations thereof ~~shall~~ will continue to be the exclusive intellectual property of ~~SPP~~Market Operator, Market Monitor, the affected Market Participant, and/or other owner(s) thereof.

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3. Unauthorized Disclosure and Remedies for Breach of Agreement

3.1 Notification of Unauthorized Disclosure to Third Parties. As provided in the Markets+ Tariff, the respective Authorized Agency ~~shall~~ must promptly notify the Market Operator or the Market Monitor, who ~~shall~~must, in turn, notify any affected Market Participant of any unauthorized release of Confidential Information provided pursuant to any non-disclosure agreement. The Authorized Agency ~~shall~~ must take steps to minimize any further release of Confidential Information, and ~~shall~~ must take reasonable steps to attempt to retrieve any Confidential Information that may have been released.

3.2 Breach. The Authorized Agency agrees that its release of Confidential Information to persons that have not executed Attachment F – Form B constitutes a breach of this Agreement, unless the Authorized Agency is required under state or federal law to release such information. If the Market Operator or the Market Monitor determines on its own, or agrees with an Authorized Agency, or receives from an Authorized Requestor or Authorized Agency a written notice, that a breach has occurred, or FERC has made a ruling that a breach has occurred, the Market Operator and/or the Market Monitor may terminate the Agreement and require either (1) the immediate return of all Confidential Information obtained by the Authorized Agency through its Authorized Requestor(s), (2) a certification of its destruction, or (3) a showing that retention for a specified amount of time is required under applicable law.

4. Notices. All notices required pursuant to the terms of this Agreement ~~shall~~ must be in writing, and served upon the following individuals in person, or at the following addresses or email addresses:

If to the Authorized Agency:

_____
_____
_____
_____
(email address)
with a copy to
_____
_____
_____
_____
(email address)

If to ~~SPP~~Market Operator:

_____

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Southwest Power Pool, Inc.
201 Worthen Drive
Little Rock, AR 72223-4936
(email address)
with a copy to

_____
_____
_____
_____
(email address)

If to the Market Monitor:

_____
Southwest Power Pool, Inc.
201 Worthen Drive
Little Rock, AR 72223-4936
(email address)
with a copy to

_____
_____
_____
_____
(email address)

5. Severability and Survival. In the event any provision of this Agreement is determined to be unenforceable as a matter of law (including state Freedom of Information Act statutes), all other provisions of this Agreement will remain in full force and effect in accordance with their terms. In the event of conflicts between the terms of this Agreement and the Markets+ Tariff, the terms of the Markets+ Tariff ~~shall~~ will in all events be controlling. The Authorized Agency acknowledges that any and all obligations of the Authorized Agency hereunder ~~shall~~ will survive the severance or termination of any employment or retention relationship between the Authorized Requestor and its respective Authorized Agency.

6. Representations. The undersigned is able to perform all of the obligations and duties contained herein.

7. Counterparts. This Agreement may be executed in counterparts and all such counterparts together ~~shall~~ will be deemed to constitute a single executed original.

8. Amendment. This Agreement may not be amended except by written agreement executed by authorized representatives of the Parties.

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9. **Assignment**. This Agreement is not assignable without the written agreement of both Parties.

Southwest Power Pool, Inc.

By: _____
Printed Name: _____
Title: _____
Date: _____

Authorized Agency

By: _____
Printed Name: _____
Title: _____
Date: _____

ATTACHMENT F - Form B
Acknowledgement of Non-Disclosure Agreement for Authorized Requestors

I, _____, am employed or retained by _____, an Authorized Agency as defined in Attachment F – Form A, Form of Non-Disclosure Agreement for Authorized Agencies. I am an Authorized Requestor as defined in Attachment F – Form A, Form of Non-Disclosure Agreement for Authorized Agencies.

I acknowledge that _____ (name of Authorized Agency) has executed a formal non-disclosure agreement in the form provided by Attachment F – Form A (the "Agreement"). I understand that the Agreement requires me, as an Authorized Requestor, to maintain and protect the confidentiality of Confidential Information provided to me by the Market Operator, the Market Monitor, and/or the Authorized Agency. I agree to adhere to the obligations and requirements of the Agreement with respect to access to and use of Confidential Information. I acknowledge that my release of Confidential Information to persons not authorized under the Agreement constitutes a breach of the Agreement, unless I am required under state or federal law to release such information.

Acknowledged by Authorized Requestor

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By: _____
Printed Name: _____
Title: _____
Date: _____
Name of Authorized Agency:

Authorized Agency

By: _____
Printed Name: _____
Title: _____
Date: _____

ATTACHMENT G
METER AGENT ~~SERVICE~~ AGREEMENT
FOR MARKETS+ BETWEEN MARKET PARTICIPANT AND METER AGENT
~~(DATE)~~

This Meter Agent ~~Services~~ Agreement ("Agreement"), made and entered this __ day of _____, _____, is between _____ ("Market Participant") and _____ ("Meter Agent"). Market Participant and Meter Agent are each sometimes referred to in the Agreement as a "Party" and collectively as the "Parties."

The parties mutually agree as follows:

ARTICLE I
Responsibilities of the Parties

1.1 **Market Participant Responsibilities:**

1. **Governing Documents:** In addition to this Agreement, Market Participant agrees that it will comply with the provisions of the Markets+ Tariff ~~("Tariff")~~ and Markets+ Protocols as they may be amended from time to time which relate to implementation of this Agreement. In the event there is a conflict between this Agreement and the Markets+ Tariff, the Markets+ Tariff will govern.

2. **Data Communications:** Market Participant will provide or arrange for communication of ~~meter~~ Meter ~~data~~ Data in a mutually acceptable format to the Meter Agent.

3. **Meter Data Submittal Location:** Market Participant will provide in Exhibit A the meter(s) and calculations used to calculate the Meter Data Submittal Location value.

4. **Notice of Meter Changes:** Market Participant will inform the Meter Agent of any additions, deletions, and modifications to metering that will impact the market data.

a. Market Participant will provide full metering information to the Meter Agent a minimum of sixty (60) Calendar Days prior to the implementation of a change, except when the meter equipment is changed or replaced due to equipment failure, in which case notice of change will be provided as soon as possible. Information to be provided will include:

1. Information relating to retrieval of the ~~meter~~ Meter ~~data~~ Data from the data source, communications, and full description of the meter.
2. Information relating to the data and its processing that will be applied for the new or modified Meter Data Submittal Location and the impact to other existing Meter Data Submittal Location or tie-line flow between

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Settlement Areas.

3. Completing Markets+ registration, which includes real-time data exchange and modeling coordination with the Market Operator~~SPP~~.

4. Updating of Exhibit A.

b. In addition, Market Participant will be responsible for developing and testing a complete system for submission of data under this Agreement.

c. Market Participant will notify Meter Agent of any significant metering issues related to the data provided to the Meter Agent within twenty four (24) hours after the issue is identified. This includes change out of a meter, meter failures, real-time data failures, etc.

5. **Meter Data Submittal Location Notification:** Market Participant will notify any other Market Participant affected by the change, if known, in the Meter Data Submittal Location at least seven (7) Calendar Days prior to the change.

6. **Data Exchange and Data Quality:** Market Participant will provide ~~meter~~ Meter ~~data~~ Data for each meter identified in Exhibit A to the Meter Agent in a timely manner.

a. Data will be provided to the Meter Agent at least one (1) full Business Day prior to the Market Operator~~SPP~~'s deadline for submission of ~~meter~~ Meter ~~data~~Data, as the deadline is specified in the Markets+ Protocols.

b. Upon notification to or upon discovery by the Market Participant that the data exchange has failed or data quality is questionable, the Market Participant will resolve the issue at its source.

c. In the absence of actual values for data required for settlement, it is the Market

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Participant's responsibility to provide estimated values for such data to the Meter Agent; however, if the Market Participant fails to provide the actual or estimated ~~meter~~ Meter ~~data~~ Data in a timely manner, the Meter Agent will estimate the data for submission to the Market Operator~~SPP~~ by the appropriate deadline. The Meter Agent will be held harmless as set forth in Section 3.2 of this Agreement.

7. **Submission Failures:** If the Meter Agent fails to submit the ~~meter~~ Meter ~~data~~Data, including Settlement Area tie-line ~~meter~~ Meter ~~data~~ Data by the Final Settlement Statement data cutoff, the Market Participant is responsible for initiating and pursuing resolution.

1.2 **Meter Agent Responsibilities:**

1. **Governing Documents:** In addition to complying with this Agreement, Meter Agent will provide services on behalf of the Market Participant in accordance with the Markets+ Tariff and Markets+ Protocols as they may be amended from time to time related to implementation of this Agreement. In the event there is a conflict between this Agreement and the Markets+ Tariff, the Markets+ Tariff will govern.

2. **Meter Agent Registration:** Meter Agent will be a registered Meter Agent in Markets+.

3. **Meter Data Submittal Location Development:** Meter Agent will provide all settlement data required for the Meter Data Submittal Locations designated by the Market Participant in Exhibit A.

4. **Data Communications:** Meter Agent and the Market Participant will mutually agree upon a format and method of exchange of settlement data required to be provided by the Market Participant.

5. **Meter Data Submittal Location Values:** Meter Agent will determine the meter value for each of the Meter Data Submittal Location identified in Exhibit A by applying all parameters as identified therein.

6. **Data Issue Notifications:**

   a. Meter Agent will notify the Market Participant, as soon as practicable, of any data exchange issues with the ~~meter~~ Meter ~~data~~ Data source.

   b. Upon failure to receive ~~meter~~ Meter ~~data~~ Data from the Market Participant by the data submission deadline, the Meter Agent will notify the Market Participant as soon as practicable and, if necessary, the Meter Agent will estimate the data pursuant to Section 1.1(6)(c) of this Agreement.

7. **Data Submission:** Meter Agent will submit Meter Data Submittal Location meter values to the Market Operator by the deadlines outlined in the Markets+ Protocols.

ARTICLE II
Term and Termination

2.1 **Initial Term:** This Agreement will become effective on _____, _____ and will continue until _____, _____.

2.2 **Extended Term:** This Agreement will continue on a year-to-year basis at the conclusion of its Initial Term, unless terminated as specified in the Agreement.

2.3 **Termination:** This Agreement may be terminated at any time by mutual agreement of the Market Participant and Meter Agent. Either the Market Participant or the Meter Agent may terminate the Agreement after the Initial Term, upon giving sixty (60) Calendar Days prior written notice to the other Party.

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ARTICLE III
Miscellaneous

3.1 **Force Majeure:** An event of Force Majeure means any act of God, labor disturbance, act of the public enemy, war, insurrection, cyberattack, riot, pandemic, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation, or restriction imposed by governmental military or lawfully established civilian authorities, or any other cause beyond a party's control. A Force Majeure event does not include an act of negligence or intentional wrongdoing. Neither Party will be considered in default as to any obligation under this Agreement if prevented from fulfilling the obligation due to an event of Force Majeure. However, a Party whose performance under this Agreement is hindered by an event of Force Majeure will make all reasonable efforts to perform its obligations under ~~this~~ the Markets+ Tariff. A Party that has experienced a Force Majeure event must notify the other Party as soon as practicable and identify the Force Majeure event and the obligations affected by the event.

3.2 **Indemnification:** To the extent permitted by the Markets+ Tariff, each Party hereto will indemnify and hold harmless the other Party (in such case, the "Indemnified Party"), its officers, directors, agents and employees from and against any and all claims for death or injury to persons or destruction of or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney's fees, and all other obligations by or to third parties (collectively "liabilities"), arising out of or resulting directly or indirectly from the Indemnified Party's performance of its obligations under this Agreement on behalf of the Indemnifying Party, except to the extent any such liability arises, directly or indirectly, from the Indemnified Party's gross negligence or intentional wrongdoing. For example, the provisions of this section 3.2 could apply in circumstances where equipment malfunction (or other inadvertent error not involving gross negligence or intentional wrongdoing) causes metered information to be inaccurately reported, resulting in billing errors.

3.3 **Successors and Assignment:** This Agreement will be binding upon the Parties and their respective successors and assigns. This Agreement will not be assignable

by either Party except with the prior written consent of the other Party which will not be unreasonably withheld.

3.4 **Good Utility Practices:** The Parties will conduct their affairs under this Agreement in accordance with Good Utility Practices. Good Utility Practices will mean any of the practices, methods, and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, safety, and expedition. Good Utility Practices is not intended to be limited to the optimum practice, method or act to the exclusion of all others, but rather to be acceptable practices, methods or acts, generally accepted by the region.

3.5 **No third-party beneficiaries.** There will be no third-party beneficiaries to this Agreement.

3.6 **Amendment:** The Parties may, by mutual agreement, amend Exhibit A or Article II of this Agreement by a written instrument duly executed by each of the Parties.

3.7 **Notification to ~~SPP~~Market Operator**: The initial Agreement and any amendments thereto will be provided to ~~SPP~~ Market Operator upon execution.

ARTICLE IV
Notices

4.1 **Agreement Notices:** Any notice, demand or request required or authorized by this Agreement will be deemed properly made, given to, or served on the party to whom it is directed when sent by written notification, whether by electronic mail or regular mail, addressed as follows:

Market Participant:	**Meter Agent:**
Title	Title
Company	Company
Address	Address
City, State, Zip	City, State, Zip
Email	Email

Notice of change in the above addresses will be given in the manner specified above.

ARTICLE V
Complete Agreement

5.1 **Complete Agreement:** This Agreement represents the Parties' final and mutual understanding concerning its subject matter. It replaces and supersedes any prior agreements or understandings, whether written or oral. No representations, inducements, promises, or agreements, oral or otherwise, have been relied upon or made by either Party, or anyone on behalf of a Party, that are not fully expressed in this Agreement.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their duly authorized officers as of the day and year first above stated.

Market Participant:		**Meter Agent:**
Company		Company
By: _____		By: _____
Printed Name: _____		Printed Name: _____
Title: _____		Title: _____

Exhibit A
Market Participant Meter Data Submittal Location Definitions
Resource Meter Locations:

#	Meter Data Submittal Location Name	Meter	Physical Location	Voltage Level	Losses	Operand

Gross Generation output is negative, auxiliary use is positive. MWh received by the t~~T~~ransmission ~~S~~system is negative.

Load Meter Data Submittal Locations: (Name of Location)

#	Meter Data Submittal Location Name	Meter	Physical Location	Voltage Level	Distrib. Losses	*	Operand

** Engineered Adjustment with Assumption – reference ~~SPP~~ Markets+ Protocols

Residual Load Meter Data Submittal Locations:

#	Meter Data Submittal Location Name	Meter	Operand

Assumes sign of other Meter Data Submittal Location data used is in polarity required for submission to Markets+~~SPP~~ Market.

Tie-Line Meter Ddata between Settlement Areas:

#	Tie-Line Meter Name	Meter	Operand

ATTACHMENT H
Credit Policy

SPP Public Information

SPP Public Information

ARTICLE ONE
General Provisions

1.1 Policy Statement. In furtherance of competition and the orderly administration of the Markets+ Tariff ~~(the "Tariff")~~, Southwest Power Pool (~~"~~SPP~~"~~) will administer, implement and enforce this Credit Policy. This Credit Policy is intended to encourage the maximum participation of large and small participants in all market sectors while minimizing the likelihood of losses due to default and to establish eligibility requirements for market participation.

1.2 Applicability of Credit Policy and Overview.

1.2.1 This Credit Policy is applicable to each Credit Customer. It applies to each Credit Customer regardless of whether SPP previously extended credit to, or established a Total Credit Limit for, the Credit Customer.

1.2.2 As a condition to taking any service subject to this Credit Policy, SPP must determine that the Credit Customer satisfies SPP's credit requirements and minimum criteria for market participation under this Credit Policy and the terms and conditions for an extension of credit. SPP's determination is a Credit Assessment. The Credit Assessment is based upon quantitative and qualitative credit scoring under the formulae and procedures set forth in this Credit Policy. This Credit Policy provides for initial and ongoing Credit Assessments. In order to facilitate continuous evaluation of credit, it requires the submission of Credit Information to SPP periodically and, additionally, upon the occurrence of certain events. Based upon the ongoing Credit Assessment, SPP is authorized, at any time, to revise a Credit Customer's Total Credit Limit and the terms and conditions for the extension of credit.

1.2.3 SPP will conduct initial and ongoing Credit Assessments for each Credit

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Customer, based, as applicable, upon the Credit Application, Credit Information, and Credit Ratings. Credit Information includes: (a) the information contained in and submitted with the Credit Customer's duly executed Credit Application; and (b) updated and additional information the Credit Customer is required to submit from time to time under this Credit Policy. Credit Information and Credit Ratings, if any, will be sufficient to enable SPP to determine under this Credit Policy whether to approve an extension of credit, and the amount, terms, and conditions thereof, including the extent and nature of any Guaranty or Financial Security.

1.2.4 Based upon its Credit Assessment, SPP will: (a) determine the Credit Customer's Total Potential Exposure; (b) determine the amount of credit the Credit Customer requires; (c) determine whether to grant, and the amount of, any Unsecured Credit Allowance; (d) evaluate any Guaranty the Credit Customer offers to provide, including a Credit Assessment for the proposed Guarantor; (e) determine the amount of any required Financial Security; and (f) determine if the Credit Customer meets the minimum criteria for market participation under this Attachment H, Sections 3.1.1.8 and 3.1.1.9. Based on these determinations, which will include consideration of the Credit Customer's ability to fulfill SPP's requirements to obtain credit, SPP will set the Total Credit Limit for the Credit Customer.

1.2.5 To facilitate the Credit Assessment, each Credit Customer will submit a duly executed Credit Application in the form attached as Appendix "A," and the Credit Information required under this Credit Policy. If SPP determines that an extension of credit to a Credit Customer must be supported by Financial Security, the Credit Customer will, upon SPP's request, duly execute the Credit and Security Agreement in the form attached as Appendix "B." Any Irrevocable Letter of Credit will be substantially in the form attached as Appendix "C," any

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Guaranty will be substantially in the form attached as Appendix "D," and any Surety Bond will be substantially in the form attached as Appendix "F." Any variations in the forms of Credit and Security Agreement, Irrevocable Letter of Credit, Guaranty, or Surety Bond must be approved by SPP, and may not materially modify or impair SPP's rights under such form, in SPP's sole discretion.

1.3 Components of Credit Policy. This Credit Policy includes the following elements:

1.3.1 Requirements for the establishment and maintenance of credit applicable to Credit Customers.

1.3.2 The basis for establishing a Total Credit Limit for a Credit Customer in order to extend credit, but diminish the possibility of failure of payment under the Markets+ Tariff and Agreements.

1.3.3 Forms of Guaranty and Financial Security acceptable to SPP, to be provided if SPP does not approve an Unsecured Credit Allowance sufficient to cover the Credit Customer's Total Potential Exposure.

1.3.4 Requirements to facilitate ongoing Credit Assessments.

1.3.5 Specification of Defaults under this Credit Policy and remedies.

1.3.6 Minimum criteria for market participation.

1.4 Fairness, Objectivity, and Non-Discrimination. SPP will seek and receive information and explanation from a Credit Customer as appropriate to help ensure that the Credit Assessment is fair and thorough. SPP will base each Credit Assessment upon SPP's evaluation of the Credit Information, Credit Ratings, and other pertinent indicators of

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financial strength identified under this Credit Policy. SPP will make each Credit Assessment objectively and without undue discrimination in favor of or against any market sector. Whenever this Credit Policy permits SPP to exercise discretion in the implementation of the provisions of this Credit Policy, SPP will exercise that discretion in a fair and impartial manner that treats all Credit Customers in a non-discriminatory manner.

1.5 Construction and Interpretation.

1.5.1 The word "including" will be understood to mean "including without limitation." The singular form of a word will be understood to include the plural form, and vice versa, as appropriate to implement the applicable term or condition.

1.5.2 Except as otherwise stated, the words "Section" and "Article" refer to sections and articles of this Credit Policy. A Section reference includes all subsections and subparts of the Section.

1.5.3 All references to amounts of cash, cash deposits, and to monies paid, provided, due or otherwise, will be construed to refer to United States dollars.

1.6 Disputes. Any disputes arising under this Credit Policy will be subject to the dispute resolution procedures set forth in Section ~~6~~ 5 ~~of the Tariff~~.

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ARTICLE TWO
Definitions

2.1 Definitions. The following definitions apply in this Credit Policy. Capitalized terms used herein and not defined herein will be given the meaning assigned to them under the Markets+ Tariff.

Affiliate

A business concern, organization, or individual is an affiliate of another business concern, organization, or individual, including a Credit Customer, that directly or indirectly: (a) has the power to control or is controlled by it; or (b) is under common control of a third party. Elements of control include interlocking management or ownership, shared facilities and equipment, and common use of employees.

Affiliated Credit Customers

Credit Customers that are Affiliates.

Agreements

The Markets+ Tariff, including this Credit Policy, any and all agreements entered into by the Credit Customer under, pursuant to or in connection with the Markets+ Tariff and/or this Credit Policy, and any and all other Agreements to which SPP and the Credit Customer are both parties.

Cash Deposit

Cash collateral provided to SPP to secure a Credit Customer's performance under the Markets+ Tariff, this Credit Policy, and/or any other Agreements, and any other cash to which the Credit Customer has title or rights in the possession of SPP (cash SPP has applied to payment of an obligation under the Markets+ Tariff or Agreements is not cash to which a Credit Customer has title or rights).

Composite Credit Score or Credit Score

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This term will have the meaning given in Attachment H, Section 4.2 ~~of this Credit Policy~~.

Credit and Security Agreement

A legal document, outlining certain terms pursuant to which a security interest in certain collateral is granted to SPP, in the form incorporated herein as Appendix "B".

Credit Application

The completed, executed, and submitted Credit Application in the form attached as Appendix "A" hereto, together with the Credit Information required under this Credit Policy.

Credit Assessment

This term will have the meaning given in Attachment H, Article Three.

Credit Contact

This term will have the meaning given in Attachment H, Section 9.1.

Credit Customer

Any person who takes or seeks to take service under the Markets+ Tariff.

Credit Information

This term will have the meaning given in Attachment H, Section 1.2.3.

Credit Ratings

Rating assigned by a Rating Agency based on an obligor's creditworthiness to pay financial obligations.

Default or Event of Default

Any default under Article Eight or otherwise under this Credit Policy.

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Estimated Virtual Exposure ("EVE")

This term will have the meaning given in Section 4A.2.

Federal Power Marketing Agency

For purposes of this Credit Policy, this term will have the same definition that is set forth in the Federal Power Act at 16 U.S.C. § 796(19), which defines a "Federal power marketing agency" as "any agency or instrumentality of the United States (other than the Tennessee Valley Authority) which sells electric energy[.]"

Financial Security

A Cash Deposit, Irrevocable Letter of Credit, Surety Bond, or Federal Power Marketing Agency Letter in amount and in forms as described in Article Seven of this Credit Policy, provided by a Credit Customer to SPP as security.

Financial Statements

This term will have the meaning given in Attachment H, Section 3.1.1.1.

Guarantor

An entity that guarantees the obligation of another entity under a Guaranty.

Guaranty

A legal document used by an Affiliate of a Credit Customer pursuant to Article Six to guarantee the obligations of such Credit Customer for the benefit of SPP.

Irrevocable Letter of Credit

An irrevocable standby letter of credit, with SPP as beneficiary, substantially in the form attached as Appendix "C" to this Credit Policy and acceptable to SPP.

Large Company Credit Customers or Large Company

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This term will have the meaning given in Attachment H, Section 4.2.1.

Market Exposure

This term has the meaning given in Attachment H, Section 5.2.1.

Material

The lesser of (i) an amount that equals or exceeds five percent (5%) of the Credit Customer's Tangible Net Worth using the last audited financial statements, calculated in accordance with generally acceptable accounting principles; and (ii) a change, event, proceeding, or other occurrence, that results (or if adversely determined could result) in a change of five percent (5%) or more in the Credit Customer's Tangible Net Worth compared to the Tangible Net Worth of the Credit Customer using the last audited financial statements, calculated in accordance with generally acceptable accounting principles.

Material Adverse Change

This term will have the meaning given in Attachment H, Section 3.2.7.

Not-For-Profit Credit Customers or Not-For-Profit

This term will have the meaning given in Attachment H, Section 4.2.3.

~~**Peak Market Activity Day**~~

~~The day in which a Credit Customer's calculated charges owed to SPP are the greatest, over a specified period.~~

Potential Exposure Window

The number of days of credit exposure for a Credit Customer equal to the sum of days of service that have been invoiced but not paid, days of service that have been calculated but not invoiced, days of service in the cure period, and days before service can be terminated.

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Qualitative Score

This term has the meanings applicable under Attachment H, Article Four.

Quantitative Score

This term has the meanings applicable under Attachment H, Article Four.

Rating Agency

S&P Global Ratings (or its successor) ("S&P"), Moody's Investor Services, Inc. (or its successor) ("Moody's"), Fitch Ratings, Inc. (or its successor) ("Fitch") or other "Nationally Recognized Statistical Rating Organization" as defined by the US Securities and Exchange Commission.

SEC

The Securities and Exchange Commission.

Small Company Credit Customers or Small Company

This term will have the meaning given in Attachment H, Section 4.2.2.

Surety Bond

A surety bond, with SPP as beneficiary, substantially in the form attached as Appendix "F" to this Credit Policy and acceptable to SPP.

Tangible Net Worth

This term will have the meaning given in Attachment H, Section 4.3.

Total Credit Limit

This term will have the meaning given in Attachment H, Section 4.5.

Total Potential Exposure ~~or~~ (TPE)

SPP's estimate of the Credit Customer's current or anticipated transaction activity and resulting

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obligations for all services under the Markets+ Tariff or otherwise.

Total Potential Exposure Violation

This term will have the meaning given in Attachment H, Section 5.4.1.

Unsecured Credit Allowance

This term will have the meaning given in Attachment H, Section 4.3.

Virtual Energy Bid

This term will have the meaning given in Attachment A ~~of the Tariff~~.

Virtual Energy Offer

This term will have the meaning given in Attachment A ~~of the Tariff~~.

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ARTICLE THREE
Credit Assessment

3.1 Minimum Criteria for Market Participation and Initial Credit Assessment.

3.1.1 Credit Application and Credit Information. A Credit Customer must submit a completed and duly executed Credit Application. The Credit Application will be renewed and updated for each successive year and will be submitted to SPP no later than April 30 of each year. A completed Credit Application includes submission of the Credit Application form (Appendix "A"), all information required under Section 3.1.1, and additional information that SPP may request. The Credit Customer must submit the following information with its Credit Application.

3.1.1.1 Audited Financial Statements and Related Information. All annual Financial Statements submitted must be audited. Financial Statements are the following:

a. If the Credit Customer is subject to SEC reporting requirements, Financial Statements are:

i. Annual Reports on Form 10-K for the three fiscal years most recently ended, together with any amendments thereto;

ii. Quarterly Reports on Form 10-Q for each completed fiscal quarter of the then current fiscal year, together with any amendments thereto; and

iii. Form 8-K reports, if any, filed after the most recent Form 10-K.

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b. If the Credit Customer is not subject to SEC reporting requirements, Financial Statements are:

i. For each of the three fiscal years most recently ended, the Independent Auditor's Report, or similarly named report from the independent auditor which includes the auditor's opinion on the state of the underlying financial statements (for each of the three fiscal years most recently ended); and audited financial statements, including balance sheet, income statement, statement of cash flow, and statement of stockholder's equity;

ii. For each completed fiscal quarter of the then current fiscal year~~;~~, financial statements as described in (i) above. Unaudited quarterly financial statements are acceptable~~.~~;

iii. Notes to financial statements; and

iv. Management's discussion and analysis, if any.~~; and~~

c. The Credit Customer may submit Financial Statements by informing SPP, in writing, where the Financial Statements can be retrieved through the internet. Successful retrieval by SPP will satisfy the Financial Statements submission requirements of this Section. If SPP is not satisfied with the retrieval through the internet, it may require the Credit Customer to submit Financial Statements in hard copy form.

d. In the event any parts of the Financial Statements required under this Section are inapplicable to the Credit Customer,

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SPP may specify alternate requirements. SPP may request additional Financial Statements and related information at its sole discretion.

e. For Not-For-Profit Credit Customers, some of the above financial submittals may not be applicable, and alternate requirements may be specified by SPP.

f. In the credit evaluation of Not-For-Profit Credit Customers, SPP may request additional information as part of the overall financial review process and will consider other relevant factors in determining financial strength and creditworthiness.

3.1.1.2 **References.** The Credit Customer must provide at least one bank reference.

3.1.1.3 **Loss Contingencies.** The Credit Customer must fully and accurately identify and describe each of the following, or state that there are no such matters applicable to the Credit Customer:

a. known pending or, to the Credit Customer's knowledge, threatened, court actions, arbitration proceeding, publicly disclosed investigations, commitments, claims, contingencies, or existing or potential liabilities that are or would be Material if determined adversely to the Credit Customer;

b. prior bankruptcy declarations or petitions, voluntary or involuntary, by or against the Credit Customer, its predecessors, subsidiaries or Affiliates; and

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c. Material defalcations or fraud by or involving the Credit Customer, its predecessors, subsidiaries or Affiliates, or any of their respective assets.

3.1.1.4 **Affiliates.** The Credit Customer must identify all Affiliates that are Credit Customers.

3.1.1.5 **Total Potential Exposure Information.** The Credit Customer will provide an estimate of its current or anticipated transaction activity for all services under the Markets+ Tariff or otherwise over the succeeding twelve (12) months sufficient to permit SPP to determine the Credit Customer's Total Potential Exposure.

3.1.1.6 **Attestation of Minimum Criteria for Market Participation and of Risk Management Capabilities.** Each applying Market Participant will submit to SPP a sworn, attested, or notarized statement signed by an authorized officer in the form attached as Attachment H, "Appendix E" ~~to this Attachment H~~, attesting that:

a. The officer has signature authority to make the statement;

b. Employees or agents transacting in markets and services provided pursuant to the Markets+ Tariff on behalf of the applying Market Participant have received, or will receive, applicable training with regard to their participation under ~~this~~ the Markets+ Tariff as a condition of being authorized to transact on behalf of the Market Participant;

c. The applying Market Participant will maintain current

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written risk management policies and procedures that address those risks that could materially affect the applying Market Participant's ability to pay its SPP invoices when due;

d. The applying Market Participant has available appropriate personnel resources, operating procedures, and technical abilities to promptly and effectively respond to SPP communications and directions related to, but not limited to, settlements, billing, credit requirements and other financial matters;

e. The applying Market Participant will maintain the minimum capitalization or alternate capitalization requirements set forth in Section 3.1.1.8, below ~~of this Attachment H~~; and

f. ~~Certifying that~~ The Market Participant meets the minimum criteria for market participation set forth in Section 3.1.1.8, below.

Such attestation will be renewed and updated for each successive year of market participation, and will be submitted to SPP no later than April 30 of each year.

The applying Market Participant will be declined participation in Markets+ if: (i) the risk management capabilities of the applying Market Participant are deemed insufficient by SPP, (ii) SPP determines that the applying Market Participant does not meet the minimum criteria for market participation, (iii) the attestation is deemed insufficient by SPP to determine the risk management capabilities of the applying Market Participant, or (iv) the attestation is deemed insufficient by SPP to determine whether

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the applying Market Participant meets the minimum criteria for market participation. An applying Market Participant will have two (2) Business Days from receipt of notice from SPP that its attestation was deemed insufficient to cure any deficiency identified by SPP prior to being declined participation in Markets+.

3.1.1.7 **Additional Information.** At any time and from time to time, SPP may request such additional information as SPP determines is necessary and appropriate for the Credit Assessment and the Credit Customer will timely provide such additional information. At any time, the Credit Customer may provide SPP with additional information that the Credit Customer considers relevant to the Credit Assessment.

3.1.1.8 **Minimum Criteria for Market Participation.**

3.1.1.8.1 **Minimum Eligibility Requirements**

In order to be eligible to transact in Markets+, each Market Participant must demonstrate to SPP that it qualifies as one of the following:

a. An "appropriate person," as defined under Section 4(c)(3)(A) through (J) of the Commodity Exchange Act (7 U.S.C. § 6(c)(3)(A) through (J)). A Market Participant may qualify as an "appropriate person" by providing either: (i) an unlimited Corporate Guaranty in a form acceptable to

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SPP as described in Attachment H, Article 6 ~~of this Attachment H~~ and Attachment H, Appendix D ~~of this Attachment H~~ from an entity that demonstrates to SPP that it has in excess of $1 million of total net worth or in excess of $5 million of total assets per Market Participant for which that guarantor has issued an unlimited Corporate Guaranty, or (ii) an Irrevocable Letter of Credit or Surety Bond in an amount of $5 million or greater that the Market Participant acknowledges is separate from, and cannot be applied to meet, its credit requirements under this Attachment H.

b. An "eligible contract participant," as defined in Section 1a(18) of the Commodity Exchange Act (7 U.S.C. § 1a(18)) and in the Commodity Futures Trading Commission's regulation 1.3(m) (17 C.F.R. § 1.3(m))

c. A person or entity that is in the business of: (1) generating, transmitting, or distributing electric energy or (2) providing electric services that are necessary to support the reliable operation of the transmission system (78 Fed. Reg. 19880, page 19914).

For purposes of meeting the minimum criteria for market participation under this Credit Policy, SPP

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will accept annual audited Financial Statements prepared according to either United States Generally Accepted Accounting Principles (US GAAP) or International Financial Reporting Standards (IFRS).

If a Market Participant is unable to meet the minimum eligibility requirements for market participation set forth in this Section 3.1.1.8.1, the Market Participant will immediately notify SPP and immediately cease conducting transactions in Markets+. When SPP receives such notification from a Market Participant or determines that a Market Participant does not meet the minimum eligibility requirements set forth in this Section 3.1.1.8.1, SPP will immediately terminate that Market Participant's transaction rights in Markets+.

In the event that a Market Participant is no longer able to demonstrate that it meets the minimum eligibility requirements set forth in this Section 3.1.1.8.1, and possesses, obtains, or has rights to possess or obtain any open or forward position in Markets+, SPP may take any action it deems necessary with respect to such open or forward positions. Such action may include but is not limited to, liquidation, transfer, assignment, or sale. The Market Participant will be entitled to any positive market value of such positions, net of any obligations due to SPP, notwithstanding its

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ineligibility to participate in Markets+. Nothing in this paragraph will restrict SPP's ability to enforce SPP's rights to pursue and collect any amounts Market Participants may owe to SPP.

3.1.1.8.2 Minimum Capitalization Requirements

Each Market Participant that meets the minimum eligibility requirements in Section 3.1.1.8.1, above, will also, at a minimum, possess one of the following:

a. A Tangible Net Worth of one million dollars ($1,000,000) as shown in the most recent fiscal year end audited financial statements as described in Attachment H, Section 3.1.1.1; or

b. Ten million dollars ($10,000,000) in assets as shown in the most recent fiscal year end audited financial statement as described in Attachment H, Section 3.1.1.1; or

c. A Credit Rating of, or equivalent to, BBB-; or

d. A Guaranty as described in Attachment H, Article Six ~~of this Attachment H~~, and approved by SPP, through which the audited financials or Credit Rating of the Guarantor is used to meet at least one of the alternatives specified in (a) through (c) above; or

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e. In the event a Market Participant cannot meet at least one of the alternatives specified in (a) through (d) above, the Market Participant will, at a minimum, deposit with SPP two hundred thousand dollars ($200,000) in Financial Security to be segregated and unavailable to secure any market activity. Pursuant to election of this alternative, if the anticipated activity at time of application or actual market activity as determined in Article Five, of the Market Participant exceeds one hundred thousand dollars ($100,000) in Market Exposure, the Market Participant will provide SPP twice the amount of Financial Security that would otherwise be required of the Market Participant pursuant to Attachment H, Section 4.4.

If the applying Market Participant is unable to meet the applicable minimum capitalization requirements in this Section 3.1.1.8.2, the applying Market Participant will be declined participation in Markets+.

Failure at any time of a Market Participant to continue to satisfy these minimum capitalization requirements in this Section 3.1.1.8.2 will be deemed a Material Adverse Change pursuant to

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3.1.1.9 Minimum Criteria and Risk Management Verification Process

Through a periodic compliance verification process, SPP will review and verify Market Participants' eligibility for market participation based upon SPP's minimum criteria for market participation, risk management policies, practices, and procedures pertaining to the Market Participants' activities in Markets+. Such review will include verification that:

1. The risk management framework is documented in a risk policy addressing market, credit, and liquidity risks;
2. The Market Participant maintains an organizational structure with clearly defined roles and responsibilities that clearly segregates trading and risk management functions;
3. There is clarity of authority specifying the types of transactions into which traders are allowed to enter;
4. The Market Participant has requirements that traders have adequate training or expertise relative to their authority in the systems and Markets+ in which they transact;
5. As appropriate, risk limits are in place to control risk exposures;
6. Reporting is in place to ensure that risks and exceptions are adequately communicated throughout the organization;
7. Processes are in place for qualified independent review of trading activities; and
8. As appropriate, there is periodic valuation or mark-to-

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market of risk positions.

9. The Market Participant meets the minimum participation criteria, including capitalization requirements, set forth in Section 3.1.1.8, above.

SPP may select Market Participants for review on a random basis and/or based on identified risk factors such as, but not limited to, the SPP markets in which the Market Participant is transacting, the magnitude of the Market Participant's transactions, or the volume of the Market Participant's open positions. Those Market Participants notified by SPP that they have been selected for review will, upon fourteen (14) Calendar Days' notice, (or such longer time as SPP may agree) provide a copy of their current governing risk control policies, procedures, and controls applicable to their SPP market activities and will also provide such further information or documentation pertaining to the Market Participants' activities in Markets+ as SPP requests. Market Participants selected for risk management verification through a random process and satisfactorily verified by SPP will be excluded from such verification process based on random selection for the subsequent two years. If the risk management verification yields results which SPP determines necessitates additional review, SPP will maintain the right to review and the two-year exclusion will not apply. SPP will annually randomly select for review no more than twenty percent (20%) of the Market Participants.

Each selected Market Participant's continued eligibility to participate in Markets+ is conditioned upon SPP notifying the Market Participant of successful completion of SPP's verification.

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If SPP notifies the Market Participant in writing that it could not verify the Market Participant's continued eligibility to participate, SPP will allow such Market Participant fourteen (14) Calendar Days to provide sufficient evidence for verification prior to declaring the Market Participant as ineligible to continue to participate in Markets+. The declaration of ineligibility will be in writing with an explanation of why SPP could not complete the verification. If, prior to the expiration of such fourteen (14) Calendar Days (or longer period as SPP may provide), the Market Participant demonstrates to SPP that it has filed with FERC an appeal of SPP's risk management verification determination, then the Market Participant will retain its transaction rights, pending FERC's determination on the Market Participant's appeal. SPP may retain outside expertise to perform the review and verification function described in this section. SPP and any third party it may retain will treat as confidential the documentation provided by a Market Participant under this section, consistent with the applicable provisions of the Markets+ Tariff.

3.1.2 Rating Agency Information. In the initial Credit Assessment and in subsequent and ongoing assessments, SPP will consider Rating Agency reports applicable to the Credit Customer. This review will be focused on the Credit Customer's unsecured, senior long-term debt ratings. If these ratings are not available, SPP will consider issuer ratings.

3.1.3 Power Supply Agent Disclosure Requirements. A Not-For-Profit Credit Customer may request that its suggested Unsecured Credit Allowance calculation reflect as equity the outstanding balance of revenue bonds issued by

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the Not-For-Profit Credit Customer when such revenue bonds are issued solely in support of the Not-For-Profit Credit Customer's role as power supply agent for not-for-profit electric distribution utilities. In support of such request, the Not-For-Profit Credit Customer must provide SPP with the following information:

(a) Management representation letter stating:

(i) Principal amount, in dollars, of revenue bonds outstanding;

(ii) Prior to default and after default, debt service on the revenue bonds is payable only after operating expenses are paid;

(iii) Amounts payable to SPP under this Markets+ Tariff are operating expenses for purposes of the revenue bonds; and

(iv) The trustee for the revenue bonds has a valid and binding security interest in the revenues or net revenues from the power supply contracts to secure payment of the revenue bonds and the Not-For-Profit Customer has not granted any lien thereon prior to the lien of the bond resolution.

(b) Opinion of counsel stating:

(i) The power supply contracts are binding obligations of the Not-For-Profit Credit Customer enforceable in accordance with their terms;

(ii) The trustee of the revenue bonds has a valid and binding security interest in, or assignment and pledge of, the revenues or net revenues from the power supply contracts to secure payment of the revenue bonds;

(iii) The resolution or other document creating the security interest or pledge and providing for the priority of payment is enforceable in accordance with its terms;

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(iv) Prior to default and after default, debt service on the revenue bonds is payable only after operating expenses are paid; and

(v) All amounts payable to SPP arising from transactions under ~~this~~ the Markets+ Tariff are operating expenses for purposes of the revenue bonds.

(c) All Rating Agency ratings on revenue bond(s).

The opinion of counsel referenced above will be provided to SPP together with copies of the most recent written opinions of counsel, if any, for each member of the Not-For-Profit Credit Customer that relate to the enforceability of the power supply contract(s).

3.1.4 Guaranties. If the Credit Customer proposes a Guaranty to establish, contribute to, or maintain an Unsecured Credit Allowance, Credit Information required under Section 3.1.1, above, must be submitted with respect to both the Credit Customer and the proposed Guarantor.

3.2. Annual and Other Ongoing Credit Assessments.

3.2.1 Purpose of Annual and Other Ongoing Credit Assessments. At least once annually, SPP will review and update its Credit Assessment for each Credit Customer. This will include a review of the Credit Customer's creditworthiness and consideration of revisions of the Credit Customer's (a) Unsecured Credit Allowance; (b) Financial Security requirements; and (c) Total Credit Limit. In its sole discretion, SPP may conduct additional reviews and updates, including reviews in response to new facts or occurrences that may bear upon the Credit

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Customer's creditworthiness. Unless otherwise stated, all annual information required under this Section 3.2 will be provided to SPP no later than 120 Calendar Days after the end of the Credit Customer's fiscal year, or such later date as SPP may agree.

3.2.2 Procedures for Posting Additional Financial Security or Taking Other Corrective Measures. In the event a Credit Customer experiences a Material Adverse Change, SPP may invoke its right to require the Credit Customer to post additional Financial Security, cease one or more transactions, or take other measures to restore confidence in the Credit Customer's ability to transact safely. In addition, based upon the annual or other Credit Assessment, SPP may, at any time, revise any (a) Unsecured Credit Allowance; (b) Financial Security requirements; and (c) Total Credit Limit, applicable to the Credit Customer. If SPP has upwardly revised the required amount of Financial Security, the Credit Customer will have two (2) Business Days from receipt of the notice from SPP to provide the required Financial Security, in an amount and form acceptable to SPP. Failure to provide additional required Financial Security will be a Default under this Credit Policy and a default under the Markets+ Tariff.

3.2.3 Rating Agency Information. The Credit Customer will give notice to SPP of any changes to its Credit Ratings within five (5) Business Days of the announcement of the change.

3.2.4 Financial Statements. On an annual basis, and except as otherwise stated with respect to quarterly reports, each Credit Customer must provide SPP with updated Financial Statements within ten (10) Business Days after they become available, and in no event later than 120 Calendar Days after the end of the

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Credit Customer's fiscal year, or such later date as SPP may agree Quarterly reports must be provided quarterly, within ten (10) Business Days after they become available., unless Credit Customer does not produce quarterly financial statements Financial Statements may be submitted in the manner provided under Attachment H, Section 3.1.1.1.

3.2.5 Power Supply Agent Disclosure Requirements. A Not-For-Profit Credit Customer that initially qualified to have its suggested Unsecured Credit Allowance calculation reflect as equity the outstanding balance of revenue bonds issued by the Not-For-Profit Credit Customer, and is requesting to continue to have its suggested Unsecured Credit Allowance calculation reflect as equity the outstanding balance of revenue bonds issued by the Not-For-Profit Credit Customer when such revenue bonds are issued solely in support of the Not-For-Profit Credit Customer's role as power supply agent for not-for-profit electric distribution utilities, must at all times comply with the following information reporting requirements:

(a) The Not-For-Profit Credit Customer must advise SPP of the principal amount of revenue bonds outstanding on an annual basis;

(b) The Not-For-Profit Credit Customer must advise SPP within ten (10) Business Days if the principal amount of the revenue bonds outstanding is reduced by more than twenty percent (20%) from the amount last certified by the Not-For-Profit Credit Customer;

(c) The Not-For-Profit Credit Customer must advise SPP immediately if the security interest of the trustee is released or the Not-For-Profit Credit Customer grants any lien prior to the lien of the bond resolution; and

(d) The Not-For-Profit Credit Customer must advise SPP within ten (10) Business Days of any downgrade of any of the Not-For-Profit Credit

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Customer's revenue bond ratings issued by a Rating Agency.

3.2.6 Other Credit Information. On an annual basis, each Credit Customer must provide SPP with the information specified in Attachment H, Sections 3.1.1.3-~~(Loss Contingencies)~~, 3.1.1.4 ~~(Affiliates)~~, 3.1.1.6 ~~(Additional Information)~~.

3.2.7 Material Adverse Changes. Each Credit Customer must give SPP notice of any Material Adverse Change in its financial condition (and, as applicable, the financial condition of its Guarantor) within two (2) Business Days of the occurrence of the Material Adverse Change. If a Credit Customer or Guarantor files a Form 10-K, Form 10-Q, or Form 8-K with the SEC, notice of such filing, timely delivered to SPP in accordance herewith, will suffice on the condition that such notice states that the filing addresses a Material Adverse Change.

A Material Adverse Change in financial condition includes any Material change in operations or financial condition that a reasonable examiner of creditworthiness would deem material to decisions concerning the extension of credit, including but not limited to, any of the following ("Material Adverse Change"):

a. A downgrade of any debt rating or issuer rating, or change in the outlook of any Credit Rating, including debt rating or issuer rating;

b. Any placement on a credit watch with negative implication by a Rating Agency;

c. The filing of a lawsuit or initiation of an arbitration, publicly disclosed investigation or other proceeding (including regulatory proceeding) which

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if decided adversely could have a Material effect on any current or future financial results or financial condition;

d. The merger, acquisition or any other form of business combination involving the credit customer;~~.~~

e. Any adverse changes in financial condition which, individually, or in the aggregate, are Material;

f. Any adverse changes, events or occurrences which, individually or in the aggregate, could affect the ability of the Credit Customer to pay its debts as they become due or could have a Material adverse effect on any current or future financial results or financial condition;

g. Discovery or disclosure of conflict of interest issues;

h. Resignation or removal of a key officer or director;

i. Any action requiring the filing of a Form 8-K;

j. Any report of a quarterly or annual loss or a decline in earnings of ten (10) percent or greater compared to the prior period;

k. Any restatement of prior financial statements; and

l. Failure of a Market Participant to continue to satisfy the minimum capitalization criteria for market participation specified in Attachment H, Section 3.1.1.8.2.

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3.2.7.1 **Notification of a Material Adverse Change by SPP to a Credit Customer**. Upon the occurrence of a Material Adverse Change and prior to SPP compelling a Credit Customer to post additional Financial Security, cease one or more transactions, or take other measures to restore confidence in the Credit Customer's ability to transact business safely as a result of any Material Adverse Change, SPP will provide, when feasible, reasonable advance notice in writing, by electronic mail, hand delivery, reputable overnight courier, or first-class mail, to the Credit Contact designated by the Credit Customer pursuant to Attachment H, Section 9.1 ~~of this Credit Policy~~. If delivery to the Credit Contact fails, then SPP may effect delivery to any officer, executive, or manager of the Credit Customer. Such notice will identify the reasoning behind the invocation of the Material Adverse Change clause and be signed by an authorized representative of SPP.

3.2.8 Affiliates. Each Credit Customer must identify all Affiliates that are Credit Customers.

3.2.9 Additional Information. At any time and from time to time, SPP may request such additional information as SPP reasonably determines is necessary and appropriate for the Credit Assessment and the Credit Customer will timely provide such additional information. At any time, the Credit Customer may provide SPP with additional information that the Credit Customer considers relevant to the Credit Assessment.

3.2.10 Guaranties. If the Credit Customer relies upon a Guaranty to maintain an Unsecured Credit Allowance, Credit Information required under this Section 3.2

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must be submitted with respect to both the Credit Customer and the Guarantor.

3.2.11 Alternate Requirements. For Not-For-Profit Credit Customers, some of the above financial submittals may not be applicable, and alternate requirements may be specified by SPP.

3.2.12 In the credit evaluation of Not-For-Profit Credit Customers, SPP may request additional information as part of the overall financial review process and will consider other relevant factors in determining financial strength and creditworthiness.

3.3 SPP Rights to Use Other Information. Notwithstanding any provision of this Credit Policy, SPP will have the right to utilize, in a Credit Assessment, any information of which it is aware concerning the Credit Customer.

3.3.1 Consistent with ~~the Commission~~FERC's Order No. 895 and notwithstanding any provision in the Markets+ Tariff to the contrary, SPP is permitted to (a) share credit-related information of Credit Customers, applicants seeking to become Credit Customers, and their respective Affiliates with ~~Commission~~FERC-jurisdictional regional transmission organizations and independent system operators for the purpose of credit risk management and mitigation and (b) use credit-related information received from ~~Commission~~FERC-jurisdictional regional transmission organizations and independent system operators to the same extent and for the same purposes that SPP may use credit-related information received directly from Credit Customers, applicants seeking to become Credit Customers, and their respective Affiliates. SPP will treat credit-related

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information it receives under this provision in the same manner that SPP treats Confidential Information to the extent such treatment does not conflict with ~~the Commission~~FERC's requirements in Order No. 895 and this provision.

3.4 Positive Material Change in Financial Condition of the Credit Customer. If there is a positive Material change in the financial condition of the Credit Customer, a significant reduction in the Total Potential Exposure of the Credit Customer, or any other change that the Credit Customer believes may warrant an increase in the Credit Customer's Unsecured Credit Allowance and/or a reduction in the Financial Security required of the Credit Customer, the Credit Customer may make a written request to SPP to update the Credit Assessment and include or refer to any supporting information. SPP may request any Credit Information described in Attachment H, Section 3.2 to evaluate the merit of the Credit Customer's request. SPP anticipates that it will respond to the Credit Customer's request within a reasonable period of time, generally within ten (10) Business Days after receiving all information that is required for an ongoing review as required in this Article.

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ARTICLE FOUR
Creditworthiness and Total Credit Limit

4.1 Creditworthiness Overview. SPP will establish a Total Potential Exposure for each Credit Customer based on the Credit Customer's estimated cumulative financial obligation arising under the Markets+ Tariff or otherwise to SPP as provided in Attachment H, Article 5. The Total Potential Exposure is the amount that the Credit Customer must support with credit. The credit will consist of a combination of the Unsecured Credit Allowance and Financial Security, or either of them. SPP will determine the Credit Customer's Unsecured Credit Allowance based upon the Composite Credit Score. The Composite Credit Score, as defined herein, is a determination of financial strength and creditworthiness, based upon the Credit Assessment. Where Credit Customers are Affiliates of each other, an aggregate Unsecured Credit Allowance will be established for the Affiliates, as provided below. If the Credit Customer's Unsecured Credit Allowance is less than its Total Potential Exposure, the Credit Customer will be required either to establish additional credit in the amount of the difference by posting Financial Security or to decrease its Total Potential Exposure. A Credit Customer's total credit with SPP under the Markets+ Tariff, consisting of the Unsecured Credit Allowance and any Financial Security, is the Credit Customer's Total Credit Limit. A Credit Customer may provide additional Financial Security at any time to increase or maintain its Total Credit Limit, for example, in order to increase its Total Potential Exposure or to compensate for a reduction in its Unsecured Credit Allowance.

4.2 Composite Credit Score. The "Composite Credit Score" is the numerical result of SPP's scoring process based upon various quantitative and qualitative predictors of creditworthiness as set forth in this Section. The results are scaled from one (1) to six (6) with one (1) being the strongest score and six (6) being the weakest. Key factors in the scoring process include financial ratios, years in business, and Credit Ratings. SPP will apply all measures used to determine Composite Credit Scores in a consistent manner. The respective models SPP will use to determine the Composite Credit Score for Large Company Credit Customers, Small Company Credit Customers, and Not-For-Profit Credit Customers are set forth in this Section.

4.2.1 Large Company Credit Scoring. The Large Company Credit Customer model will be utilized for Credit Customers with net fixed assets equal to or in excess of $250 million ("Large Company Credit Customers" or "Large Company"). The Large Company Credit Score will be comprised of a Quantitative Score and a Qualitative Score. Each score is then weighted as shown below to build a Composite Credit Score.

Large Company Analysis	Weight
Quantitative Score	70%
Qualitative Score	30%

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4.2.1.1 **Quantitative Score.** The Quantitative Score is based on the financial ratios below. These measures will be calculated for each Large-Company Credit Customer and compared with benchmarks to assign a score of one (1) to six (6) for each measure. A score of one (1) indicates that the Credit Customer has a strong financial health with regard to the measure, while a score of six (6) indicates poor financial health with regard to the measure. The following measures are used:

a. Current Ratio—Current Assets/Current Liabilities

b. EBIT Interest Coverage—(Interest Expense + Income Taxes + Net Income) / Interest Expense

c. Total Debt to Total Capitalization ("TD/TC")—(Long Term Debt + Current Portion + Other Short Term Borrowings) / (Total Debt + Preferred Equity + Common Equity)

d. Funds from Operations ("FFO") to Total Debt—(Cash from Operating Activities - Changes in Operating Assets and Liabilities) / (Long Term Debt + Current Portion + Other Short Term Borrowings)

The measures are then assessed as follows to calculate the total Quantitative Score:

Scale	Current	EBIT Interest	TD/TC	FFO to Total Debt
1	>1.34	>4.99	<.30	>.350
2	1.15 – 1.34	3.50 – 4.99	.30 - .39	.271 - .350
3	1.00 – 1.14	2.50 – 3.49	.40 - .49	.181 - .270
4	0.85 – 0.99	2.00 – 2.49	.50 - .59	.120 - .180
5	0.70 – 0.84	1.25 – 1.99	.60 - .69	.070 - .119
6	<0.70	<1.25	>.69	<.070

The measures are weighted as follows:

Large Company Financial Ratios	Weight
Current Ratio	10%
EBIT Interest Coverage	25%
Total Debt to Total Capitalization	25%
FFO to Total Debt	40%
	100%

If one or more ratios cannot be calculated due to insufficient data

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to calculate the ratio, the weight that would have been assigned to that ratio or ratios will be allocated equally among the remaining ratios.

4.2.1.2 **Qualitative Score.** The Qualitative Score, also on a scale of one (1) to six (6), will assess non-financial measure information about a Credit Customer's creditworthiness. A score of one (1) indicates that the Credit Customer has strong qualitative measures, while a score of six (6) indicates poor qualitative measures. The qualitative analysis will take into account a variety of information, but at a minimum will include the assessment of the following characteristics:

-Management
-Regional / Commodity Diversity
-Physical Liquidity
-Financial Liquidity
-Quality of Equity
-Volatility of Earnings
-Regulation/Rates
-Senior Unsecured Debt Rating
-SPP Payment Record
-Risk Procedures

4.2.1.3 **Composite Credit Score.** The Composite Credit Score is the weighted average of the Quantitative Score and the Qualitative Score. To illustrate, assume the following:

Large Company Qualitative Score = 4.0

Large Company Financial Measures:

	Value	**Score**	**Weight**
Current Ratio	.82	5	———10%
EBIT Interest Coverage	2.08	4	25%
Total Debt to Total Capitalization .63	5	25%	
FFO to Total Debt	.17	4	40%

Large Company Quantitative Score =
(5 x 10%) + (4 x 25%) + (5 x 25%) + (4 x 40%) = 4.35

Large Company Credit Score = (4.35 x 70%) + (4 x 30%) = 4.25

4.2.2 Small Company Credit Scoring. The Small Company model will be utilized for

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Credit Customers with net fixed assets less than $250 million ("Small Company Credit Customers" or "Small Company"). The Small Company Composite Credit Score will be comprised of a Quantitative Score and a Qualitative Score. Each score is then weighted as shown below to build a Composite Credit Score.

Small Company Analysis	**Weight**
Quantitative Score	70%
Qualitative Score	30%

4.2.2.1 **Quantitative Score.** The Quantitative Score is based on the financial ratios below. These measures will be calculated for each Small Company Credit Customer and compared with benchmarks to assign a score of one (1) to six (6) for each measure. A score of one (1) indicates that the Credit Customer has a strong financial health with regard to the measure, while a score of six (6) indicates poor financial health with regard to the measure. The following measures are used:

a. Current Ratio—Current Assets/Current Liabilities

b. EBIT Interest Coverage—(Interest Expense + Income Taxes + Net Income) / Interest Expense

c. Total Liabilities to Total Net Worth ("TL/TNW")—(Total Liabilities) / (Total Equity-Intangibles-Treasury Stock)

d. Funds from Operations ("FFO") to Total Debt—(Cash from Operating Activities - Changes in Operating Assets and Liabilities) / (Long Term Debt + Current Portion + Other Short Term Borrowings)

e. Return on Assets ("ROA")—Net Income / Total Assets

The values are then assessed as follows to calculate the total Quantitative Score:

Scale	**Current**	**EBIT Interest**	**TL/TNW**	**FFO to Total Debt**	**ROA**
1	>2.50	>4.99	<0.40	>.350	>.120
2	1.75 – 2.50	3.50 – 4.99	0.40 - 0.70	.271-.350	.100 - .120
3	1.40 – 1.74	2.50 – 3.49	0.71 – 1.49	.181 - .270	.075 - .099
4	1.15 – 1.39	2.00 – 2.49	1.50 – 2.25	.120 - .18	.045 - .074
5	1.00 – 1.14	1.25 – 1.99	2.26 – 4.00	.070 - .119	.015 - .044
6	<1.00	<1.25	>4.00	<.070	<.015

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The measures are weighted as follows:

Small Company Financial Ratios	Weight
Current Ratio	25%
EBIT Interest Coverage	10%
Total Liabilities / Total Net Worth	25%
FFO to Total Debt	15%
ROA	25%
	100%

If one or more ratios cannot be calculated due to insufficient data to calculate the ratio, the weight that would have been assigned to that ratio or ratios will be allocated equally among the remaining ratios.

4.2.2.2 **Qualitative Score.** The Qualitative Score, also on a scale of one (1) to six (6), will assess non-financial measure information about a Credit Customer's creditworthiness. A score of one (1) indicates that the Credit Customer has strong qualitative measures, while a score of six (6) indicates poor qualitative measures. The qualitative analysis will take into account a variety of information, but at a minimum will include the assessment of the following characteristics:

-Management
-Regional / Commodity Diversity
-Physical Liquidity
-Financial Liquidity
-Quality of Equity
-Volatility of Earnings
-Regulation/Rates
-Peer Comparison using SIC codes
-Senior Unsecured Debt Rating
-SPP Payment Record

4.2.2.3 **Composite Credit Score.** The Composite Credit Score is the weighted average of the Quantitative Score and the Qualitative Score. To illustrate, assume the following:

Small Company Qualitative Score = 4

Small Company Financial Measures:

	Value	Score	Weight

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Current Ratio	1.10	5	25%
EBIT Interest Coverage	1855.00	1	10%
Total Liabilities / Total Net Worth	2.47	5	25%
FFO to Total Debt	0.03	6	15%
ROA	0.02	5	25%

Small Company Quantitative Score =
(5 x 25%) + (1 x 10%) + (5 x 25%) + (6 x 15%) + (5 x 25%) = 4.75

Small Company Credit Score =
(4.75 x 70%) + (4 x 30%) = 4.53

4.2.3 Not-For-Profit Credit Scoring. The Not-For-Profit model will be utilized for Credit Customers who are not structured to generate profits for investors ("Not-For-Profit Credit Customers" or "Not-For-Profit"), including electric cooperatives, municipalities, and government agencies. The Not-For-Profit Composite Credit Score will be comprised of a Quantitative Score and a Qualitative Score. The lower of the Composite Credit Score calculated using two alternative weights for the Quantitative Score and the Qualitative Score as shown below will be used in determining the allocation of the Not-For-Profit Credit Customer's Unsecured Credit Allowance.

Not For Profit Credit Customer Analysis	Weight	
	Alternative 1	Alternative 2
Quantitative Score	40%	50%
Qualitative Score	60%	50%

4.2.3.1 Quantitative Score. The Quantitative Score is based on the financial ratios below. These measures will be calculated for each Not-For-Profit Credit Customer and compared with benchmarks to assign a score of one (1) to six (6) for each measure. A score of one (1) indicates that the Credit Customer has a strong financial health with regard to the measure, while a score of six (6) indicates poor financial health with regard to the measure. The following measures, or their substantive equivalents for not-for-profit entities, are used:

a. Current Ratio ("CR")—Current Assets / Current Liabilities

b. Debt Service Coverage ("DSC")—(Operating Income + Interest Expense + Depreciation + Interest Income + Cash Portion of Capital Credits - Onetime Charges)/(Interest

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Expense + Debt Amortization)

c. Times Interest Earned Ratio ("TIER")—(Interest Expense + Patronage Capital or Margins or Changes in Net Assets) / (Interest Expense)

d. Total Debt to Total Capitalization ("TD/TC")—(Long Term Debt + Current Portion + Other Short Term Borrowings) / (Total Debt + Preferred Equity + Common Equity). Members' Equity could also be called Net Assets or Patronage Capital.

The values are then assessed as follows to calculate the total Quantitative Score:

Not-For-Profit Credit Customer Model Ratio Scales

Scale	CR	DSC	TIER	TD/TC
1	>1.34	>1.99	>2.00	<.50
2	1.15 – 1.34	1.50 – 1.99	1.50 – 2.00	.51 - .74
3	1.00 – 1.14	1.00 – 1.49	1.00 – 1.49	.75 - .85
4	0.85 – 0.99	0.80 – 0.99	0.80 – 0.99	.86 - .93
5	0.70 – 0.84	0.60 – 0.79	0.50 – 0.79	.94 - .99
6	<0.70	<0.60	<0.50	>.99

The measures are weighted as follows:

Not-For-Profit Credit Customer Financial Ratios	Weight
Current Ratio	15%
Debt Service Coverage	35%
Times Interest Earned Ratio	20%
Total Debt / Total Capitalization	30%
	100%

If one or more ratios cannot be calculated due to insufficient data to calculate the ratio, the weight that would have been assigned to that ratio or ratios will be allocated equally among the remaining ratios.

4.2.3.2 **Qualitative Score.** The Qualitative Score, also on a scale of one (1) to six (6), will assess non-financial measure information about a Credit Customer's creditworthiness. A score of one (1) indicates that the Credit Customer has strong qualitative measures, while a score of six (6) indicates poor qualitative measures. The qualitative analysis will take into account a variety of information, but at a minimum will include the assessment of the following

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characteristics:

-Regulation/Rates
-Terms of wholesale power contracts
-Customer count served
-Power supply portfolio (e.g., contracts, assets, etc)
-Management
-Ability to access short-term capital
-Senior Unsecured Debt Rating
-SPP Payment Record

4.2.3.3 **Composite Credit Score**. The Composite Credit Score is the weighted average of the Quantitative Score and the Qualitative Score. To illustrate, assume the following:
Not-For-Profit Qualitative Score = 2

Not-For-Profit Financial Measures:

	Value	Score	Weight
Current Ratio	1.42	1	15%
Debt Service Coverage	1.17	3	35%
Times Interest Earned Ratio	0.73	5	20%
Total Debt / Total Capitalization	1.50	6	30%

Not-For-Profit Quantitative Score =
(1 x 15%) + (3 x 35%) + (5 x 20%) + (6 x 30%) = 4.00

Not-For-Profit Credit Score =
(4.00 x 40%) + (2.0 x 60%) = 2.80 using Alternative 1, or;

(4.00 x 50%) + (2.0 x 50%) = 3.00 using Alternative 2.

The lower Composite Credit Score resulting from utilizing the two alternatives is 2.80, so it will be the Composite Credit Score used in allocating this Not-For-Profit Credit Customer's Unsecured Credit Allowance as described in Section 4.3 below.

4.3 Unsecured Credit Allowance.

The Composite Credit Score is converted into an "Unsecured Credit Allowance," which is a percentage of Tangible Net Worth. (Tangible Net Worth = Total Equity – Intangibles – Treasury Stock). The Composite Credit Score is a numeric value on a scale of one (1) to six (6) with one (1) indicating stronger creditworthiness and six (6) indicating weaker creditworthiness. The conversion into an Unsecured Credit Allowance is based on the percentage values stated in Table 1.

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Table 1

Composite Credit Score	% Tangible Net Worth Small Company Model	% Tangible Net Worth Large Company Model	% Tangible Net Worth Not For Profit Model
1.00 - 1.99	5.00%	5.00%	7.500%
2.00 - 2.99	3.00%	3.00%	4.500%
3.00 - 3.59	2.00%	2.00%	3.000%
3.60 - 4.39	0.75%	0.75%	1.125%
4.40 - 4.99	0.25%	0.25%	0.375%
5.00 - 6.00	0%	0%	0.000%

To illustrate, a Large Company Credit Customer with a Composite Credit Score of 4.36 and Tangible Net Worth of $501,468,000 would have a suggested Unsecured Credit Allowance calculated as follows:

Unsecured Credit Allowance = Table 1 Percentage x Tangible Net Worth

= 0.75% x $501,468,000

= $3,761,010

4.3.1 Revenue Bond Adjustment to Tangible Net Worth Value for Power Supply Agents. For Not-For-Profit Credit Customers that issue revenue bonds solely in support of their role as power supply agent for not-for-profit electric distribution utilities and meet: (a) the disclosure requirements in: (i) Attachment H, Section 3.1.3 of this Credit Policy and (ii) Attachment H, Section 3.2.5 ~~of this Credit Policy~~ ; and (b) have a revenue bond rating or revenue bond ratings equal to or better than Baa1 issued by Moody's or BBB+ issued by S&P, the calculation of the suggested Unsecured Credit Allowance will be based on an adjusted value for Tangible Net Worth. The adjusted value for Tangible Net Worth will include the outstanding balance of revenue bonds as of the date of the calculation.

To illustrate, if the Not-For-Profit Credit Customer met all of the disclosure requirements for power supply agents, had a Tangible Net Worth of $2,000,000, and had $8,000,000 principal amount of revenue bonds outstanding, the adjusted Tangible Net Worth to be used in computing the suggested Unsecured Credit Allowance would be $10,000,000 (the sum of the adjusted Tangible Net Worth and the principal amount of revenue bonds outstanding as of the date of the calculation).

4.3.2 Maximum and Minimum Unsecured Credit Allowances. Notwithstanding the calculation under Section 4.3:

4.3.2.1 No Credit Customer will have an Unsecured Credit Allowance in

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excess of $50 million; and

4.3.2.2 On the condition that a Not-For-Profit provides all required Credit Information and executes all documents required under this Credit Policy, and subject to the Default provisions of this Credit Policy, a Not-For-Profit Credit Customer will have a minimum Unsecured Credit Allowance in the amount of $250 thousand.

4.3.3 Guaranty. In the event that the Credit Customer has a Guaranty, the Unsecured Credit Allowance will be based on the Credit Assessments of the Credit Customer and the Guarantor.

4.3.4 Unsecured Credit Allowance for Affiliates.

4.3.4.1 **Determination of Creditworthiness of Combined Affiliates.** If two or more Credit Customers are Affiliates, and each is granted an Unsecured Credit Allowance and a corresponding Total Credit Limit, SPP will consider the overall creditworthiness of the Affiliated Credit Customers when determining the Unsecured Credit Allowances in order not to grant more unsecured credit than the overall group of affiliated entities could support. SPP will work with Affiliated Credit Customers to allocate the total Unsecured Credit Allowance among the Affiliates while assuring that no individual Credit Customer, nor common guarantor, exceeds the Unsecured Credit Allowance appropriate for its credit strength. A $50 million maximum Unsecured Credit Allowance will apply to all Affiliates as though the Affiliates are a single Credit Customer.

Example: Credit Customers A and B each have a $10.0 million Guaranty from their common parent, a holding company with an Unsecured Credit Allowance calculation of $12.0 million. SPP may limit the Unsecured Credit Allowance for each Credit Customer to $6.0 million, so the total Unsecured Credit Allowance does not exceed the corporate total of $12.0 million.

4.3.4.2 **Guaranty.** If the Guaranty is applicable to Affiliates (i.e., more than one Credit Customer), then the Unsecured Credit Allowance of the Guarantor will be allocated among such Affiliates and the applicable allocation will be utilized in determining each Affiliated Credit Customer's Unsecured Credit Allowance.

4.3.5 Continuous Right to Modify. SPP has the right at any time to modify any Unsecured Credit Allowance and/or require additional Financial Security as may

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be reasonably necessary to support the Credit Customer's ability to pay for any market services SPP may provide. If the modification results in a reduction or revocation of Unsecured Credit Allowance and the reduction or revocation results in the need to provide Financial Security, then the rights and duties of SPP and the Credit Customer will be as set forth in Attachment H, Section 3.2.2.

4.4 Financial Security Requirement. If a Credit Customer (i) is denied an Unsecured Credit Allowance, or (ii) is granted an Unsecured Credit Allowance that is below its Total Potential Exposure calculated pursuant to Attachment H, Article 5, then the Credit Customer may submit Financial Security to cover or exceed the difference in the amount of the Unsecured Credit Allowance granted to the Credit Customer and the amount of its Total Potential Exposure. A Credit Customer electing to satisfy the alternative criteria for market participation specified in Attachment H, Section 3.1.1.8.2(e) and whose anticipated or actual market activity, as determined in Attachment H, Article Five, exceeds One Hundred Thousand Dollars ($100,000) in Market Exposure will provide Financial Security that is twice the amount calculated to satisfy its Financial Security Requirement pursuant to this Section 4.4. Any Credit Customer may provide Financial Security in lieu of or in addition to the Unsecured Credit Allowance it was granted. Upon the Credit Customer's request, SPP will provide a written explanation of how it determined the amount of required Financial Security for that Credit Customer.

4.5 Total Credit Limit. The "Total Credit Limit" is the amount of any Unsecured Credit Allowance approved by SPP for the Credit Customer, plus the amount of any Financial Security the Credit Customer has provided to SPP. SPP will determine the Total Credit Limit for each Credit Customer. Upon the Credit Customer's request, SPP will provide a written explanation of how it determined the Unsecured Credit Allowance and the amount of required Financial Security for that Credit Customer. SPP will respond to the Credit Customer's request within five (5) Business Days.

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ARTICLE FOUR A
Virtual Energy Bids and Virtual Energy Offers

4A.1 Overview.

4A.1.1 Virtual Energy Bids and Virtual Energy Offers create potential exposure of non-payment, and therefore, have a credit requirement. SPP does not require the Credit Customer to segregate, allocate, or reserve a portion of its Total Credit Limit to support its Virtual Energy Bids and Virtual Energy Offers in the Day-Ahead Market. However, SPP analyzes the Credit Customer's Virtual Energy Bids and Virtual Energy Offers to determine if the Credit Customer has credit available to support its Virtual Energy Bids and Virtual Energy Offers at the time the Bids or Offers are submitted. Only the Virtual Energy Bids and Virtual Energy Offers that the Credit Customer has credit available to support will be credit approved for the Day-Ahead Market.

4A.1.2 In its analysis, SPP will calculate the Estimated Virtual Exposure ("EVE") based on the Credit Customer's Virtual Energy Bids and Virtual Energy Offers. Using the EVE, SPP will determine if the Credit Customer has available credit to support its Virtual Energy Bids and Virtual Energy Offers. After the close of the Day-Ahead Market for an Operating Day, the credit requirement associated with the Credit Customer's cleared Virtual Energy Bids and Virtual Energy Offers will be adjusted to reflect the actual ~~megawatts~~ MWs that cleared.

4A.1.3 The total EVE for a Credit Customer includes both (i) the calculation of EVE for Virtual Energy Bids and Virtual Energy Offers prior to the close of the Day-Ahead Market; and (ii) the EVE calculations post Day-Ahead Market clearing updated to reflect the actual cleared Virtual Energy Bids and Virtual Energy Offers.

4A.1.4 This Article addresses the calculation of the EVE and the credit requirements associated with the submission of Virtual Energy Bids and Virtual Energy Offers in the Day-Ahead Market and the Virtual Energy Bids and Virtual Energy Offers that clear in the Day-Ahead Market.

4A.2 Calculation of Estimated Virtual Exposure (EVE) Prior to the Close of the Day-Ahead Market for an Operating Day. When a Virtual Energy Bid or Virtual Energy Offer is submitted, SPP will calculate the EVE using reference prices for the Virtual Energy Bid or Virtual Energy Offer and the maximum ~~megawatts~~ MWs submitted. If multiple Virtual Energy Bids and Virtual Energy Offers are submitted in a single submission, the EVE will be calculated for the single submission as a whole. If a Virtual Energy Bid or Virtual Energy Offer contains multiple hours, all of the hours will be included in the EVE calculation. The EVE is calculated for the submittal of Virtual Energy Bids and Virtual Energy Offers. In the event that both a Virtual Energy Bid and Virtual Energy Offer are submitted in the same submission for the same node and same Oeperating H~~h~~our, the one with the higher dollar value will be used in the EVE

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calculation for that submission.

4A.2.1 For a given Virtual Energy Bid the Virtual Energy Bid EVE is the sum of (i) the product of the Virtual Energy Bid reference price for the Settlement Location of the Virtual Energy Bid times the maximum ~~megawatt~~ MW value of the submitted Bid curve plus (ii) the ~~virtual~~ Virtual ~~transaction~~ Transaction fee. For a given Virtual Energy Offer the Virtual Energy Offer EVE is the sum of (i) the product of the Virtual Energy Offer reference price for the Settlement Location of the Virtual Energy Offer times the maximum ~~megawatt~~ MW value of the submitted Energy Offer Ceurve plus (ii) the ~~virtual~~ Virtual ~~transaction~~ Transaction fee.

4A.2.1.1 If a Market Participant submits both a Virtual Energy Bid and a Virtual Energy Offer at the same location for the same hour, only the Virtual Energy Bid or Virtual Energy Offer with the greater EVE is included in the calculation of the EVE for the submission.

4A.2.1.2 The EVE for a single submission of Virtual Energy Bids and Virtual Energy Offers is equal to the sum of the hourly Virtual Energy Bid EVEs for each Virtual Energy Bid in the submission and the sum of the hourly Virtual Energy Offer EVEs in the submission, with the adjustment described in 4A.2.1.1, above, if both a Virtual Energy Bid and Virtual Energy Offer are received for the same location and hour. If Credit Customer cancels a Virtual Energy Bid or Virtual Energy Offer prior to the close of the Day-Ahead Market for the Operating Day for which it is submitted, the EVE associated with the canceled portion of the submission is removed from the calculation of the EVE for the submission.

4A.2.1.3 The Virtual Energy Bid reference price is based on the difference between the Day-Ahead Locational Marginal Prices and the ~~Real~~ real ~~Time~~ time Locational Marginal Prices in the prior year, at each node. The Virtual Energy Bid reference price for a given day is the 97th percentile hourly difference from the same quarter in the previous year. ~~For virtual transactions occurring in the first quarter of 2022, the calculation of the Virtual Energy Bid reference price will not include the hourly differences from the operating hours in February 12, 2021 through February 19, 2021.~~

4A.2.1.4 The Virtual Energy Offer reference price is based on the difference between the ~~Real~~real ~~Time~~ time Locational Marginal Price and the Day-Ahead Locational Marginal Price in the prior year, at each node. The Virtual Energy Offer reference price for a given day is the 97th percentile hourly difference from the same quarter in the

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previous year. ~~For virtual transactions occurring in the first quarter of 2022, the calculation of the Virtual Energy Offer reference price will not include the hourly differences from the operating hours in February 12, 2021 through February 19, 2021.~~

4A.2.1.5 Calculation of Virtual Energy Bid and Virtual Energy Offer Reference Prices During the Initial Six-Months of the Virtual Market in Markets+. During the initial six-months of the virtual market within Markets+, prior to the accumulation of complete ~~Real~~real-~~Time~~ time and Day-Ahead Locational Marginal Price data sufficient to calculate the Virtual Energy Bid and Virtual Energy Offer references prices pursuant to ~~sections~~ Sections 4A.2.1.3 and 4A.2.1.4, above, SPP will use data representative of the expected Day-Ahead and Real-Time Balancing Market results based on the ~~Real~~ real-~~Time~~ time and Day-Ahead Locational Marginal Prices settled during the initial period from ~~five-months of~~ go-live of Markets+ operations ~~or~~ until one (1) month prior to commencement of Virtual Transactions~~other available information~~.

4A.2.1.6 Calculation of Virtual Energy Bid and Virtual Energy Offer Reference Prices for New Settlement Locations. When a new Settlement Location is created and until actual Virtual Energy Bid and Virtual Energy Offer reference prices can be calculated pursuant to ~~section~~ Sections 4A.2.1.3 and 4A.2.1.4, above, for that Settlement Location, SPP will use the system average virtual reference price. The system average virtual reference price for a given quarter is the mean of all of the Virtual Energy Bid and Virtual Energy Offer reference prices for that quarter.

4A.3 Determination of Credit Approved Virtual Energy Bids and Virtual Energy Offers.

4A.3.1 If the EVE for a submission of Virtual Energy Bids and Virtual Energy Offers is less than the Credit Customer's available credit, which is equal to the Credit Customer's Total Credit Limit less its Total Potential Exposure, then the submission is credit approved. Credit approved Virtual Energy Bids and Virtual Energy Offers, unless withdrawn will be included in the Day-Ahead Market.

4A.3.2 If the EVE for a submission of Virtual Energy Bids and Virtual Energy Offers is greater than the Credit Customer's available credit, which is equal to the Credit Customer's Total Credit Limit less its Total Potential Exposure, then the submission will be rejected. Rejected Virtual Energy Bids and Virtual Energy Offers will not be included in the Day-Ahead Market and will not affect the Total Potential Exposure calculation.

4A.3.3 Modifications to Virtual Energy Bids and Virtual Energy Offers prior to the close of the

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Day-Ahead Market for the Operating Day for which they were submitted will be evaluated using the same procedures. Modifications are evaluated based on their net credit impact. The EVE for the modified Virtual Energy Bids and Virtual Energy Offers submission will be revised to incorporate the modifications to the submission.

4A.3.3 The EVE for credit approved Virtual Energy Bids and Virtual Energy Offers submissions that have not yet settled or cleared in the Day-Ahead Market is included in the Total Potential Exposure calculation as set forth in Attachment H, Article 5. Therefore, the determination of whether a Virtual Energy Bid and Virtual Energy Offer submission is credit approved will take into account the credit requirements for previously determined credit approved Virtual Energy Bids and Virtual Energy Offers.

4A.3.4 If a Credit Customer cancels a credit approved Virtual Energy Bid or Virtual Energy Offer submission prior to the close of the Day-Ahead Market for the Operating Day for which it is submitted, that Virtual Energy Bid or Virtual Energy Offer will no longer have a credit requirement associated with it and its EVE will be zero.

4A.4 Updated EVE Calculations Post Day-Ahead Market Clearing. After clearing of the Day-Ahead Market for an Operating Day, the EVEs for credit approved Virtual Energy Bids and Virtual Energy Offers will be updated to replace the maximum ~~megawatts~~ MWs with the actual ~~megawatts~~ MWs that cleared. If there are Virtual Energy Bids and Virtual Energy Offers that cleared at the same location, the ~~megawatt~~ MW amounts will be netted in the updated EVE calculation.

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ARTICLE FIVE
Calculation of Total Potential Exposure

5.1 Overview. The Total Potential Exposure is a calculated value applied to assure that the Credit Customer engages in activities within its Total Credit Limit. The Total Potential Exposure is based on the Credit Customer's estimated cumulative financial obligation under the Markets+ Tariff or otherwise to SPP. Potential Exposure to non-payment is calculated separately for each applicable category of service and then summed together to obtain the amount of Total Potential Exposure. This Article addresses the calculation and use of the value for Total Potential Exposure.

5.2 Calculation of Total Potential Exposure for a Credit Customer. A Credit Customer's Total Potential Exposure will be the sum of the potential exposure to non-payment for market transactions billed pursuant to the Markets+ Tariff.

5.2.1 Market Exposure ("ME"). Potential exposure to non-payment associated with market transactions in Markets+ is calculated under the following formula:

ME = IMSC + CMSC + MEMERT + MEMEDA + EVE

IMSC = Invoiced Market Settlement Charges (all Real-Time Balancing Market and Day-Ahead Market, including Vvirtual Ttransaction activity, charges or credits that have been invoiced but not yet paid).

CMSC = Calculated Market Settlement Charges (all Real-Time Balancing Market and Day-Ahead Market, including Vvirtual Ttransactions, daily settlement activity, including charges or credits, that has been calculated but not yet invoiced).

MEMERT = Maximum Estimated Market Exposure for Real-Time Balancing Market activity will be the greater of:

(a) The average of the last three hundred sixty-five (365) days of daily Real-Time Balancing Market settlement activity (or if settlement activity occurred for a lesser period, the average settlement activity during such lesser period), or

(b) The average of the last seven (7) days of daily Real-Time Balancing Market settlement activity (or if settlement activity occurred for a lesser period, the average settlement activity during such lesser period).

Once the greater value is determined that value is multiplied by the number of days remaining in the Potential Exposure Window. Inasmuch as the Potential

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Exposure Window refers to "days before service can be terminated," the time period for purposes of calculating the MEMERT does not include additional time for service termination.

MEMEDA = Maximum Estimated Market Exposure for Day-Ahead Market activity will be the greater of:

(a) The average of the last three hundred sixty-five (365) days of most recently calculated Settlement Statements for Day-Ahead Market activity (or if settlement activity occurred for a lesser period, the average settlement activity during such lesser period), or

(b) The average of the seven (7) most recent Operating Days for which SPP has calculated either (i) updated estimated Day-Ahead Market activity results calculated four days after the Operating Day; or (ii) initial Settlement Statements for Day Ahead Market activity (or if updated estimated activity results or settlement activity occurred for a lesser period, the average updated estimated activity and settlement activity resulting during such lesser period). The initial Settlement Statements are created at the end of the 7th Ccalendar Dday following the Operating Day. As initial Settlement Statements become available such statements will be used instead of the updated estimated activity results calculated four days after the Operating Day.

For the time period prior to commencement of the Day-Ahead Market for which there are no calculated initial Settlement Statements for Day-Ahead Market activity for use in the determination of the MEMEDA for a Credit Customer, SPP will use data representative of the expected Day-Ahead Market activity for the Credit Customer based on simulations of the Day-Ahead Market or other available information.

Once the greater value is determined that value is multiplied by the number of days remaining in the Potential Exposure Window. Inasmuch as the Potential Exposure Window refers to "days before service can be terminated," the time period for purposes of calculating the MEMEDA does not include additional time for service termination.

EVE = Estimated Virtual Exposure, calculated pursuant to Attachment H, Article 4A (for all credit approved Virtual Energy Bids and Virtual Energy Offers prior to the close of the Day-Ahead Market for an Operating Day or Days that have not yet been settled and cleared Virtual Energy Bids and Virtual Energy Offers)

5.2.2 Total Potential Exposure Calculation. A Credit Customer's Total Potential Exposure ("TPE") will be the sum of the potential exposure to non-payment for market transactions billed pursuant to the Markets+ Tariff.

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5.3 Total Potential Exposure Violations.

5.3.1 Transaction Limits. At all times, the Credit Customer will maintain its Total Potential Exposure to a value equal to or less than its Total Credit Limit. A "Total Potential Exposure Violation" occurs when a Credit Customer's Total Potential Exposure equals or exceeds its Total Credit Limit. SPP will regularly monitor each Credit Customer's use of services and associated financial obligations. If a Credit Customer's Total Potential Exposure equals or exceeds ninety percent (90%) of its Total Credit Limit, SPP will promptly give notice to the Credit Customer. Failure by SPP to give this notice will not relieve the Credit Customer of its duties under this Section.

5.3.2 Cure of Total Potential Exposure Violation. A Credit Customer will cure a Total Potential Exposure Violation by: (i) payment to SPP of invoiced amounts to reduce the Credit Customer's Total Potential Exposure, and/or (ii) provision of Financial Security in an amount sufficient to increase the Credit Customer's Total Credit Limit, such that after making such payments of invoiced amounts and/or providing such Financial Security, the Credit Customer's Total Potential Exposure will not exceed its Total Credit Limit. The Credit Customer will have two (2) Business Days from receipt of notice from SPP to cure the violation. SPP, in its sole discretion, may determine to treat any amount tendered under (i) as an increase of Financial Security under (ii) and not as a payment to SPP.

5.3.3 Failure to Cure Total Potential Exposure Violation. A failure to cure a Total Potential Exposure Violation as required under Section 5.3.2, above, is a Default. In the event of such a Default, SPP has all rights under the Markets+ Tariff, and all other rights and remedies in accordance with applicable law. Without prejudice to other remedies, a Credit Customer that fails timely to cure a Total Potential Exposure Violation will be suspended from requesting any future services, including all market services SPP may provide, unless and until the Credit Customer's Total Potential Exposure Violation is cured.

5.4. Excess Financial Security. In the event a Credit Customer has provided additional Financial Security under Section 5.3.2, above, to address a Total Potential Exposure Violation, and the Credit Customer's outstanding invoiced amounts subsequently return to levels preceding that violation such that the total amount of Financial Security exceeds the amount required under this Credit Policy, the Credit Customer may request return of the excess Financial Security and SPP will comply with the request within two (2) Business Days; provided, that if SPP determines to review the Credit Assessment for the Credit Customer due to the violation, it will not be required to respond to the request, including return of any excess Financial Security, until two (2) Business Days after completing the new Credit Assessment.

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ARTICLE SIX
Guarantees

6.1 Guaranty. A Guaranty approved by SPP transfers to the Credit Customer a portion of the Guarantor's creditworthiness and thereby increases the Credit Customer's Total Credit Limit. Unlike an Irrevocable Letter of Credit or Surety Bond, a Guaranty is not Financial Security. A Guaranty that is backed by Financial Security will have the same impact upon the Total Credit Limit as Financial Security. A Guaranty that is not backed by Financial Security is unsecured and will be considered unsecured credit in the determination of the Unsecured Credit Allowance.

6.2 Approval Process. SPP will determine whether to approve a Guaranty based upon the creditworthiness of the proposed Guarantor as though it were a Credit Customer under this Credit Policy. All Credit Information required under this Credit Policy with respect to a Credit Customer must be submitted initially for the proposed Guarantor and regularly thereafter. SPP will evaluate the Credit Information and determine any Unsecured Credit Allowance and the Total Credit Limit for the Credit Customer beneficiary of the proposed Guaranty. SPP will have the right to revise the Unsecured Credit Allowance and Total Credit Limit from time to time based upon continued assessment of the Credit Information of the Guarantor.

6.3 Requirements for Guaranty. A Credit Customer can utilize a Guaranty if all of the following conditions are satisfied:

6.3.1 Guarantor's Satisfaction of Financial Standards under this Credit Policy. A Guarantor is subject to the same financial review procedures as a Credit Customer. A Guarantor will be eligible to provide a Guaranty to the extent, if any, of the Guarantor's creditworthiness under this Credit Policy.

6.3.2 The Form and Substance of the Guaranty Acceptable to SPP. Appendix "D" of this Credit Policy is a form of Guaranty. The Guaranty must:

6.3.2.1 Be duly authorized by the Guarantor and signed by an officer of the Guarantor

6.3.2.2 State an effective period, or provide for automatic renewal or other basis for periodicity subject to cancellation on no less than sixty (60) Calendar Days notice and provided that in all events the Guaranty is effective for all obligations of the Credit Customer undertaken prior to cancellation.

6.3.2.3 Include certification of the corporate secretary that the execution, delivery, and performance of the Guaranty have been duly

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authorized;

6.3.2.4 Certify that the Corporate Guaranty is not in violation of other undertakings or requirements applicable to the Guarantor, and enforceable against the Guarantor in accordance with its terms;

6.3.2.5 Obligate the Guarantor to submit Credit Information on an ongoing basis as required under this Credit Policy;

6.3.2.6 Incorporate default provisions, including default provisions referred to in Section 6.3.3, below;

6.3.2.7 Secure, in combination with other forms of Financial Security, all obligations of the Credit Customer under or in connection with ~~this~~ the Markets+ Tariff and/or other Agreements; and

6.3.2.8 Be supported by adequate consideration and be otherwise binding as a matter of law.

6.3.2.9 Include as an attachment thereto the resolution(s) of the board of directors or other governing body of the Guarantor authorizing the Guaranty.

6.3.3 Default. Any breach of the Guaranty by the Guarantor or the requirements of the Guarantor under this Credit Policy will be deemed a Default of this Credit Policy and a default under the Markets+ Tariff by the Guarantor and the Affiliates whose obligations are supported by the Guaranty. The following also will be a Default of this Credit Policy and a default under the Markets+ Tariff: (i) the Guaranty expires or terminates (other than in accordance with its terms or upon the written consent of SPP); (ii) the Guarantor disaffirms, disclaims, repudiates, rejects or challenges the validity of all or any part of the Guaranty; or (iii) the Guaranty or any material provision of the Guaranty ceases to be in full force and effect (other than in accordance with its terms or upon the written consent of SPP).

6.4 Guaranty for Affiliates. A single Guaranty may support the Total Credit Limits of Affiliates. With respect to such a Guaranty, the sum value of the Unsecured Credit Allowance of all such Affiliates and the Guarantor will not exceed the lesser of:

(i) the approved Unsecured Credit Allowance for the Guarantor based on SPP's financial review of Guarantor; or

(ii) $50 million.

If a Guaranty is utilized to establish an Unsecured Credit Allowance for a Credit Customer, the value of the Guaranty will be no greater than the lesser of:

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(i) The credit limit imposed in the Guaranty; or

(ii) The portion of the Unsecured Credit Allowance calculated for the Guarantor that is allocated to such Credit Customer in SPP's sole discretion; provided that the Unsecured Credit Allowance calculated for the Guarantor may not exceed $50 million; or

(iii) $50 million.

6.5 Guaranties for Not-for-Profit Credit Customers. SPP will allow other guaranties for Not for Profit Credit Customers so long as any guaranties for such customer satisfy the requirements of Section 6.3, above. The form in Appendix D will be used (subject to modifications to reflect the not for profit nature of the customer and the structure of the guaranty). An example of a permissible guaranty would be individual cities guaranteeing the payments by a municipal energy entity.

6.6 Costs. The Credit Customer will bear all costs of obtaining and maintaining the Guaranty.

6.7 Withdrawal. A Credit Customer or the Guarantor may request the withdrawal of the Guaranty by written request to SPP. A Guaranty may be withdrawn and/or terminated only upon SPP's written approval. SPP will not approve withdrawal or termination of a Guaranty unless and until:

(i) alternate Financial Security acceptable to SPP has been provided; or

(ii) all financial obligations of a Credit Customer under the Agreements have been irrevocably satisfied in full, all Service Agreements have been terminated, and the Credit Customer is no longer a Credit Customer.

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ARTICLE SEVEN
Financial Security

7.1 Acceptable Forms of Financial Security. Financial Security may be a Cash Deposit, an Irrevocable Letter of Credit, a Surety Bond or, for a Credit Customer that is a Federal Power Marketing Agency, a letter as specified in Section 7.1.4, below ~~of this Article~~. These forms of Financial Security may be submitted separately or in combination to equal the full amount of any required or provided Financial Security. In addition, SPP requires the execution of a Credit and Security Agreement (with respect to Cash Deposit, Irrevocable Letter of Credit, and/or Surety Bond).

7.1.2 Cash Deposits. A Cash Deposit will be Financial Security in accordance with this Section.

7.1.2.1 Deposit and Related Agreements. The initial Cash Deposit must be accompanied by execution and delivery of a Credit and Security Agreement in the form attached to this Credit Policy as Appendix "B." Under the Credit and Security Agreement, the Credit Customer will grant to SPP a first priority security interest in and to any and all Cash Deposits, cash collateral, and deposit accounts held or controlled by SPP then existing or thereafter opened, and any and all proceeds of such collateral, including, without limitation, the cash and interest deposited therein. This security interest secures the prompt payment when due of any and all obligations of the Credit Customer under or in connection with the Markets+ Tariff, and/or any and all other Agreements.

7.1.2.2 Segregated Account. The Cash Deposit will be placed in a segregated, interest-bearing account in SPP's name and held within the sole control of SPP solely to secure the payment of the Credit Customer's obligations to SPP and subject to the terms and conditions of the Credit and Security Agreement. All interest earned will accrue to the benefit of the Credit Customer, will be added to the segregated account, and will be deemed additional Cash Deposit; provided, that all such accrued and unpaid interest that has not been applied to satisfy the Credit Customer's obligations will be released and paid to the Credit Customer quarterly, and further provided, that SPP will not be obligated to pay any interest to the Credit Customer or release any amount from the segregated account during any uncured Default.

7.1.2.3 Use of Cash Deposit. In the event a Credit Customer fails to make a timely payment to SPP, SPP may apply the Cash Deposit as

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necessary to satisfy the deficit. In such event, within three (3) Business Days, the Credit Customer must replenish the Cash Deposit in an amount equal to SPP's draw or in such other amount as SPP may require under this Credit Policy and failure to replenish will be a Default under this Credit Policy. SPP's application of the Cash Deposit hereunder will not cure the Default due to the Credit Customer's failure to make timely payment until and unless the Cash Deposit is timely replenished or other Financial Security is provided under Section 7.1.2.4, below.

7.1.2.4 **Replacement of Cash Deposit.** A Credit Customer may replace any part of a Cash Deposit with other Financial Security acceptable to SPP under this Credit Policy.

7.1.3 Irrevocable Letter of Credit. An Irrevocable Letter of Credit will be Financial Security in accordance with this Section.

7.1.3.1 **Form, Requirements, and Related Agreement.** Appendix "C" of this Credit Policy is an acceptable form of an Irrevocable Letter of Credit. SPP may accept an Irrevocable Letter of Credit, in its sole discretion, in revised form. Upon the Credit Customer's request, SPP will provide a written explanation of why SPP did not accept that Credit Customer's proposed variation to the form of Irrevocable Letter of Credit set forth in Appendix "C" of this Credit Policy. The Credit Customer must execute the Credit and Security Agreement with respect to the Irrevocable Letter of Credit. Under the Credit and Security Agreement, the Credit Customer grants SPP a first priority security interest in and to any and all proceeds of any and all Irrevocable Letters of Credit then existing or thereafter issued with SPP as Beneficiary and the Credit Customer as Account Party under the Irrevocable Letter of Credit, including, without limitation, the cash issued upon a draw thereon. This security interest secures the prompt payment when due of any and all obligations of the Credit Customer to SPP, provided that the grant of a security interest will not diminish SPP's rights to apply draws on the Irrevocable Letter of Credit to pay any and all amounts due.

7.1.3.2 **Ratings of Issuing Financial Institution.** At the time of issuance and at all times the Irrevocable Letter of Credit is outstanding, the issuer must be a financial institution organized under the laws of the United States or any state of the United States or the District of Columbia or a branch or agency of a foreign commercial bank located in the United States, with a minimum corporate debt

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rating of an "A-" by S&P, "A3" by Moody's, "A-" by Fitch or an equivalent short-term debt rating by any of these agencies. SPP may accept an Irrevocable Letter of Credit from a financial institution that does not meet the debt rating requirements, provided that the Irrevocable Letter of Credit has a confirmation of third-party support (as governed by the Uniform Customs and Practice for Documentary Credits – International Chamber of Commerce Publication No. 500, Effective January 1, 1994 "UCP500" as stated in Article 9 Section B), in a form acceptable to SPP, from a financial institution that does meet or exceed the debt rating requirements stated in this Section. If after the Irrevocable Letter of Credit has been issued, the rating for the corporate debt of the financial institution is less than "A-" by S&P, "A3" by Moody's or "A-" by Fitch, SPP may give the Credit Customer notice to submit substitute Financial Security no later than three (3) Business Days after the notice.

7.1.3.3 **Costs.** The applicable Credit Customer will bear all costs of providing and maintaining the Irrevocable Letter of Credit.

7.1.3.4 **Substitution of Irrevocable Letter of Credit.** The Credit Customer may replace an Irrevocable Letter of Credit with a substitute Irrevocable Letter of Credit or other Financial Security in form and amount acceptable to SPP. SPP will return the initial Irrevocable Letter of Credit upon receipt of an effective and acceptable substitute.

7.1.3.5 **Term and Renewal.** The Irrevocable Letter of Credit must automatically renew unless the issuing financial institution provides a notice to SPP at least ninety (90) Calendar ~~d~~Days prior to its expiration date stating its decision not to renew the Irrevocable Letter of Credit. If the Irrevocable Letter of Credit is not renewed, at least ninety (90) Calendar ~~d~~Days prior to its stated expiration date (a "Non-Renewal Event"), the Credit Customer must submit substitute Financial Security acceptable to SPP, in SPP's sole discretion, no later than eighty-seven (87) Calendar Days prior to the stated expiration date.

7.1.3.6 **Use of Irrevocable Letter of Credit.** In the event a Credit Customer fails to make any timely payment to SPP, SPP may draw upon the Irrevocable Letter of Credit as necessary to satisfy any and all amounts due from the Credit Customer pursuant to the Agreements. In such event, within three (3) Business Days, the Credit Customer must replenish the Irrevocable Letter of Credit or

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provide SPP with other Financial Security in an amount equal to the draw or in such other amount as SPP may require under this Credit Policy, and failure to satisfy this requirement will be a Default under this Credit Policy. In the event of such failure to make timely payment, and in addition to any other remedies available to SPP, SPP may draw down the entire Irrevocable Letter of Credit and hold the proceeds in an unsegregated account and apply such proceeds to amounts owed by the Credit Customer to SPP pursuant to the Agreements.

7.1.4 Federal Power Marketing Agency Letter. A form of letter as described in this Section will be Financial Security for a Federal Power Marketing Agency as that type of entity is defined in Attachment H, Article Two ~~of this Attachment H~~.

Credit Customers that are Federal Power Marketing Agencies may provide Financial Security in the form of a letter, executed by an officer of the Federal Power Marketing Agency, that: (1) attests that the Federal Power Marketing Agency is lawfully authorized to participate in Markets+ and that any debt the Federal Power Marketing Agency incurs due to its participation in Markets+ is a debt of the United States; (2) identifies the current year's appropriations for the Federal Power Marketing Agency from the United States Congress; and (3) verifies that the amount of the current year's appropriations for the Federal Power Marketing Agency from the United States Congress meets or exceeds the amount required to satisfy the credit requirements set forth in this Credit Policy.

7.1.5 Surety Bond. A Surety Bond will be Financial Security in accordance with this Section.

7.1.5.1 Form, Requirements, and Related Agreement. Attachment H, Appendix ~~"F" of this Credit Policy~~ is an acceptable form of a Surety Bond. SPP may accept a Surety Bond, in its sole discretion, in revised form. Upon the Credit Customer's request, SPP will provide a written explanation of why SPP did not accept that Credit Customer's proposed variation to the form of Surety Bond set forth in Attachment H, Appendix ~~"F" of this Credit Policy~~. The Credit Customer must execute the Credit and Security Agreement with respect to the Surety Bond. Under the Credit and Security Agreement, the Credit Customer grants SPP a first priority security interest in and to any and all proceeds of any and all Surety Bond then existing or thereafter issued with SPP as beneficiary and the Credit Customer as principal under the Surety Bond, including,

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without limitation, the cash issued upon a draw thereon. This security interest secures the prompt payment when due of any and all obligations of the Credit Customer to SPP, provided that the grant of a security interest will not diminish SPP's rights to apply draws on the Surety Bond to pay any and all amounts due.

7.1.5.2 **Ratings of Issuing Surety.** At the time of issuance and at all times the Surety Bond is outstanding, the issuer must be a U.S. Treasury-listed surety with a certificate of authority from the insurance commissioner in each state in which the issuer conducts surety business, with a minimum financial strength rating of an "A" by A.M. Best. If after the Surety Bond has been issued, the financial strength rating of the surety is less than "A" by A.M. Best, SPP may give the Credit Customer notice to submit substitute Financial Security no later than three (3) Business Days after the notice.

7.1.5.3 **Costs.** The applicable Credit Customer will bear all costs of providing and maintaining the Surety Bond.

7.1.5.4 **Substitution of Surety Bond.** The Credit Customer may replace a Surety Bond with a substitute Surety Bond or other Financial Security in form and amount acceptable to SPP. SPP will return the initial Surety Bond upon receipt of an effective and acceptable substitute.

7.1.5.5 **Term and Renewal.** The surety may terminate the Surety Bond upon ninety (90) Calendar Days written notice to SPP; *provided, however,* that: (i) the surety's liability hereunder will survive such termination and remain in full force and effect as to obligations incurred by Credit Customer during the term of the Surety Bond; and (ii) in the event that Credit Customer fails to provide an acceptable form of replacement Financial Security to SPP at least eighty seven (87) Calendar Days prior to the termination of the Surety Bond, the surety will, upon demand, without any notice other than such demand, and without any further action by SPP deliver a Cash Deposit to SPP not later than the next Business Day in the amount of the full remaining value of the Surety Bond as Financial Security for Credit Customer's obligations to SPP.

7.1.5.6 **Limits on Use of Surety Bonds.**

a) To be eligible to provide Surety Bonds on behalf of a Credit Customer the applicable surety must have a Tangible Net Worth of $1 billion or greater.

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b) In no case will SPP accept Surety Bonds with an aggregate value greater than $10 million dollars ($10,000,000) issued by any individual surety on behalf of an individual Credit Customer.

c) SPP will not accept surety bonds with an aggregate value greater than $50 million dollars ($50,000,000) issued by any individual surety.

7.1.5.7 **Use of Surety Bond.** In the event a Credit Customer fails to make any timely payment to SPP, SPP may draw upon the Surety Bond as necessary to satisfy any and all amounts due from the Credit Customer pursuant to the Agreements. In such event, within three (3) Business Days, the Credit Customer must replenish the Surety Bond or provide SPP with other Financial Security in an amount equal to the draw or in such other amount as SPP may require under this Credit Policy, and failure to satisfy this requirement will be a Default under this Credit Policy. In the event of such failure to make timely payment, and in addition to any other remedies available to SPP, SPP may draw down the entire Surety Bond and hold the proceeds in an unsegregated account and apply such proceeds to amounts owed by the Credit Customer to SPP pursuant to the Agreements. The foregoing sentence notwithstanding, upon the Credit Customer's written notice of request, SPP will treat as a Cash Deposit the proceeds of a draw over and above amounts currently due and unpaid and transfer same to a segregated account in accordance with such treatment, provided that the Credit Customer has executed a Credit and Security Agreement.

7.2 **Financial Security Defaults.** In addition to the breaches with respect to Financial Security identified in Attachment H, Sections 7.1.2.3 ~~(failure to replenish Cash Deposit)~~, 7.1.3.6 ~~(failure to replenish Irrevocable Letter of Credit)~~, and 7.1.5.7 ~~(failure to replenish a Surety Bond)~~, any failure by an issuer of an Irrevocable Letter of Credit or Surety Bond, including, without limitation, failure to honor a demand in accordance with the terms thereof, or any breach of a Credit and Security Agreement will be a Default under this Credit Policy and a default under the Markets+ Tariff. A Default under this Credit Policy and a default under the Markets+ Tariff will also occur if: (i) the Financial Security expires or terminates (other than in accordance with its terms or upon the written consent of SPP); (ii) the person issuing the Financial Security disaffirms, disclaims, repudiates or rejects or challenges the validity of all or any part of the Financial Security; or (iii) the Financial Security or any material provision of the Financial Security ceases to be in full force and effect (other than in accordance with its terms or upon the written

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consent of SPP).

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ARTICLE EIGHT
Default and Remedies

8.1 Default. Any of the following will constitute an "Event of Default" under this Credit Policy by a Credit Customer:

8.1.1 Failure to post any required Financial Security under this Credit Policy in the time period specified;

8.1.2 Reserved for Future Use;

8.1.3 Failure to pay in full any amount payable under the Markets+ Tariff, unless cured in accordance with Section 8.3, below ~~of this Credit Policy~~;

8.1.4 A Credit Customer's involvement in financial difficulties as evidenced by: (i) its commencement of a voluntary case under Title 11 of the United States Code as from time to time in effect, or by its authorizing, by appropriate proceedings of its board of directors, general partners or other governing body, the commencement of such a voluntary case; (ii) its filing an answer or other pleading admitting or failing to deny the material allegations of a petition filed against it commencing an involuntary case under said Title 11, or seeking, consenting to or acquiescing in the relief therein provided, or by its failing to controvert timely the material allegations of any such petition; (iii) the entry of an order for relief in any involuntary case commenced under said Title 11; (iv) its seeking relief as a debtor under any applicable law, other than said Title 11, of any jurisdiction relating to the liquidation or reorganization of debtors or to modification or alteration of the rights of creditors, or by its consenting to or acquiescing in such relief; (v) the entry of an order by a court of competent jurisdiction (a) finding it to be bankrupt or insolvent, (b) ordering or approving its liquidation, reorganization or any modification or alteration of the rights of its creditors, or (c) assuming custody of, or appointing a receiver or other custodian for all or a substantial part of its property, and such entry or order will not be vacated or stayed within ninety (90) Calendar Days; (vi) the filing of a petition under Title 11 which will not be vacated within ninety (90) Calendar Days; or (vii) its making an assignment for the benefit of, or entering into a composition with, its creditors, or appointing or consenting to the appointment of a receiver or other custodian for all or a substantial part of its property.

8.1.5 Commission of any other Default specified under this Credit Policy, including Defaults specified in Attachment H, Sections 3.2.2, 5.3.3, 6.3.3, 7.1.2.3., 7.1.3.6, 7.1.5.7, and 7.2.

8.1.6 Except with respect to an event described in Sections 8.1.1 through 8.1.5, above,

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the failure to provide any of the Credit Information required under this Credit Policy in the time periods specified, and the failure to observe or perform any of the material terms or conditions or provisions set forth in this Agreement, and such failure is not cured within two (2) Business Days after notice thereof from SPP. If such failure is a failure to provide any of the Credit Information required under this Credit Policy in the time periods specified, and the failure cannot reasonably be cured within such period, and if the Credit Customer has commenced and is diligently pursuing such cure and provides SPP with adequate assurance of due performance to protect SPP against loss arising from the failure to perform, the Credit Customer may request in writing stating the reasons for the delay and obtain an additional five (5) Business Days if the Credit Customer is a Large Company or a Small Company and ten (10) Business Days if the Credit Customer is a Not-For-Profit after the written notice of Default, as will be necessary for the Credit Customer to cure the failure with all due diligence.

8.2 Notice of Financial Difficulties. Immediately upon the occurrence of an Event of Default as set forth in Section 8.1.4, above ~~of this Credit Policy~~, the Credit Customer will provide notice to SPP and a copy of any pleadings, orders, petitions, agreements or other document initiating or filed in connection with such Event of Default.

8.3 Remedies for Default. Upon the first occurrence of a customer default as described in the Markets+ Tariff or an Event of Default (except as defined in Section 8.1.4, above ~~of this Credit Policy~~) within a twelve (12) -month period, SPP will take no action to suspend any Unsecured Credit Allowance as long as the default is remedied within the specified cure period. Should the first occurrence not be remedied within the specified cure period SPP will suspend any Unsecured Credit Allowance for ninety (90) Calendar Days. Upon the second customer default or Event of Default within a twelve (12) month period, SPP will suspend any Unsecured Credit Allowance for ninety (90) Calendar Days. The suspension will occur even if one or both occurrences were remedied within the specified cure period. SPP may, except to the extent such remedy is limited in this Credit Policy, exercise any rights or remedies it may have at law or in equity, including but not limited to bringing suit or otherwise initiating proceedings for monetary damages, injunctive relief, specific performance, and relief available under the Federal Power Act. If the Event of Default has not been cured by the Credit Customer within two (2) Business Days or as otherwise outlined under Section 8.1.6, above, after the Credit Customer's receipt of notice thereof, ~~or, in the case of failure to pay in full amounts payable under Section 7 of the Tariff, within two (2) Business Days after the Credit Customer's receipt of notice thereof,~~ except as may be precluded under applicable law, SPP may terminate all of the Credit Customer's rights under this Credit Policy. Such termination will not affect any liability of the Credit Customer incurred before and existing as of such termination. In addition, and without prejudice to any other remedies, SPP reserves all rights to terminate service in accordance with the Markets+ Tariff and applicable law.

Upon the first occurrence of an Event of Default as defined in Section 8.1.4, above, ~~of this Credit Policy,~~ SPP will immediately suspend the Credit Customer's Unsecured Credit

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Allowance and may, at SPP's sole discretion, terminate all of the Credit Customer's rights under this Credit Policy and/or terminate service in accordance with the Markets+ Tariff and applicable law. Any such termination will not affect any liability that the Credit Customer incurred prior to and as of such termination. Upon the first occurrence of an Event of Default as defined in Section 8.1.4, above, ~~of this Credit Policy,~~ SPP also may order the Credit Customer to post additional collateral, cease one or more market transactions, or take other measures to protect SPP and other Market Participants from the Credit Customer's Default.

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ARTICLE NINE
Notice

9.1 Designation of Credit Contact. Each Credit Customer will in writing designate a management level official as the person responsible for the Credit Customer's credit-related matters under this Credit Policy ("Credit Contact"), which designation may be changed from time to time in writing, together with contact information including fax, e-mail, and courier delivery address. SPP will seek to effect delivery of notices under the Credit Policy to the Credit Contact in the first instance; however, if delivery to the Credit Contact fails, then SPP may effect delivery to any officer, executive, or manager of the Credit Customer.

9.2 Notices to SPP. Any notice or request made by SPP will be given in writing, by fax, email, hand delivery, reputable overnight courier, or first-class mail, to the Credit Customer's Credit Contact. Notice to SPP will be addressed to:

Southwest Power Pool, Inc.
Credit and Risk Management Department
201 Worthen Drive
Little Rock, AR 72223-4936

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Appendix "A" Credit Application Form

Credit Customer Identification

1.1 Name of the Company as identified in its certificate of formation / incorporation

_____

1.2 Date of formation / incorporation of the Company

_____

1.3 Registration / file number with the applicable Secretary of State's Office

_____

1.4 Please indicate all unique Company identifiers.

Company Ticker Symbol	
Market Cap	
Federal Tax ID Number	
NERC Acronym	
SIC Code	
DUNS Number	

1.5 Address of the registered office of the Company

Country	
Address	
Post Code	
City	
Phone	
Website	

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1.6 Address of the trading office(s) of the Company

Country	
Address	
Post Code	
City	
Phone	
Website	

1.7 Please list any Affiliates, including subsidiary companies of which your Company owns greater than 10%, that participate in Markets+ or any Independent System Operator or Regional Transmission ~~Operator~~ Organization (ISO/RTO) markets.

Affiliates	Markets+ / ISO / RTO

1.8 What is the main business of your Company (if stated in the Company's certificate of incorporation, limited liability company agreement, partnership agreement or other applicable corporate governing documents)?

1.9 Please include a copy of your Company's Articles of Incorporation, Articles of Organization or similar documents.

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Board, Shareholder, and Management Information

2.1 Please list board members (if applicable).

Full Name	Business Mailing Address

2.2 Please list any legal representatives (executive officers such as CEO, CFO, CRO, etc.) authorized to sign an agreement with SPP on behalf of the Company.

Full name	Authorized to sign?	Business Mailing Address	Tenure with Company
	☐ alone ☐ jointly		
	☐ alone ☐ jointly		
	☐ alone ☐ jointly		

2.3 Please state your Company's shareholders/owners and indicate their respective share or ownership percentage (>10%).

Full name	Percentage	Business Mailing Address

2.4 Please provide the following information for each individual, if any, who, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, owns 25% or more of the equity interests of the Company.

Full name	Business Mailing Address

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2.5 Please list the persons responsible, respectively, for payment of invoices, compliance, credit, trading activity and questions about this form.

Full name	Business Mailing Address	Contact details (business e-mail address and business phone number)
Payments:		
Compliance:		
Credit:		
Trading:		
Questions about responses on this form:		

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SPP Market Participation

3.1 Please indicate which of SPP's products your Company transacts or intends to transact and include an estimate of the annual volumes by product (in MWh).

Real-~~Time~~ time Energy	
Day-Ahead Energy	
Virtual Energy	

3.2 Please list forms of credit your Company intends to utilize to support trading exposure.

Cash (See Section 7.1.2 and Appendix B)	
Irrevocable Letter of Credit (See Section 7.1.3 and Appendices B and C)	List Bank Counterparty
Corporate Guarantee (See Section 3.1.3, Article Six, and Appendix D)	List Potential Guarantor
Surety Bond (See Section 7.1.5 and Appendices B and F)	List Issuing Surety

3.3 List your Company's financial auditors and their addresses.

_____

3.4 Please provide audited financial statements for the Company for the last three years, including any current third-party credit ratings.

_____

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Loss Contingencies and Judgments

4.1 Has your Company (or an Affiliate), in the last five years: a) consented to the appointment of, or was taken in possession by, a receiver, trustee, custodian or liquidator of a substantial part of its assets, b) filed a bankruptcy petition in any bankruptcy court proceeding, c) answered, consented, or sought relief under any bankruptcy or similar law or failed to obtain a dismissal of an involuntary petition, d) admitted in writing its inability to pay its debts when due, e) made a general assignment for the benefit of creditors, f) been the subject of an involuntary proceeding seeking to adjudicate the Company (or affiliate) bankrupt or insolvent, g) sought reorganization, arrangement, adjustment, or composition of it or its debt under any law relating to bankruptcy, insolvency, or reorganization or relief of debtors?

_____

4.2 If yes to any question in 4.1, please provide a description of proceedings including applicable docket or case numbers.

_____

4.3 Has your Company (or one or more of its affiliates), in the last five years, been found in violation of SEC, OCC, FERC, or CFTC requirements or any other federal or state regulation or law regarding energy commodities? Additionally, if not found in violation of such regulations and/or laws, has your Company (or its affiliates) publicly settled allegations of violation with the applicable regulatory authority and/or paid fines related to activity in energy commodities?

4.4 If yes to any question in 4.3, please provide a description of proceedings including applicable docket or case numbers.

_____

4.5 Has your Company ever failed to cure an unpaid invoice from any RTO/ISO in the last 5 years, or been found to be in default by an RTO/ISO, or been either suspended or expelled (i.e., had its participation revoked) from an ISO/RTO?

4.6 If yes to any question in 4.5, please provide an explanation of the situation, its outcome, and all other relevant factors associated with the event (including applicable docket or case numbers).

_____

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Signatures

The undersigned is duly authorized to declare and does hereby declare in good faith that all information, answers and documents provided with this Questionnaire are true, correct and authentic and that no relevant information is omitted.

Place	Date	Print Name: Title:
Signature		

Subscribed and sworn before me _____, a notary public of the State of _____, in and for the County of _____, this __ day of _____, 20_____.

_____

(Notary Public Signature)
My commission expires:__/__/__

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Additional Not-For-Profit Questions

Additional sheets may be added to fully answer the following questions.

1. **Does your company have the ability to set its own rates? If yes, please attach any documentation that will show that ability.**

2. **What are the terms and expiration dates of your company's wholesale power contracts?**

3. **How many customers do you serve directly? When considering your five largest customers that you directly serve, what percentage of your load do they represent?**

4. **Please describe your power supply portfolio and how it is used to meet your load. What percent of your load is secured by asset ownership or purchase power contracts? Are these assets or contracts long-term in nature? What are the expiration dates of your contracts? What is the fuel mix of your power supply portfolio? Do you engage in risk management activities? If so, please provide a brief summary of such activities.**

5. **How long has the present management team been in place? Please discuss their experience with the present firm and any previous experience.**

6. **Discuss your ability to access lines of credit from financial institutions.**

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7. **Please discuss any other factors you want to have considered by SPP when assessing creditworthiness. If there are items concerning your financials that need explanation, please provide the explanation here.** If your company receives capital credits, please provide the associated cash portion of such capital credits, as well as the information needed to compute such an amount from your most recent audited financials.

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Appendix "B" Credit and Security Agreement

This Credit and Security Agreement is effective as of the _____ day of _____, 20__, by and between _____ ("Company") and Southwest Power Pool, Inc. ("SPP").

Recitals

WHEREAS, SPP offers market services and other services as set out in the Markets+ Tariff of SPP, as may be amended and supplemented from time to time and together with all replacements and substitutes thereto (collectively, the "Tariff");

WHEREAS, SPP maintains a Credit Policy (which is Attachment H to the Tariff, as the same may be amended from time to time) in order to determine, on a case by case basis, the level of unsecured credit available to each customer who takes services under the Tariff and the form and amount of financial assurance to be required by each customer, if any;

WHEREAS, in the event Company provides financial assurance to SPP in the form of Cash Deposit, an Irrevocable Letter of Credit, a Surety Bond, or, for a Credit Customer that is a Federal Power Marketing Agency, a letter as specified in Attachment H, Section 7.1.4 ~~of Attachment H~~, SPP requires Company, in accordance with the terms of its Credit Policy as filed and accepted by FERC, to execute this Credit and Security Agreement in order to assure the strength of SPP's security interest in such Cash Deposit and the proceeds of any Federal Power Marketing Agency Letter, Irrevocable Letter of Credit, or Surety Bond;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by each of the parties hereto, Company and SPP hereby agree as follows:

(1) The "Liabilities" as used in this Credit and Security Agreement means all of the financial obligations of the Company under the Tariff and/or any and all agreements entered into, under, pursuant to, or in connection with the Tariff (including, without limitation, the SPP Credit Policy) and any and all other agreements to which SPP and the Company are parties (collectively, the "Agreements").

(2) As security for the payment and performance of the Liabilities, SPP will have, and the Company hereby grants to SPP, a continuing security interest in the following collateral (as indicated below) (the "Collateral"): all of the Company's right, title, and interest in any and all cash, cash collateral, Cash Deposits and deposit accounts of the Company held or controlled by SPP, including accounts designated "for the benefit of" Company, that either (i) are or contain proceeds from any draw upon any Irrevocable Letter of Credit or Surety Bond naming SPP as beneficiary to the extent that SPP determines in its sole discretion to treat such payments as cash collateral, and without prejudice to SPP's right to treat draws as payments to SPP of any and all amounts due to SPP from the Company, or (ii) are or contain cash submitted by the Company as collateral or security,

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however created or evidenced, whether now existing or hereafter owned, acquired, created, used or arising, including all products and proceeds of the foregoing, any and all renewals, extensions, replacements, modifications, additions, and substitutions of the foregoing and all rights, remedies, claims and demands under or in connection with each of the foregoing.

(3) All Collateral held or controlled by SPP after the date of this Credit and Security Agreement will be free of any lien, security interest or encumbrance, except for liens, security interests or encumbrances in favor of SPP, and the Company agrees not to grant any security interest or permit any lien or encumbrance to arise in any of the Collateral except for security interests, liens and encumbrances in favor of SPP without the prior written consent of SPP.

(4) The Company agrees to do such reasonable acts and things and deliver or cause to be delivered such other documents as SPP may reasonably deem necessary to establish and maintain a valid perfected security interest in the Collateral (free of all other liens and claims except those of SPP) to secure the payment and performance of the Liabilities and to defend title to the Collateral against any person claiming any interest therein adverse to SPP. The Company authorizes SPP to file a financing statement or statements on its behalf in those public offices deemed advisable or necessary by SPP to protect the security interest of the Company herein granted. If permitted by law, the Company agrees that a carbon, photographic or other reproduction of this Credit and Security Agreement or of a financing statement may be filed as a financing statement.

(5) Subject to the Tariff, upon the occurrence of any Default and at any time thereafter, SPP will have all rights and remedies available at law or in equity including, without limitation, the rights and remedies of a secured party under the Arkansas Uniform Commercial Code, as in effect from time to time, including, without limitation, the right to retain and/or take possession of the Collateral. SPP may in its discretion transfer any property constituting Collateral into its own name or that of its nominee and receive the income thereon and hold the same as security for the Liabilities or apply it on amounts due on Liabilities.

(6) Until such time as SPP exercises its remedies upon a Default, all income, earnings and profits with respect to the Collateral will be reported for state and federal income tax purposes as attributable to the Company and not SPP. Company hereby instructs SPP (and any other person authorized to report taxable income distributions) to issue, or cause to be issued, IRS Form 1099 (or Form 1042-S if a non-US person) indicating the Company as the recipient of such income, earnings and profits.

(7) Whenever possible each provision of this Credit and Security Agreement will be interpreted in such a manner as to be effective and valid under applicable law, but if any provision of this Credit and Security Agreement will be prohibited by or invalid under applicable law, such provision will be ineffective only to the extent of such prohibition without invalidating the remainder of such provision or the remaining provisions of this

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Credit and Security Agreement. The Company recognizes that SPP has relied on this Credit and Security Agreement in extending credit to the Company and agrees that such reliance by SPP will be sufficient consideration for this Credit and Security Agreement.

(8) The Company maintains any and all rights under Section 206 of the Federal Power Act it may have with regard to this Credit and Security Agreement or its implementation.

This Credit and Security Agreement will be construed and enforced in accordance with, and governed by, the laws of the State of Arkansas (without giving effect to the principles of conflicts of laws).

_____
Company Name

_____
Authorized Signature

_____
Print Name

_____
Title

SOUTHWEST POWER POOL, INC.
By:

_____
Authorized Signature

_____
Print Name

_____
Title

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Appendix "C" Form of Irrevocable Standby Letter of Credit
Irrevocable Standby Letter of Credit No. _____
Issued: [Date]
Expires at our counter (unless evergreen): [Date]

Ladies and Gentlemen:

We do hereby issue this Irrevocable Non-Transferable Standby Letter of Credit No. _____ by order of, for the account of and on behalf of _____ ("Account Party") and in favor of Southwest Power Pool, Inc. ("Beneficiary" or "SPP") ("Letter of Credit").

This Letter of Credit is irrevocable and is issued, presentable and payable and we guaranty to the Beneficiary of this Letter of Credit that drafts drawn under and in compliance with the terms of this Letter of Credit will be honored on presentation and surrender of certain documents pursuant to the terms of this Letter of Credit.

This Letter of Credit is available in one or more drafts and may be drawn hereunder for the account of Account Party up to an aggregate amount not exceeding $ _____ .00 (United States Dollars _____ and 00/100).

This Letter of Credit is drawn against by presentation to us at our office located at the following address:

_____
_____

of a drawing certificate: (i) Signed by an officer or authorized agent of the Beneficiary; (ii) dated the date of presentation; and (iii) containing one (1) of the following statements:

1. "The undersigned hereby certifies to _____ ("Issuer"), with reference to its Irrevocable Non-Transferable Standby Letter of Credit No. _____, dated _____, issued on behalf of _____ ("Account Party") and in favor of Southwest Power Pool, Inc. ("Beneficiary") that said Account Party has failed to make a payment in accordance with the terms and provisions of one or more of the following, as applicable: SPP's Tariff, as may be amended and supplemented from time to time, together with all replacements and substitutes (the "Tariff"), any and all agreements

   entered into by Account Party under, pursuant to, or in connection with the Tariff and any and all agreements to which Account Party and SPP are parties, as such agreements may be amended and supplemented from time to time, whether now or hereafter executed, and any replacements or substitutions thereof, (collectively, the "Agreements"). The Beneficiary hereby draws upon the Letter of Credit in an amount

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equal to $ _____ (United States Dollars _____ and 00/100)"; or

2. "Aas of the close of business on _____, 20__ (fill in date which is less than eighty-seven (87) Calendar Days before the expiration date of the Letter of Credit), Account Party has failed to renew, replace or amend the Letter of Credit in a manner acceptable to Beneficiary." The Beneficiary hereby draws upon the Letter of Credit in an amount equal to $_____ (United States Dollars _____ and 00/100)"; or

3. "Aa of the close of business on _____, 20__ (fill in date which is more than three (3) Business Days after the Beneficiary has requested that Account Party replace the Letter of Credit because the Issuer's corporate debt is rated less than "A-" by S&P, "A3" by Moody's, "A-" by Duff & Phelps, or "A-" by Fitch), Account Party has failed to replace the Letter of Credit in a manner acceptable to Beneficiary." The Beneficiary hereby draws upon the Letter of Credit in an amount equal to $_____ (United States Dollars _____ and 00/100)".

Beneficiary will have the right, in the event of a draw pursuant to subparagraph (2) or (3) of the immediately preceding paragraph, to draw down the entire face value of the Letter of Credit.

If presentation of any drawing certificate is made on a Bbusiness Dday and such presentations made on or before 10:00 a.m._____ Time, ("Issuer") will satisfy such drawing request on the same Bbusiness Dday. If the drawing certificate is received after 10:00 a.m._____ Time, ("Issuer") will satisfy such drawing request on the next Bbusiness Dday.

It is a condition of this Letter of Credit that it will be automatically extended without amendment for one year from the expiration date hereof, or any future expiration date, unless at least ninety (90) Calendar Days prior to any expiration date we notify you by registered mail or overnight courier that we elect not to consider this Letter of Credit extended for any such period.

This Letter of Credit may be terminated upon Beneficiary's receipt of full payment from the Account Party and Issuer's receipt of a written release from the Beneficiary releasing the Issuer from its obligations under this Letter of Credit.

Disbursements under the Letter of Credit will be in accordance with the following terms and conditions:

1. The amount, which may be drawn by the Beneficiary under this Letter of Credit, will be automatically reduced by the amount of any drawings hereunder.

2. All commissions and charges will be borne by the Account Party.

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3. This Letter of Credit may not be transferred or assigned by the Issuer.

4. This Letter of Credit is irrevocable.

5. Except when the amount of this Letter of Credit is increased this Letter of Credit may not be amended, changed or modified without the express written consent of the Beneficiary and the Issuer. Such consent may be delivered by electronic means including electronic mail to - _____.

6. This Letter of Credit will be governed by the International Standby Practices Publication No. 590 of the International Chamber of Commerce, including any amendments, modifications or revisions thereof ("ISP98"), except to the extent that terms hereof are inconsistent with the provisions of the ISP, in which case the terms of the Letter of Credit will govern. This Letter of Credit will be governed by the internal laws of the state of Arkansas to the extent that the terms of the ISP are not applicable; provided that, in the event of any conflict between ISP98 and such Arkansas laws, ISP98 will control.

_____ _____

[Authorized Signature] [Date]

Name: _____

Title:_____

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Appendix "D" Guaranty Form
GUARANTY AGREEMENT

This Guaranty Agreement (the "Guaranty") is made by _____ ("Guarantor"), a _____ corporation, in favor of Southwest Power Pool, Inc. ("Creditor"), an Arkansas nonprofit corporation.

WHEREAS, one or more direct or indirect subsidiaries of the Guarantor (each referred to individually as "Debtor" and collectively as "Debtors") and the Creditor are parties to certain agreements pursuant to, or in connection with, the Creditor's Markets+ Tariff, whether now existing or hereafter arising in accordance with their respective terms (each referred to individually as "Agreement" and collectively as "Agreements");

WHEREAS, Guarantor is the direct or indirect parent of the Debtor, will receive substantial and direct benefit from the extensions of credit contemplated by the Agreements, and has agreed to enter into this Guaranty to provide assurance for the performance of Debtor's obligations in connection with the Agreements and to induce the Creditor to enter into the Agreements; and

WHEREAS, the execution and delivery of this Guaranty is a condition to Creditor's further performance of its obligations under the terms of the Agreements;

NOW, THEREFORE, in consideration of the promises and other good and valuable consideration, the adequacy, receipt and sufficiency of which are hereby acknowledged, Guarantor hereby agrees as follows:

1. **Guaranty.** Guarantor hereby unconditionally and absolutely guarantees the punctual payment as and when due of Debtor's payment obligations arising under any Agreement, as such Agreement may be amended or modified from time to time, together with any interest thereon to the extent provided in the Agreements (collectively, the "Guaranteed Obligations"). Guarantor's obligations and liability under this Guaranty will be limited to payment obligations only and Guarantor will have no obligation otherwise to perform under any Agreement, including, without limitation, to sell, deliver, purchase, receive, or transmit any electrical energy product or service.

2. **Guaranty Absolute.** The liability of Guarantor under this Guaranty will be absolute and unconditional irrespective of:

   (a) any lack of validity or enforceability of or defect or deficiency in any Agreement or any other documents executed in connection with any Agreement;

   (b) any modification, extension or waiver of any of the terms of any Agreement;

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(c) any change in the time, manner, terms or place of payment of or in any other term of, all or any of the Guaranteed Obligations, or any other amendment or waiver of or any consent to departure from any Agreement or any other agreement or instrument executed in connection therewith;

(d) any sale, exchange, release or non-perfection of any property standing as security for the liabilities hereby guaranteed, or any liabilities incurred directly or indirectly hereunder or any setoff against any of said liabilities, or any release or amendment or waiver of or consent to departure from this Guaranty or any other guaranty, for all or any of the Guaranteed Obligations;

(e) except as to applicable statutes of limitation, failure, omission, delay, waiver or refusal by Creditor to exercise, in whole or in part, any right or remedy held by Creditor with respect to any Agreement or any transaction under any Agreement;

(f) any change in the existence, structure or ownership of Guarantor or any Debtor, or any insolvency, bankruptcy, reorganization or other similar proceeding affecting any Debtor or its assets; or

(g) any other circumstance that might otherwise constitute a defense available to, or a discharge of, any Debtor or any other individual, partnership, joint venture, corporation, association, trust or other enterprise that is a party to any Agreement, or any other agreement or instrument (including any guarantor) in respect of the Guaranteed Obligations, other than payment in full of the Guaranteed Obligations.

The obligations of the Guarantor hereunder are several from any Debtor or any other person, and are primary obligations concerning which the Guarantor is the principal obligor. There are no conditions precedent to the enforcement of this Guaranty, except as expressly contained herein. It will not be necessary for Creditor, in order to enforce payment by Guarantor under this Guaranty, to show any proof of any Debtor's default to exhaust its remedies against any Debtor, any other guarantor, or any other person liable for the payment or performance of the Guaranteed Obligations. Creditor will not be required to mitigate damages or take any other action to reduce, collect, or enforce the Guaranteed Obligations.

This Guaranty will continue to be effective or be reinstated, as the case may be, if at any time any payment of any of the Guaranteed Obligations are annulled, set aside, invalidated, declared to be fraudulent or preferential, rescinded or must otherwise be returned, refunded or repaid by Creditor upon the insolvency, bankruptcy, dissolution, liquidation or reorganization of Debtor or any other guarantor, or upon or as a result of the appointment of a receiver, intervenor or conservator of, or trustee or similar officer for, Debtor or any other guarantor or

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any substantial part of its property or otherwise, all as though such payment or payments had not been made.

3. **Waiver.** This is a guaranty of payment and not of collection. Guarantor hereby waives:

(a) notice of acceptance of this Guaranty, of the creation or existence of any of the Guaranteed Obligations and of any action by Creditor in reliance hereon or in connection herewith;

(b) notice of the entry into any Agreement between any Debtor and the Creditor and of any amendments, supplements or modifications thereto; or any waiver of consent under any Agreement, including waivers of the payment and performance of the obligations thereunder;

(c) notice of any increase, reduction or rearrangement of any Debtor's obligations under any Agreement or any extension of time for the payment of any sums due and payable to the Creditor under any Agreement;

(d) except as expressly set forth herein, presentment, demand for payment, notice of dishonor or nonpayment, protest and notice of protest or any other notice of any other kind with respect to the Guaranteed Obligations; and

(e) any requirement that suit be brought against, or any other action by Creditor be taken against, or any notice of default or other notice be given to, or any demand be made on, Debtor or any other person, or that any other action be taken or not taken as a condition to Guarantor's liability for the Guaranteed Obligations under this Guaranty or as a condition to the enforcement of this Guaranty against Guarantor.

4. **Expenses.** Notwithstanding and in addition to the limit on Guarantor's liability hereunder set forth in Section 1, Guarantor agrees to pay on demand any and all costs, including reasonable legal fees and expenses, and other expenses incurred by Creditor in enforcing Guarantor's payment obligations under this Guaranty; provided that the Guarantor will not be liable for any expenses of Creditor if no payment under this Guaranty is due.

5. **Subrogation.** Guarantor will be subrogated to all rights of Creditor against the Debtors in respect of any amounts paid by Guarantor pursuant to this Guaranty, provided that Guarantor waives any rights it may acquire by way of subrogation under this Guaranty, by any payment made hereunder or otherwise (including, without limitation, any statutory rights of subrogation under Section 509 of the Bankruptcy Code, 11 U.S.C. § 509, or otherwise), reimbursement, exoneration, contribution, indemnification, or any right to participate in any claim or remedy of the Creditor against any Debtor or any collateral which the Creditor now has or acquires, until all of the Guaranteed Obligations

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will have been irrevocably paid to Creditor in full. If any amount will be paid to the Guarantor on account of such subrogation rights at any time when all the Guaranteed Obligations will not have been paid in full, such amount will be held in trust for the benefit of Creditor and will forthwith be paid to Creditor to be applied to the Guaranteed Obligations. If (a) the Guarantor will perform and will make payment to Creditor of all or any part of the Guaranteed Obligations and (b) all the Guaranteed Obligations will have been paid in full, Creditor will, at the Guarantor's request, execute and deliver to the Guarantor appropriate documents necessary to evidence the transfer by subrogation to the Guarantor of any interest in the Guaranteed Obligations resulting from such payment by Guarantor.

6. **Setoff.** The Creditor is hereby authorized at any time, to the fullest extent permitted by law, to set off and apply any deposits (general or special, time or demand, provisional or final) and other indebtedness owing by the Creditor to or for the account of Guarantor against any and all of the obligations of Guarantor under this Guaranty, irrespective of whether or not the Creditor will have made any demand under this Guaranty or such Agreement and although such obligations may be contingent and unmatured. The Creditor agrees promptly to notify Guarantor after any such set-off and application made by the Creditor provided that the failure to give such notice will not affect the validity of such set-off and application.

7. **Notices.** All demands, notices and other communications provided for hereunder will, unless otherwise specifically provided herein, (a) be in writing addressed to the party receiving the notice at the address set forth below or at such other address as may be designated by written notice, from time to time, to the other party, and (b) be effective upon delivery, when mailed by U.S. mail, registered or certified, return receipt requested, postage prepaid, by express courier with traceable receipt, or personally delivered. Notices will be sent to the following addresses:

If to Creditor:
Southwest Power Pool, Inc.
201 Worthen Drive
Little Rock, AR 72223-4936
Attention: Credit and Risk Management Department

If to Guarantor:

_____
_____
_____
_____

8. **Demand and Payment.** Any demand by Creditor for payment hereunder will be in writing, signed by a duly authorized officer of Creditor and delivered to the Guarantor pursuant to Section 7 hereof, and will (a) reference this Guaranty, (b) specifically

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identify the Debtor, the Guaranteed Obligations to be paid and the amount of such Guaranteed Obligations, and (c) set forth payment instructions. There are no other requirements of notice, presentment or demand. Guarantor will pay, or cause to be paid, such Guaranteed Obligations within two (2) Bbusiness Ddays of receipt of such demand.

9. **No Waiver; Remedies.** Except as to applicable statutes of limitation, no failure on the part of Creditor to exercise, and no delay in exercising, any right hereunder will operate as a waiver thereof, nor will any single or partial exercise of any right hereunder preclude any other or further exercise thereof or the exercise of any other right. The remedies herein provided are cumulative and not exclusive of any remedies provided by law.

10. **Term; Termination.** This Guaranty will continue in full force and effect for the term of the Agreements. Notwithstanding the foregoing, this Guaranty may be terminated at any time by the Guarantor by providing at least sixty (60) Calendar Days prior written notice to Creditor; provided, however, upon termination hereof, Guarantor agrees that the obligations and liabilities hereunder will continue in full force and effect with respect to any Guaranteed Obligations incurred prior to the termination date, and any fees and costs of enforcement in connection herewith.

11. **Assignment; Successors and Assigns.** Creditor may, upon notice to Guarantor, assign its rights hereunder without the consent of Guarantor. Guarantor may assign its rights hereunder with the prior written consent of Creditor, which consent will not be unreasonably withheld. Subject to the foregoing, this Guaranty will be binding upon and inure to the benefit of the parties hereto and their respective successors, permitted assigns, and legal representatives.

12. **Amendments, Etc.** A written amendment executed by the Guarantor only may (a) increase the guaranty limit specified in Section 1 and/or (b) extend the termination date of this Guaranty. No other amendment of this Guaranty will be effective unless in writing and signed by Guarantor and Creditor. No waiver of any provision of this Guaranty nor consent to any departure by Guarantor therefrom will in any event be effective unless such waiver will be in writing and signed by Creditor. Any such waiver will be effective only in the specific instance and for the specific purpose for which it was given.

13. **Captions.** The captions in this Guaranty have been inserted for convenience only and will be given no substantive meaning or significance whatsoever in construing the terms and provisions of this Guaranty.

14. **Representation and Warranties.**

The Guarantor represents and warrants as follows:

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(a) the Guarantor is duly organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation and has full corporate power to execute, deliver and perform this Guaranty. This representation is evidenced by a copy of the resolution(s) of the board of directors or other governing body of the Guarantor authorizing this Guaranty, which is attached to and made a part of this Guaranty;

(b) the execution, delivery and performance of this Guaranty have been and remain duly authorized by all necessary corporate action and do not contravene the Guarantor's constitutional documents or any contractual restriction binding on the Guarantor or its assets;

(c) this Guaranty is not in violation of other undertakings or requirements applicable to Guarantor, and is enforceable against the Guarantor in accordance with these terms;

(d) this Guaranty constitutes the legal, valid and binding obligation of the Guarantor enforceable against Guarantor in accordance with its terms, subject, as to enforcement, to bankruptcy, insolvency, reorganization and other laws of general applicability relating to or affecting Creditor's rights and to general equity principles; and

(e) the audited financial statements of Guarantor for the most recent fiscal year and the unaudited financial statements of Guarantor for the most recent quarter (the "Financial Statements"), heretofore delivered to Creditor, filed with the United States Securities Exchange Commission by Guarantor present fairly the financial condition and results of operations of Guarantor and its consolidated subsidiaries as of the dates and for the period specified therein in conformity with United States generally accepted accounting principles, and, except as otherwise expressly stated therein, consistently applied. Except as expressly stated to Creditor in writing, there has been no Material Adverse Change, as that term is defined in the Creditor's Markets+ Tariff, in the financial condition of Guarantor and its consolidated subsidiaries since the dates of the Financial Statements.

15. **Limitation by Law.** All rights, remedies and powers provided in this Guaranty may be exercised only to the extent that the exercise thereof does not violate any applicable provision of law, and all the provisions of this Guaranty are intended to be subject to all applicable mandatory provisions of law that may be controlling and to be limited to the extent necessary so that they will not render this Guaranty invalid, unenforceable, in whole or in part, or not entitled to be recorded, registered or filed under the provisions of any applicable law.

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16. **GOVERNING LAW; SUBMISSION TO EXCLUSIVE JURISDICTION. THIS GUARANTY WILL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF ARKANSAS AND ANY APPLICABLE FEDERAL LAW. TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE PARTIES HERETO HEREBY SUBMIT TO THE EXCLUSIVE JURISDICTION OF ANY ARKANSAS STATE COURT SITTING IN PULASKI COUNTY, ARKANSAS, OR THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF ARKANSAS, FOR THE PURPOSES OF ALL LEGAL PROCEEDINGS ARISING OUT OF OR RELATING TO THIS GUARANTY OR THE TRANSACTIONS CONTEMPLATED HEREBY. THE PARTIES HEREBY WAIVE ANY OBJECTION TO VENUE INPULASKI COUNTY, ARKANSAS, AND ANY OBJECTION TO ANY ACTION OR PROCEEDING ON THE BASIS OF FORUM NON CONVENIENS.**

IN WITNESS WHEREOF, Guarantor has caused this Guaranty to be duly executed and delivered by its duly authorized officer effective as of this ___ day of _____, _____ ("Effective Date").

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[GUARANTOR]

By: _____
Name: _____
Title: _____

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Appendix "E" Annual Minimum Market Participation Criteria and Risk Management Certification Form

SPP ANNUAL MINIMUM MARKET PARTICIPATION CRITERIA – RISK MANAGEMENT CERTIFICATION FORM

I, _____, a duly authorized officer of _____ ("Market Participant"), understanding that Southwest Power Pool, Inc. ("SPP") is relying on this certification as evidence supporting SPP's determination that Market Participant meets the risk management and minimum market participation requirements as set forth in Attachment H to SPP's Markets+ Tariff ~~("Tariff")~~, hereby certify that I have full authority to certify and represent on behalf of Market Participant and further certify and represent as follows:

1. Training. Employees or agents transacting in markets or services provided pursuant to the Markets+ Tariff on behalf of the Market Participant have received, or will receive, applicable training with regard to their participation under the Markets+ Tariff as a condition of being authorized to transact on behalf of Market Participant. As used in this representation, training is deemed 'applicable' where it is commensurate and proportional in sophistication, scope and frequency to the volume of transactions and the nature and extent of the risk taken by the Market Participant.

2. Risk Management. Market Participant maintains current written risk management policies and procedures that address those risks that could materially affect Market Participant's ability to pay its SPP invoices when due, including, but not limited to, credit risks, liquidity risks and market risks.

3. Operational Capabilities. Market Participant has available appropriate personnel resources, operating procedures, and technical abilities to promptly and effectively respond to SPP communications and directions related to, but not limited to, settlements, billing, credit requirements and other financial matters.

4. Minimum Participation Criteria. Market Participant meets or exceeds the minimum market participation criteria, including capitalization requirements, as specified in Attachment H, Section 3.1.1.8 ~~of Attachment H of the Tariff~~. The Market Participant will submit audited financial statements for the most recent fiscal year to demonstrate minimum Tangible Net Worth or minimum total assets, or provide a report produced by a Rating Agency to establish its Credit Rating as specified in Attachment H, Section 3.1.1.8.2. In the event the Market Participant is unable to meet at least one of these minimum financial requirements, the Market Participant will maintain with SPP the amount of Financial Security required by Attachment H, Section 3.1.1.8.2(e) ~~of Attachment H to the Tariff~~.

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Date: _____

(Signature)

Print Name: _____

Title: _____

Subscribed and sworn before me _____, a notary public of the State of _____ _____, in and for the County of _____, this __ day of _____, 20____.

_____

(Notary Public Signature)
My commission expires: _____

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Appendix ~~"~~F~~"~~ Form of Surety Bond

Surety Bond No._____

THIS SURETY BOND is issued on **[date]** by **[full legal name of surety]** ("Surety") on behalf of **[full legal name of SPP customer]** ("Principal"), and in favor of Southwest Power Pool, Inc. ("SPP"). Capitalized terms used and not otherwise defined herein will have the meaning ascribed to those terms in SPP's Markets+ Tariff ~~(the "Tariff")~~.

WHEREAS, Principal seeks to satisfy credit or security requirements established in the Markets+ Tariff; and

WHEREAS, Surety is U.S. Treasury-listed with a minimum "A" rating from A.M. Best and has agreed, in exchange for compensation provided by Principal, to provide this Surety Bond on behalf of Principal in accordance with SPP's credit requirements;

NOW, THEREFORE, in consideration of the mutual promises and covenants herein contained, Surety hereby agrees and covenants as follows:

1. Amount of Bond. Surety unconditionally and irrevocably agrees to pay SPP amounts not to exceed an aggregate of **[amount]**, in accordance with the terms of this Surety Bond.

2. Payment Upon Demand. Surety will pay such amount as specified by SPP upon receipt of a demand for payment notice ("Demand for Payment Notice"). Such Demand for Payment Notice will be: (i) signed by an officer or authorized agent of SPP, (ii) dated the date of presentation, and (iii) be in the form as set forth in Exhibit A, Exhibit B, or Exhibit C, as applicable.

3. Validation. SPP may demand payment pursuant to this Surety Bond without prior demonstration of the validity of the demand.

4. Multiple Draws. SPP may demand multiple payments pursuant to this Surety Bond; *provided, however*, that the total amount of Surety's obligation hereunder will not exceed an aggregate of **[amount]**.

5. Time and Form of Payment. Surety will pay amounts owed pursuant to this Surety Bond in full not later than the first ~~b~~Business D~~d~~ay following receipt of SPP's written demand for payment to the account designated therein.

6. Obligations Unconditional. This Surety Bond is not conditioned upon SPP first attempting to collect payment, resorting to any other means of security or collateral, or pursuing any other remedies it may have. The obligations of Surety hereunder are independent of the obligations of Principal, and SPP may bring an action against Surety without bringing an

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action against Principal. SPP may from time to time, without notice or demand, and without affecting Surety's liability hereunder, take and hold other security for Principal's obligations to SPP and exchange, waive, release, or apply such security as SPP deems appropriate in its sole discretion. Surety's liability under this Surety Bond is not conditioned upon the validity or enforceability of Principal's obligations to SPP.

7. Term of Surety Bond. The term of this Surety Bond will begin on the date of its issuance, as set forth above, and will continue in full force and effect until all amounts owed by Principal pursuant to the Agreements, as that term is defined in the Markets+ Tariff, are paid in full, including any amounts owed as a result of true-ups or other corrections to previous settlements; *provided, however,* that Surety may terminate this Surety Bond as provided in Paragraph 8, below.

8. Termination. Surety may terminate this Surety Bond upon ninety (90) Calendar Days written notice to SPP; *provided, however,* that: (i) Surety's liability hereunder will survive such termination and remain in full force and effect as to obligations incurred by Principal during the term of this Surety Bond; and (ii) in the event that Principal fails to provide an acceptable form of replacement Financial Security to SPP at least eighty seven (87) Calendar Days prior to the termination of this Surety Bond, Surety will, upon demand, without any notice other than such demand, and without any further action by SPP deliver Cash Deposit to SPP not later than the next Business Day in the amount of the full remaining value of this Surety Bond as security for Principal's obligations to SPP. A Cash Deposit provided to SPP by Surety and not applied by SPP to satisfy unpaid obligations of Principal will be returned to Surety at such time as: (i) Principal provides adequate replacement Financial Security to SPP or (ii) all amounts owed by Principal to SPP are paid in full, including amounts owed as a result of true-ups or other corrections to previous settlements.

9. Principal Pays Bond Costs. Principal will pay all commissions and charges for this Surety Bond. Principal's failure to pay any such charges will not be grounds for termination of this Surety Bond, except as provided in Paragraph 8, above.

10. Expenses. Surety will pay all reasonable costs incurred by SPP in the enforcement of this Surety Bond, including attorney fees and expenses. Surety's obligation to pay such costs will be in addition to other amounts owed pursuant to this Surety Bond and will not be limited by the maximum stated amount of this Surety Bond.

11. Communications. Demands, notices, and other communications will be deemed effective when received, will be in writing, and will be delivered by courier with receipt of delivery or by registered mail or certified mail- to the following addresses:

a. If to Surety:

[Surety notice address]

b. If to SPP:

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Attn: Credit and Risk Management Department
Southwest Power Pool, Inc.
201 Worthen Drive
Little Rock, AR 72223-4936

c. If to Principal:
[Principal notice address]

Surety, SPP, or Principal may change the address provided for receipt of communications pursuant to this Surety Bond by providing written notice to the other parties.

12. Representations and Warranties. Surety represents and warrants to SPP that:

a. Surety has the legal power to execute and deliver this Surety Bond and to perform in accordance with its terms. All necessary actions have been taken to authorize the execution and delivery of this Surety Bond and performance in accordance with its terms. This Surety Bond is a legal, valid, and binding obligation of Surety.

b. There is no action or proceeding pending or, to Surety's knowledge, threatened before any court, arbitrator, or governmental agency that may materially adversely affect Surety's ability to perform its obligations under this Surety Bond.

c. There is no fact that Surety has not disclosed in writing to SPP of which Surety is aware or which Surety can reasonably foresee that would materially adversely affect Surety or the ability of Surety to perform its obligations hereunder.

13. Assignment. SPP may assign its rights under this Surety Bond without in any way diminishing Surety's obligations hereunder. Surety will not be permitted to assign or transfer its rights under this Surety Bond without prior written consent of SPP.

14. Amendment and Waiver. The terms and provisions of this Surety Bond may not be amended or waived except in a writing signed by SPP and Surety. Election not to exercise, failure to exercise, or delay in exercising any rights under this Surety Bond will in no way operate as a waiver of any rights of SPP under this Surety Bond.

15. Entire Agreement. This Surety Bond embodies the entire agreement between Surety and SPP with respect to the matters set forth herein and supersedes all prior such agreements.

16. Severability. Should any provision of this Surety Bond be determined by a court of competent jurisdiction to be unenforceable, all of the other provisions will remain effective.

17. Choice of Law; Jurisdiction; Venue; and Service of Process. This Surety Bond will be governed by the laws of the State of Arkansas without regard to conflict of laws principles. Surety irrevocably submits to the jurisdiction of any Arkansas court or any United States court sitting in Arkansas over any action or proceeding arising out of or relating to this Surety Bond and irrevocably agrees that all claims in such action or proceeding may be heard and determined by such court. Surety agrees that a final judgment in any such action or proceeding

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will be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law. Surety waives any objection to venue on the basis of forum non conveniens. Surety irrevocably consents to the service of process in any action or proceeding by the mailing of copies of such process to Surety at its address set forth herein. Nothing herein will affect the right of SPP to bring any action or proceeding against Surety or its property in the courts of any other jurisdictions.

18. Waiver of Jury Trial. SURETY IRREVOCABLY, VOLUNTARILY, AND WITH ADVICE OF COUNSEL WAIVES ANY RIGHTS IT MAY HAVE TO A TRIAL BY JURY IN ANY ACTION ARISING IN CONNECTION WITH THIS SURETY BOND.

IN WITNESS WHEREOF, Surety has executed and delivered this Surety Bond this **[date]**.

[Full Legal Name of Surety]

By: _____

Name: _____
Title: _____

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EXHIBIT A

(Form of Demand for Payment Notice – Principal Failure to Make Payment)

[Date][1]

[Name and Address of Surety][2]

Re: Surety Bond No. _____
Demand for Payment

To the above named Surety:

The undersigned hereby certifies to [**full legal name of surety**] ("Surety"), with reference to its Surety Bond No. [**bond number**], dated [**execution date of Surety Bond**], issued on behalf of [**full legal name of SPP customer**] ("Principal") and in favor of Southwest Power Pool, Inc. ("SPP") that Principal has failed to make payment in accordance with the terms of the Agreements as defined in SPP's Markets+ Tariff. SPP hereby demands payment in the amount of $ [**amount**] in accordance with the following instructions.

[Wiring Instructions]

Southwest Power Pool, Inc.

By: _____[3]

Name: _____

Title: _____

_____

[1] The date of the Demand for Payment Notice must be the date for which presentation of the Notice is made.

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[2] This will be the address of the Surety as set forth in the Surety Bond.

[3] The undersigned must be an officer or authorized agent of SPP.

EXHIBIT B

(Form of Demand for Payment Notice – Principal Failure to Provide Acceptable Security)

[Date][4]

[Name and Address of Surety][5]

Re: Surety Bond No. _____
Demand for Payment

To the above named Surety:

The undersigned hereby certifies to [**full legal name of surety**] ("Surety"),with reference to its Surety Bond No. [**bond number**], dated [**execution date of Surety Bond**], issued on behalf of [**full legal name of SPP customer**] ("Principal") and in favor of Southwest Power Pool, Inc. ("SPP") that as of the close of business on [**date**] [**date less than eighty-seven (87) Calendar Days before the expiration of the Surety Bond**],[6] Principal has failed to renew, replace, or amend this Surety Bond in satisfaction of the credit requirements established pursuant to SPP's Markets+ Tariff. SPP hereby demands payment in the amount of $ [**amount**] in accordance with the following instructions.

[Wiring Instructions]

Southwest Power Pool, Inc.

By: _____[7]

Name: _____

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Title: _____

_____

[4] The date of the Demand for Payment Notice must be the date for which presentation of the Notice is made.

[5] This will be the address of the Surety as set forth in the Surety Bond.

[6] Insert date less than eighty-seven (87) Calendar Days prior to expiration of the Surety Bond.

[7] The undersigned must be an officer or authorized agent of SPP.

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EXHIBIT C

(Form of Demand for Payment Notice – Surety Rating Downgrade)

[**Date**] [8]

[**Name and Address of Surety**] [9]

Re: Surety Bond No. _____
Demand for Payment

To the above named Surety:

The undersigned hereby certifies to [**full legal name of surety**] ("Surety"),with reference to its Surety Bond No. [**bond number**], dated [**execution date of Surety Bond**], issued on behalf of [**full legal name of SPP customer**] ("Principal") and in favor of Southwest Power Pool, Inc. ("SPP") that as of the close of business on [**date**] **[date more than three (3) Business Days after SPP has requested that Principal replace the Surety Bond because the Surety's rating by A.M. Best is less than "A"]**, Principal has failed to replace this Surety Bond in a manner acceptable to SPP. SPP hereby demands payment in the amount of $ [**amount**] in accordance with the following instructions.

[**Wiring Instructions**]

Southwest Power Pool, Inc.

By: _____ [10]

Name: _____

Title: _____

_____

[8] The date of the Demand for Payment Notice must be the date for which presentation of the Notice is made.

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[9] This will be the address of the Surety as set forth in the Surety Bond.

[10] The undersigned must be an officer or authorized agent of SPP.

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ATTACHMENT I
Distribution of Other Revenues

Adjustments To Revenue Allocations in the Event of Market Participant Non-Payments

If the amounts collected by SPP for Market Services are insufficient to fully pay the providers of Market Services, then the following procedures apply:

A. Definitions

The following definitions apply in this Attachment I. Capitalized terms used in this Attachment I and not defined herein will be given the meaning assigned to them under the Markets+ Tariff.

1. **Credit Support Documents:** Any agreement or instrument in any way guaranteeing or securing any or all of a Market Participant's obligations under the Markets+ Tariff (including, without limitation, the Credit Policy in Attachment H ~~to this Tariff~~), any agreement entered into under, pursuant to, or in connection with the Markets+ Tariff ~~or any agreement entered into under, pursuant to, or in connection with the Markets+ Tariff~~ or the Credit Policy, and/or any other agreement to which SPP and Market Participant are parties, including, without limitation, any Guaranty, Letter of Credit, Credit and Security Agreement (~~Attachment~~ Appendix "B" to the Credit Policy in Attachment H ~~to this Tariff~~) or agreement granting a security interest.
2. **Default:** Any default under Attachment H, Article 8 or otherwise under the Credit Policy.
3. **Defaulting Market Participant:** A Market Participant that defaults under Attachment H, Article 8 of the Credit Policy.
4. **FERC:** The Federal Energy Regulatory Commission.
5. **Market Services:** Services taken and/or provided pursuant to the Markets+ Tariff.
6. **Non-Defaulting Market Participants:** Market Participants, other than the

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Defaulting Market Participant, who conducted business in the market during the time covered by the invoice(s) containing the Unpaid Obligation.

7. **Unpaid Obligation:** An unpaid past due amount of an invoice for Market Services for which SPP does not reasonably expect payment in full and which SPP has declared to be an Unpaid Obligation.

8. **Uncollectible Obligation:** An Unpaid Obligation that has not been paid within ninety (90) days after SPP declared an invoice an Unpaid Obligation, or sooner, should by any means the Market Participant~~'s Service~~ Agreement be terminated.

B. General

SPP will only be required to remit to providers of Market Services the revenues that it has collected, without dispute, under the Tariff ~~for Market Services~~, as applicable.

C. Procedures for Non-Payment of Amounts Invoiced for Market Services

1. The following procedures apply to ~~d~~Defaults in payment of amounts invoiced for Market Services. At such time as SPP concludes that SPP does not reasonably expect payment in full of an unpaid past due amount, which SPP may conclude as early as within one (1) day after the due date, then SPP will declare such unpaid past due amount to be an Unpaid Obligation. SPP will notify Market Participants of the declaration of an Unpaid Obligation. Such notification will identify the Defaulting Market Participant, the amount of the Unpaid Obligation, the applicable week(s) of service for which the Defaulting Market Participant was initially invoiced the Unpaid Obligation, and the future billing week(s) in which SPP will, because of the Unpaid Obligation, reduce the revenues to be paid to all Non-Defaulting Market Participants who conducted business in the market during the time covered by the invoice applicable to the Unpaid Obligation.

SPP will then make reduced payments on the corresponding payout date to the Non-Defaulting Market Participants receiving revenues for Market Services associated with the Unpaid

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Obligation. A payment to a Non-Defaulting Market Participant will be reduced in amount equal to such Non-Defaulting Market Participant's pro rata share of the Unpaid Obligation.

Upon the earliest feasible date after declaring an Unpaid Obligation, SPP will, at its discretion, take the following additional steps: (i) identify and segregate all funds held by SPP with respect to the Defaulting Market Participant; (ii) recover the Unpaid Obligation by drawing upon the entire amount of collateral provided by the Defaulting Market Participant, provided that any amount of the Unpaid Obligation not paid by such draw will continue to be an Unpaid Obligation; (iii) seek to recover the Unpaid Obligation from any guarantor of the Defaulting Market Participant's obligations; (iv) seek to exercise other remedies under the Credit Support Documents provided by the Defaulting Market Participant; and (v) pursue other available remedies for Defaults, including, without limitation, initiating a filing with FERC to terminate the ~~Service~~ Market Participant Agreement of the Defaulting Market Participant. SPP may deviate from steps (i) through (v), including omission of steps and use of other measures as SPP may determine, in its discretion, are appropriate to maximize collection, minimize collection costs, and produce cost effective collection efforts relative to, for example, the likelihood of collection of the Unpaid Obligation.

Any amounts received by SPP pursuant to this Section C.1. ~~of this Attachment I~~ will be applied to reduce the amount of the Unpaid Obligation if those amounts are received prior to the issuance of a notice to cure the Default. After the notice to cure is issued, Section C.2.~~, below, of this Attachment I~~ will apply.

2. Payments by Defaulting Market Participants of Unpaid Obligations.

This Attachment I, Section ~~I.~~C.2 applies to amounts invoiced to Market Participants for Market Services only.

After SPP has declared an Unpaid Obligation, SPP will send the Defaulting Market Participant a

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notice to cure the Default as specified in Attachment H, Section 8 ~~of the SPP Credit Policy~~. The Defaulting Market Participant must take the following steps to cure its Default: (i) pay all unpaid obligations to SPP, including, without limitation, the amount of the Unpaid Obligation, interest, and enforcement and collection costs; and (ii) meet the creditworthiness requirements of SPP, including, without limitation, any additional financial assurances that may be required by SPP given the Defaulting Market Participant's prior Default.

In the event the Defaulting Market Participant attempts to cure its Default by making partial payment of the Unpaid Obligation, the partial payment will not be applied to reduce the Unpaid Obligation but will instead be segregated from other SPP funds. Such segregated partial payments will accumulate until the full amount of the Unpaid Obligation is cured by a series of two or more partial payments. In the event SPP determines that the Unpaid Obligation is uncollectible pursuant to this Section C.2. ~~of this Attachment I~~ and is an Uncollectible Obligation, the segregated partial payments along with any interest will be applied using the formula set forth in Section C.3.b., below ~~of this Attachment I~~, and the funds will be distributed as described in Section C.3.c., ~~below of this Attachment I~~.

In the event the full amount of the Unpaid Obligation is paid by the Defaulting Market Participant prior to SPP declaring the Uncollectible Obligation, those revenues will be distributed to Market Participants in the same percentages as the previous reduction of revenues associated with the Unpaid Obligation.

3. Uplift. This Section C.3 ~~of this Attachment I~~ applies to amounts invoiced to Market Participants for Market Services only. Ninety (90) Calendar ~~d~~Days after declaring an invoice an Unpaid Obligation or sooner, should by any means the Defaulting Market Participant 's Market Participant ~~'s Service~~ Agreement be terminated, SPP will declare that Unpaid Obligation an Uncollectible Obligation. SPP will proceed to recover the Uncollectible Obligation from all Market Participants who conducted business in the market during the period covered by

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the invoice(s) associated with the Uncollectible Obligation(s) on a pro rata basis, with the amount of the Uncollectible Obligation adjusted by the amount of the Unpaid Obligation recovered pursuant to Section C.1., above ~~of this Attachment I~~ and partial payments pursuant to Sections C.2., above ~~of this Attachment I~~.

a. Eligibility for Share of Uncollectible Obligation.

The Uncollectible Obligation will be allocated by SPP to all Non-Defaulting Market Participants that had been invoiced by SPP during the same period of time as the unpaid invoice(s) of the Defaulting Market Participant whose Unpaid Obligation has been declared an Uncollectible Obligation.

b. Uncollectible Obligation Allocation Methodology.

The formula below is the basis for allocating the Uncollectible Obligation to all Non-Defaulting Market Participants who conducted business in the market during the time covered by the invoice(s) containing the Uncollectible Obligation(s).

% Loss for MP_A =

MP_A Market Charges +
Market Credits in weekly invoicing cycle/
MP_{ALL} (Market Charges + Market Credits) in weekly invoicing cycle.

Loss Obligation of MP_A = ((% Loss for MP_A) x $ Amt of Uncollectible Obligation) minus (-) (Reduction of Payments + Pro rata share of partial payment(s))

Where:

MP = Market Participant

Market Charges = The absolute value of all charge amounts associated with invoices for Market Services.

Market Credits = The absolute value of all credit amounts associated with invoices for Market Services.

MP_{ALL} = All Market Participants other than Market Participants with Uncollectible Obligations.

Reduction of Payment = The amount of the Unpaid Obligation originally assessed to Market Participant as described in Attachment I, Section ~~I.~~ C.1. above.

Pro rata share of partial payment(s) = Any partial payments received during cure period as described in Attachment I, Section ~~I.~~C.2.

All individual charge amounts and all individual credit amounts invoiced for Market Services will be included in the calculation of Market Charges and Market Credits. The Market Charges and Market Credits of Market Participants with Uncollectible Obligations will not be included in the calculation of the percentage of the loss to be allocated to all Non-Defaulting Market Participants that had been invoiced by SPP during the same period of time as the unpaid invoice(s) of the Defaulting Market Participant whose Unpaid Obligation has been declared an Uncollectible Obligation.

c. Application of Recovered Uncollectible Obligation.

Any funds that are attributable to an Uncollectible Obligation that are recovered by SPP (other than amounts recovered by the uplift of the Uncollectible Obligations) after the Uncollectible Obligation has been uplifted pursuant to Section C.3.b., above ~~of this Attachment I~~, will first be applied to satisfy outstanding costs of enforcement and collection of the Unpaid Obligation or Uncollectible Obligation, and any other amount due to SPP under the Markets+

Tariff or any other agreements. Any remaining funds attributable to an uplifted Uncollectible Obligation, together with any remaining interest and late charges collected with respect to the uplifted Uncollectible Obligation, will be distributed pro rata to the Non-Defaulting Market Participants, using the same formula specified under Section C.3.b., above ~~of this Attachment I~~ to whom the Uncollectible Obligation was uplifted and who satisfied their obligation to pay the uplifted Uncollectible Obligation.

ATTACHMENT J
Allocation of Costs Associated with Penalty Assessments

The Market Operator may be assessed penalties under the North American Electric Reliability Corporation ("NERC") Functional Model and NERC Rules of Procedure for confirmed violations of the NERC Reliability Standards, or penalties assessed by FERC or other state, federal, or local government entities to the Market Operator acting in its role as the Market Operator. The purpose of this Attachment is to provide notice to all Market Participants that they may be responsible for penalties assessed against the Market Operator. If the Market Operator determines that Market Participants are responsible for or have directly contributed to, the violations at issue, the Market Operator may seek to directly assign penalty costs to Market Participants. The Market Operator may assign penalty costs to an identified group of the market if the penalty costs are a consequence of the identified group's market participation.

Under this Attachment, the Market Operator may seek, subject to approval by the SPP Board,

recovery of the costs associated with any monetary penalty under Sections 205 or 206 of the Federal Power Act for recovery of penalty costs from one or more Market Participants, an allocation of penalty costs to an individual Market Participant, or among an identified group of Market Participants, or a broad allocation of penalty costs among all Market Participants.

1. Definitions

All defined terms in this Attachment will have the meaning given to them in the ~~Tariff~~Markets+ Tariff unless otherwise stated below.

Federal Government Entity-- A department or agency of the United States.

Former Market Participant – An entity that was a Markets+ Participant at the time that the conduct giving rise to a penalty occurred, but that has since terminated its participation in Markets+.

2. Direct Assignment of Costs Where Violation Can Be Directly Assigned

The purpose of this Section is to provide notice to all Market Participants that they may be responsible for penalty costs assessed against the Market Operator in the event that the Market Participant's conduct or omission(s) contributed to the violation(s) for which a monetary penalty is assessed. This Section provides for notification of the potential direct assignment of penalty costs that may be assessed to the Market Operator. The Market Operator will notify, in writing, any potentially affected Market Participants of an alleged violation as soon as possible. In addition, the Market Operator will invite the affected Market Participant(s) to fully participate in all discussions or proceedings that may lead to the assessment of penalty costs.

If a monetary penalty is assessed against the Market Operator and one or more Market Participants

directly contributed to or is found to have been a "root cause(s)" of the assessment of the penalty costs, such Market Participant(s) may be assessed a portion of or all of the monetary penalty. The Market Operator may not recover any direct assignment of penalty costs until approved by ~~the Federal Energy Regulatory Commission ("FERC")~~ following consideration under Section 205 or Section 206 of the Federal Power Act.

3. Direct Assignment of Costs to Identified Market Participants

The purpose of this Section is to provide notice to all Market Participants that they are potentially responsible for penalty costs assessed in the event that the penalty is a consequence of the Market Participant's participation in Markets+. This includes, but is not limited to, situations where the penalty is a result of a state, regional, or local program. When the penalty is assessed to the Market Operator, the Market Operator will allocate the penalty costs among Market Participants whose market participation rendered the Market Operator subject to the state, regional, or local program penalty costs.

The Market Operator will notify, in writing, any potentially affected Market Participants of a potential penalty as soon as practical. In addition, the Market Operator will invite the affected Market Participant(s) to fully participate in all discussions or proceedings ~~the~~that may lead to the assessment of a penalty.

The Market Operator may not recover any assignment or allocation of costs until approved by ~~the Federal Energy Regulatory Commission ("FERC")~~ following consideration under section 205 or section 206 of the Federal Power Act.

4. Allocation of Costs Where Violation Cannot Be Directly Assigned

The purpose of this Section is to provide notice to all Market Participants that they may be responsible

for penalty costs assessed to the Market Operator that cannot be directly assigned under Section 2 or Section 3 ~~of this Attachment~~herein. This Section provides for allocation of such penalty costs among all Market Participants where the Market Operator itself is assessed a penalty and the penalty is not the result of the actions or participation of any particular Market Participant or group of Market Participants.

The Market Operator will notify, in writing, any potentially affected Market Participants of a potential penalty as soon as practical. In addition, the Market Operator will invite the affected Market Participant(s) to fully participate in all discussions or proceedings that~~the~~ may lead to the assessment of a penalty.

The Market Operator may not recover any assignment or allocation of costs until approved by ~~the Federal Energy Regulatory Commission ("FERC")~~ following consideration under Section 205 or Section 206 of the Federal Power Act..

5. Penalties Allocated or Attributable to Federal Government Entities

Notwithstanding anything in this Attachment to the contrary, Federal Government Entities participating in Markets+ have not waived or conceded any defense they may have, including sovereign immunity, intergovernmental immunity, or lack of subject matter jurisdiction in any action against it by an Enforcement Authority, nor have the Federal Government Entities accepted any liability, responsibility, or obligation to pay any civil monetary penalties or fines imposed by an Enforcement Authority to which it would not have been subject in the absence of this Agreement. "Enforcement Authority" in this Agreement means any entity that may assess a financial penalty to the Market Operator for its operation of the market. The Market Operator does not concede or accept responsibility for any portion of a penalty or fine attributable to the actions or omissions of a Federal Government Entity. The Market Operator will identify the amount of any penalty or fine that the Market Operator allocates to a Federal

Government Entity, or that the Market Operator determines is attributable to a Federal Government Entity, and will identify that amount to FERC as uncollectable and not otherwise owed by the Market Operator.

6. Former Market Participants

A Former Market Participant may still be subject to allocation of a share of penalty costs arising as the result of the Former Market Participant's contribution to the violations at the time of the Former Market Participant's participation in Markets+.

ATTACHMENT K
GREENHOUSE GAS PROGRAMS

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1. Introduction

This Attachment addresses GHG Pricing Programs and GHG Reduction Programs in Markets+.

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2. Type 1A Energy

1.

2.

2.1 A Specified Source Resource must not offer Type 1A Energy in excess of the projected load to which the Type 1A Energy is contracted. An offer of Type 1A Energy will not be treated as Type 1A Energy in Markets+ if it exceeds the projected load to which the Type 1A Energy is contracted.

2.2 A Specified Source Resource offering Type 1A Energy must have transmission service, or be able to demonstrate the ability to procure transmission service, to the load to which the Type 1A Energy is contracted.

2.3 Specified Source Resources that intend to offer Type 1A Energy will provide notification to the Market Operator of the existence of the agreement to supply the GHG Pricing Zone. The Load Responsible Entity must verify the existence of the agreement prior to the Specified Source Resource offering Type 1A Energy in Markets+. Either the Specified Source Resource or the Load Responsible Entity must promptly notify the Market Operator of the renewal or termination of such agreement.

3. Market Clearing Process

3.1 A Specified Source Resource may opt-in to offer Energy into a GHG Pricing Zone by including a Specified GHG Adder in its Resource Offer. In such cases, the Energy will be available to be attributed to the GHG Pricing Zone.

3.2 Participation of Resources relative to a GHG Pricing Zone.

3.2.1 A Specified GHG Adder will be included in the cost of all Energy cleared in Markets+ from an Internal GHG Resource. All Energy cleared in Markets+ from an Internal GHG Resource will be attributed to the GHG Pricing Zone.

3.2.2 A Specified GHG Adder will be included in the cost of all Type 1A Energy cleared in Markets+ and such Energy will be attributed to the GHG Pricing Zone.

3.2.3 A Specified Source Resource may offer Type 1B Energy and Type 2 Energy simultaneously during the same market interval.

3.2.3.1 If Type 1B Energy and Type 2 Energy are offered simultaneously during the same market interval, the quantity of Type 1B Energy offered must be below the Surplus Threshold.

3.2.4 A Specified Source Resource may not offer Type 1A Energy simultaneously with Type 1B Energy or Type 2 Energy.

3.2.5 If Type 1B Energy or Type 2 Energy is attributed to the GHG Pricing Zone, a Specified GHG Adder will be included in the cost of that Energy.

3.2.6 If Type 1B Energy or Type 2 Energy is not attributed to the GHG Pricing Zone, a Specified GHG Adder will not be included in the cost of that Energy.

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3.2.7 The Unspecified GHG Adder will be included in the cost of all Unspecified Source Imports.

3.2.8 Import Interchange Transactions that sink at a load location registered in the GHG Pricing Zone will be attributed to the GHG Pricing Zone.

3.3 A Virtual Energy Offer at a Settlement Location within a GHG Pricing Zone will be treated in the market as having a Specified GHG Adder of zero.

3.4 A Market Participant may submit a Surplus Threshold in its Resource Offer for Type 2 Energy.

3.5 A Market Participant must submit Resource Offer information in accordance with Attachment A, Section 6.9.

3.6 If a Market Participant does not submit a Surplus Threshold for Type 2 Energy in its Resource Offer, the Market Operator will identify the Type 2 Energy's Surplus Threshold by the merit order process.

3.6.1 The merit order process will take into consideration the Resource Offer, excluding the Specified GHG Adder, and will economically stack Energy available to serve an Asset Owner's load obligation until the available capacity, excluding any capacity above the Surplus Threshold identified by the Market Participant under Attachment K, Section 3.44.3, is either exhausted or has met that load obligation. If the available capacity exceeds the Asset Owner's load obligation, then a Surplus Threshold exists.

3.6.2 If there is remaining Type 2 Energy after the merit order process, then the Surplus Threshold for the Type 2 Energy is set at the increment of Energy that exceeds the Aasset Oowner's load obligation.

3.7 For Type 2 Energy, the Market Operator will:

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3.7.1 Calculate the Surplus as the projected dispatch quantity of Energy above the Surplus Threshold for each offer of Type 2 Energy, which is available to supply the GHG Pricing Zone; and

3.7.2 Consider the Surplus quantity determined in Section 3.64.5.1 when dispatching Type 2 Energy to the GHG Pricing Zone.

4. GHG Program Tracking and Reporting

4.1 The Market Operator will provide data as specified in the Markets+ Protocols to support tracking and reporting required by GHG Pricing Programs, GHG Reduction Programs, and other mandatory GHG reporting programs.

4.2 The Market Operator will disclose Confidential Information requested by GHG Pricing Programs, GHG Reduction Programs, and other mandatory GHG reporting programs, only when such information is requested by an Authorized Requestor through the process provided in Attachment A, Section 11.

ATTACHMENT L

FORM OF AGREEMENT FOR PARTICIPATING BALANCING AUTHORITIES IN MARKETS+

1. This Agreement is entered into by and between _____ (Market Operator) and _____ (Balancing Authority) (collectively, the "Parties").

2. The Parties agree to be bound by the requirements applicable to ~~participating~~ Participating Balancing Authorities in the Markets+ Tariff, the Market Operator agrees to provide the services provided in the Markets+ Tariff, and the Parties agree to act in accordance with the provisions of the Markets+ Tariff and to satisfy all obligations under the terms and conditions of the Markets+ Tariff on file with the Federal Energy Regulatory Commission.

3. The Market Operator and the Balancing Authority agree that this Agreement ~~shall~~ will be subject to, and ~~shall~~ will incorporate by reference, all of the terms and conditions of the Markets+ Tariff. In the event of a conflict between this Agreement and the Markets+ Tariff, the Markets+ Tariff will control.

4. Any term not defined herein is defined as provided in the Markets+ Tariff.

5. The Balancing Authority ~~shall~~ must have in effect provisions in its governing documents to enable operation of Markets+ in its Balancing Authority Area in accordance with the Markets+ Tariff.

6. The Balancing Authority is solely responsible for the reliable operation of its Balancing Authority Area(s) consistent with the Reliability Standards established by the Western Electricity Coordinating Council ("WECC") and the North American Electric

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Reliability Corporation ("NERC"). Nothing in this Agreement is intended to change, supersede, or alter the Balancing Authority's obligations to abide by NERC and WECC Reliability Standards.

7. In accordance with the Markets+ Tariff and the Markets+ Protocols, the Balancing Authority will provide information to the Market Operator for Markets+ purposes, including network topology of its Balancing Authority Area, embedded non-participating resources and loads.

8. In accordance with the Markets+ Tariff and the Markets+ Protocols, the Market Operator will provide information to the Balancing Authority as required for the Balancing Authority's management of its Balancing Authority Area.

9. The Balancing Authority represents and warrants that:

(a) This Agreement has been duly authorized following the appropriate processes and approvals within the Balancing Authority, and the signatory below has the appropriate authority to bind the Balancing Authority;

(b) This Agreement is the legal, valid, and binding obligation of the Balancing Authority enforceable in accordance with its terms.

10. The Balancing Authority warrants and covenants that, during the term of this Agreement, the Balancing Authority ~~shall~~ must be in compliance with all applicable federal, state and local laws, rules, and regulations related to the Balancing Authority's performance under this Agreement.

11. Effective Date. This Agreement will become effective on the later of the date of execution of the Agreement by all Parties, or such other date as it is permitted to become effective by the Federal Energy Regulatory Commission. This Agreement may be terminated in accordance with Paragraph 20 below.

12. Notice. Any notice or request made to or by either Party regarding this Agreement ~~shall~~ will be made to the representative of the other Party as indicated below:

Market Operator:

Balancing Authority:

13. Assignments. Either Party may assign or transfer any or all of its rights or obligations under this Agreement with the other Party's prior written consent, and no Party may assign or transfer any or all of its rights or obligations under this Agreement without such consent. Such consent ~~shall~~ must not be unreasonably withheld. Any such transfer or assignment ~~shall~~ must be conditioned upon the successor in interest accepting the rights or obligations under this Agreement as if said successor in interest were an original Party to this Agreement.

14. Governing Law. Federal law, to the extent applicable, ~~shall~~ will govern the terms of this Agreement. To the extent state law applies to any cause of action arising under this Agreement, Arkansas law ~~shall~~ will be the applicable state law. The forum for litigation arising from this Agreement ~~shall~~ will be a state or federal court located in Arkansas.

15. Merger. This Agreement constitutes the complete and final agreement of the Parties with respect to the subject matter hereof and supersedes all prior agreements, whether written or oral, with respect to such subject matter.

16. Severability. Each provision of this Agreement will be considered severable, and if for any reason any provision of this Agreement or the application thereof to any person, entity, or circumstance is determined by a court or regulatory authority of competent jurisdiction to be invalid, void, or unenforceable, then the remaining provisions of this Agreement will continue in full force and effect and ~~shall~~ will in no way be affected, impaired, or invalidated.

17. Cancellation Rights. If ~~the Commission~~FERC or any regulatory agency having authority over this Agreement determines that any part of this Agreement must be

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changed, the Market Operator ~~shall~~ will offer to the Balancing Authority within fifteen (15) days of such determination an amended Agreement reflecting such changes. In the event that the Balancing Authority does not execute such an amendment within thirty (30) days, or longer if the Parties mutually agree to an extension, after ~~the Commission's~~FERC's action, this Agreement and any amended Agreement ~~shall~~ will be void.

18. Electronic Signatures. The Parties agree that this Agreement may be executed by either handwritten signature or digitally signed using Adobe Sign, Adobe E-Sign, or DocuSign. A digital signature is the same as a handwritten signature and ~~shall~~ will be considered valid and acceptable.

19. Counterparts. This Agreement may be executed in one or more counterparts at different times, each of which ~~shall~~ will be regarded as an original and all of which, taken together, ~~shall~~ will constitute one and the same Agreement.

20. Termination. The Balancing Authority may terminate this Agreement no earlier than one hundred eighty (180) days after providing the Market Operator with written notice of the Balancing Authority's intention to terminate. The Market Operator may terminate this Agreement if the Balancing Authority has breached its obligations under this Agreement, in accordance with the procedures specified under Attachment A, Section 10.5 ~~of Attachment A~~ to the Markets+ Tariff, as applicable.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective authorized officials.

Market Operator:	**Balancing Authority:**
By:	By:
Dated:	Dated:
Title:	Title:

ATTACHMENT M

FORM OF AGREEMENT FOR TRANSMISSION SERVICE PROVIDER IN MARKETS+

1. This Agreement is entered into by and between Southwest Power Pool, an Arkansas non-profit entity having its principal executive office in the State of Arkansas ("Market Operator"), and ("Markets+ Transmission Service Provider") (collectively, the "Parties").
2. The Parties agree to be bound by the requirements set forth in the Markets+ Tariff ~~(the "Tariff")~~ on file with the Federal Energy Regulatory Commission. ~~(the "Commission").~~
3. The Market Operator and the Markets+ Transmission Service Provider agree that this Agreement ~~shall~~ will be subject to, and ~~shall~~ will incorporate by reference, all of the terms and

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conditions of the Markets+ Tariff. In the event of a conflict between this Agreement and the Markets+ Tariff, the Markets+ Tariff will control.

4. Any term not defined herein is defined as provided in the Markets+ Tariff.

5. The Markets+ Transmission Service Provider ~~shall~~ must have in effect provisions in any applicable documents, such as its transmission tariff or agreements, to effectuate its obligations in accordance with the Markets+ Tariff.

6. The Markets+ Transmission Service Provider is solely responsible for the reliable operation of its transmission systems consistent with the Reliability Standards established by the Western Electricity Coordinating Council ("WECC") and the North American Electric Reliability Corporation ("NERC"). Nothing in this Agreement is intended to change, supersede, or alter the Markets+ Transmission Service Provider's obligations to abide by NERC and WECC Reliability Standards or to provide open and non-discriminatory transmission access,

7. The Markets+ Transmission Service Provider represents and warrants that:

   (a) This Agreement, or any transaction entered into pursuant to this Agreement, as applicable, has been duly authorized following the appropriate processes and approvals within the Markets+ Transmission Service Provider, and the signatory below has the appropriate authority to bind the Markets+ Transmission Service Provider;

   (b) This Agreement is the legal, valid, and binding obligation of the Markets+ Transmission Service Provider, enforceable in accordance with its terms.

8. The Markets+ Transmission Service Provider warrants and covenants that, during the term of this Agreement, the Markets+ Transmission Service Provider ~~shall~~ must be in compliance with all applicable federal, state, and local laws, rules, and regulations related to the Markets+ Transmission Service Provider performance under this Agreement.

9. Effective Date. This Agreement will become effective on the later of the date of execution of this Agreement by all Parties, or such other date as it is permitted to become effective by ~~the Commission~~FERC. This Agreement will terminate in accordance with Section 18 below.

10. Notice. Any notice or request made to or by either Party regarding this Agreement ~~shall~~ will be

made to the representative of the other Party as indicated below:

Market Operator:

Markets+ Transmission Service Provider:

11. Assignments. Either Party may assign or transfer any or all of its rights or obligations under this Agreement with the other Party's prior written consent, and no Party may assign or transfer any or all of its rights or obligations under this Agreement without such consent. Such consent ~~shall~~ will not be unreasonably withheld. Any such transfer or assignment ~~shall~~ will be conditioned upon the successor in interest accepting the rights or obligations under this Agreement as if said successor in interest were an original Party to this Agreement.

12. Governing Law. Federal law, to the extent applicable, ~~shall~~ will govern the terms of this Agreement. To the extent state law applies to any cause of action arising under this Agreement, Arkansas law ~~shall~~ will be the applicable state law. The forum for litigation arising from this Agreement ~~shall~~ will be a state or federal court located in Arkansas.

13. Merger. This Agreement constitutes the complete and final agreement of the Parties with respect to the subject matter hereof and supersedes all prior agreements, whether written or oral, with respect to such subject matter.

14. Severability. Each provision of this Agreement will be considered severable, and if for any reason any provision of this Agreement or the application thereof to any person, entity, or circumstance is determined by a court or regulatory authority of competent jurisdiction to be invalid, void, or unenforceable, then the remaining provisions of this Agreement will continue in full force and effect and ~~shall~~ will in no way be affected, impaired, or invalidated.

15. Cancellation Rights. If ~~the Commission~~FERC or any regulatory agency having authority over this Agreement determines that any part of this Agreement must be changed, the Market Operator ~~shall~~ will offer to the Markets+ Transmission Service Provider within fifteen (15) days of such determination an amended Agreement reflecting such changes. In the event that the Markets+

Transmission Service Provider does not execute such an amendment within thirty (30) days, or longer if the Parties mutually agree to an extension, after ~~the Commission's~~ FERC's action, this Agreement and any amended Agreement ~~shall~~ will be void.

16. Electronic Signatures. The Parties agree that this Agreement may be executed by either handwritten signature or digitally signed using Adobe Sign, Adobe E-Sign, or DocuSign. A digital signature is the same as a handwritten signature and ~~shall~~ will be considered valid and acceptable.

17. Counterparts. This Agreement may be executed in one or more counterparts at different times, each of which shall be regarded as an original and all of which, taken together, ~~shall~~ will constitute one and the same Agreement.

18. Termination:

(a) The Markets+ Transmission Service Provider may terminate this Agreement no earlier than one hundred eighty (180) days after providing the Market Operator with written notice of the Markets+ Transmission Service Provider's intention to terminate. The Markets+ Transmission Service Provider's provision of notice to terminate service under this Agreement ~~shall~~ will not relieve the Market Operator of its obligation to pay any rates, charges, or fees due under this Agreement, and which are owed as of the date of termination.

(b) The Market Operator may terminate service under this Agreement if the Markets+ Transmission Service Provider is in default, in accordance with the procedures specified under Attachment A, Section 10.5 ~~of Attachment A~~ to the Markets+ Tariff, as applicable.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective authorized officials.

Market Operator: **Markets+ Transmission Service Provider:**

By:	By:
Dated:	Dated:
Title:	Title:

ATTACHMENT N
MARKETS+ STAKEHOLDER AGREEMENT

This Stakeholder Agreement ("Stakeholder Agreement") dated as of _____ is entered into by and between ~~Southwest Power Pool, Inc. ("SPP")~~Market Operator and _____ ("Market Stakeholder"). SPP and Market Stakeholder may be referred to in the Stakeholder Agreement as a "Party," and collectively as the "Parties."

RECITALS

A. ~~SPP~~ Market Operator created a process whereby Market Stakeholders participate in the Markets+ stakeholder process described in Attachment O~~XX~~, Markets+ Governance;

B. Market Stakeholder intends to participate in the Markets+ stakeholder process as a voting stakeholder during the Term of this Agreement;

C. The Parties have agreed to enter into this Agreement to provide the terms upon which Market Stakeholder will participate in and have a vote in the Markets+ stakeholder process;

D. As described in Attachment ~~XX~~O, Markets+ Governance, Market Operator ~~SPP~~ will administer Markets+ pursuant to the Markets+ FERC-approved Tariff.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and of other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

AGREEMENT

1. Effective Date and Term.

(a) This Agreement ~~shall~~ will become effective on the date it is fully executed by the Parties ("Effective Date").

(b) The term of the Agreement ("Term") ~~shall~~ will commence on the Effective Date and ~~shall~~ will

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terminate upon the earlier of (a) termination in accordance with this Agreement; or (b) such other date as mutually agreed to by the Parties ("Termination Date").

(c) This Agreement ~~shall~~ will automatically terminate on the Termination Date and ~~shall~~ will have no further force or effect, provided that the rights and obligations set forth in Sections 4, 5, 6, and 7 ~~shall~~ will survive the termination of this Agreement and remain in full force and effect as provided therein.

2. Termination.

The Parties may mutually agree to terminate this Agreement in writing at any time. In addition, either Party may terminate this Agreement in its sole discretion by providing thirty (30) ~~e~~Calendar D~~d~~ays prior written notice to the other Party.

3. Payments.

(a) Market Stakeholder will pay the Annual Fee as provided in Attachment ~~XX~~O, Markets+ Governance ("Annual Fee") annually to Market Operator ~~SPP~~ unless Stakeholder Participant seeks and obtains a waiver of such payment from Market Operator~~SPP, as described in Attachment XX, Markets+ Governance~~.

(b) The Annual Fee may be waived for eligible entities that are nonprofit organizations under the Internal Revenue Code or a governmental entity designated by state statutes to represent the interests of end-use customers before a state's regulatory agencies.

(c) To be eligible for waiver of the Annual Fee, a nonprofit organization under the Internal Revenue Code must provide 1) its Articles of Incorporation or similar documents; 2) its tax exempt status; and 3) its most recent IRS Form 990 or similar documents. To be eligible for waiver of the Annual Fee, a governmental entity designated by state statutes to represent the interests of end-use customers before a state's regulatory agencies must provide satisfactory evidence supporting such authority. No payment made will be returned or refunded.

(d) Unless the Annual Fee is waived, Market Operator ~~SPP~~ will deliver an invoice to Market Stakeholder within thirty (30) C~~c~~alendar D~~d~~ays of the Effective Date. Unless otherwise agreed, Stakeholder Participant will pay ~~SPP's~~ Market Operator's invoice within thirty (30) e~~C~~alendar D~~d~~ays

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of the date of the invoice.

(e) Upon Market Operator~~SPP~~'s receipt of payment, or upon approval of waiver by Market Operator ~~SPP~~, Market Stakeholder is eligible to participate as a voting stakeholder in, and agrees to be subject to the terms of, the Markets+ stakeholder process according to the terms of Attachment ~~XX~~O, Markets+ Governance.

(f) For Market Stakeholders who do not receive a waiver, Market Operator ~~SPP~~ will deliver an invoice to Market Stakeholder on an annual basis for payment of the Annual Fee. Unless otherwise agreed, Market Stakeholder will pay Market Operator~~SPP~~'s invoice within thirty (30) Cealendar D~~d~~ays of the date of the invoice.

4. Limitation of Liability

The Parties acknowledge and agree that, except as otherwise specified in Section 3 of this Agreement, neither Party ~~shall~~ will be liable to the other Party for any claim, loss, cost, liability, damage or expense, including any direct damage or any special, indirect, exemplary, punitive, incidental or consequential loss or damage (including any loss of revenue, income, profits or investment opportunities or claims of third party customers), arising out of or directly or indirectly related to such other Party's decision to enter into this Agreement, such other Party's performance under this Agreement, or any other decision by such Party with respect to this Agreement.

This Section ~~shall~~ will survive the Termination Date and any expiration or termination of this Agreement.

5. General Provisions

(a) This Agreement constitutes the entire agreement between the Parties, and supersedes any prior written or oral agreements or understandings between the Parties, relating to the subject matter of this Agreement; provided that nothing in this Agreement ~~shall~~ will limit, or in any manner modify, the existing legal rights, privileges, and duties of each of the Parties as provided by any other agreement between the Parties, or by any statute or any other law or applicable court or regulatory decision by which such Party is bound.

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(b) This Agreement may not be amended except in writing hereafter signed by both of the Parties.

(c) Any waiver by a Party to this Agreement of any provision or condition of this Agreement must be in writing signed by the Party to be bound by such waiver, ~~shall~~ will be effective only to the extent specifically set forth in such writing and ~~shall~~ will not limit or affect any rights with respect to any other or future circumstance.

(d) This Agreement is for the sole and exclusive benefit of the Parties and ~~shall~~ will not create a contractual relationship with, or cause of action in favor of, any third party.

(e) Neither Party ~~shall~~ will have the right to voluntarily assign its interest in this Agreement, including its rights, duties, and obligations hereunder, without the prior written consent of the other Party, which consent may be withheld by the other Party in its sole and absolute discretion. Any assignment made in violation of the terms of this Section 5(e) ~~shall~~ will be null and void and ~~shall~~ will have no force and effect.

(f) In the event that any provision of this Agreement is determined to be invalid or unenforceable for any reason, in whole or part, the remaining provisions of this Agreement ~~shall~~ will be unaffected thereby and ~~shall~~ will remain in full force and effect to the fullest extent permitted by law, and such invalid or unenforceable provision ~~shall~~ will be replaced by the Parties with a provision that is valid and enforceable and that comes closest to expressing the Parties' intention with respect to such invalid or unenforceable provision.

(g) Whenever this Agreement requires or provides that (i) a notice be given by a Party to the other Party or (ii) a Party's action requires the approval or consent of the other Party, such notice, consent or approval ~~shall~~ will be given in writing and ~~shall~~ will be given by certified mail (return receipt requested), postage prepaid, with a copy provided by email, to the recipient thereof at the address given for such Party as set forth below, or to such other address as may be designated by notice given by any Party to the other Party in accordance with the provisions of this Section 5(g):

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If to Market Stakeholder:

[Name]

[Title]

[Mailing address]

[City, State Zip]

Email:

If to Market Operator ~~SPP~~:

Southwest Power Pool, Inc.

Attn: Lanny Nickell

Executive Vice President and Chief Operating Officer

201 Worthen Drive

Little Rock, AR 72223-4936

Email: lnickell@spp.org

Each notice, consent or approval ~~shall~~ will be effective on the later of the (1) third Bbusiness Dday following mailing, or (2) day that the email copy of such notice, consent, or approval is delivered to the receiving Party. It is the responsibility of each Party to provide, in accordance with this Section, notice to the other Party of any necessary change in the contact or address information herein.

(h) This Agreement may be executed in one or more counterparts (including by facsimile or a scanned image), each of which when so executed ~~shall~~ will be deemed to be an original, and all of which ~~shall~~ will together constitute one and the same instrument.

(i) Nothing contained in this Agreement ~~shall~~ will be construed as creating a corporation, company, partnership, association, joint venture or other entity with the other Party, nor ~~shall~~ will anything contained in this Agreement be construed as creating or requiring any fiduciary relationship between the Parties. No Party ~~shall~~ will be responsible hereunder for the acts or omissions of the other Party.

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(j) The decision to execute this Agreement and participate in Markets+ remains within the sole discretion of Market Stakeholder and the decision whether to continue to offer Markets+ development and services remains within the sole discretion of ~~SPP~~Market Operator.

(k) Nothing in this Agreement ~~shall~~ will preclude a Party from exercising any rights or taking any action (or having its affiliates take any action) with respect to any other matter.

(l) Unless otherwise expressly provided, for purposes of this Agreement, the following rules of interpretation ~~shall~~ will apply: (i) the insertion of headings are for convenience of reference only and do not affect, and will not be utilized in construing or interpreting, this Agreement; and (ii) the Parties have participated jointly in the negotiation and drafting of this Agreement and, in the event an ambiguity or question of intent or interpretation arises, this Agreement ~~shall~~ will be construed as jointly drafted by the Parties and no presumption or burden of proof favoring or disfavoring any Party will exist or arise by virtue of the authorship of any provision of this Agreement.

(m) The above-stated recitals are incorporated into and made a part of this Agreement by this reference to the same extent as if these recitals were set forth in full at this point.

(n) This Agreement, or any transaction entered into pursuant to this Agreement, as applicable, has been duly authorized.

(o) This Section ~~shall~~ will survive the Termination Date and any expiration or termination of this Agreement.

6. Venue. This Agreement ~~shall~~ will be governed by, and construed and interpreted in accordance with, the laws of the State of Arkansas without regard to its principles of conflicts of law. Venue for any action hereunder ~~shall~~ will be FERC, where subject to its jurisdiction, or otherwise any state or federal court with jurisdiction in Pulaski County, Arkansas. This Section ~~shall~~ will survive the Termination Date and any expiration or termination of this Agreement.

7. Dispute Resolution. Unless otherwise provided herein, each of the provisions of this Agreement ~~shall~~ will be enforceable independently of any other provision of this Agreement and independent of any other

claim or cause of action. In the event of any dispute arising under this Agreement, the Parties ~~shall~~will, to the extent practicable, first attempt to resolve the matter through direct good faith negotiation between the Parties, including a full opportunity for escalation to executive management within the Parties' respective organizations. For all other matters, the Parties may pursue action in a state or federal court of competent jurisdiction located in Pulaski County, Arkansas, in which case:

(a) To the fullest extent permitted by law, each of the Parties hereto waives any right it may have to a trial by jury in respect of litigation within the federal or state courts specified herein, directly or indirectly arising out of, under or in connection with this Agreement. Each Party further waives any right to consolidate, or to request the consolidation of, any action in which a jury trial has been waived with any other action in which a jury trial cannot be or has not been waived.

(b) If a waiver of jury trial is deemed by any court of competent jurisdiction specified herein to not be enforceable for any reason, then to the fullest extent permitted by law, each of the Parties hereto agrees to attempt to settle amicably through non-binding arbitration. Notwithstanding the foregoing, either Party may seek provisional legal remedies if, in such Party's judgment, such action is necessary to avoid irreparable damage or preserve the status quo.

(c) This Section ~~shall~~ will survive the Termination Date and any expiration or termination of this Agreement.

(signatures on following page)

IN WITNESS WHEREOF, each of the Parties has caused its duly authorized officer to execute this Agreement.

_____

Market Stakeholder Name

_____

Name of Authorized Representative

_____

Title of Authorized Representative

Signature of Authorized Representative

Date of Execution

Market Operator

~~Southwest Power Pool, Inc.~~

Name of Authorized Representative

Title of Authorized Representative

Signature of Authorized Representative

Date of Execution

SCHEDULE 1-A
TARIFF ADMINISTRATION SERVICES

The Market Operator will provide administration services described in this Schedule 1-A to carry out its responsibilities under this Tariff. Market Participants must purchase these services from the Market Operator. Unless otherwise collected under this Tariff, the Market Operator will recover 100% of its costs for the fiscal year in which services are provided, including an adjustment for over or under recovery for prior fiscal years .

1. Schedule 1-A5 Markets+ Clearing Administration Service

Markets+ clearing administration service is provided by the Market Operator to all Market Participants that participate in transactions pursuant to Attachment A of this Tariff, or an applicable Market Participant Agreement as contained in Attachment E of this Tariff. This service includes the provision and operation of Markets+ processes, including market clearing, market settlements, market monitoring and other related functions necessary to support the administration of this Tariff ("Schedule 1-A5 Service").

a. Markets+ Clearing Administration Service Charge

The Schedule 1-A5 Service charge provides for the recovery of any costs incurred by the Market Operator in providing this Schedule 1-A5 Service.

i. Costs

The costs associated with providing Schedule 1-A5 Service will be recovered under this Schedule 1-A5, as identified in the formula rate template in Addendum 1 of this Schedule 1-A ("Schedule 1-A5 Costs").

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ii. **Billing Determinants**

The Schedule 1-A5 billing determinants as expressed in MWh are:

(1) all Real-Time Energy cleared by Markets+;

(2) all Import Interchange Transactions cleared by Markets+ in Real-Time and all Export Interchange Transactions cleared by Markets+ in Real-Time; and

(3) all cleared Virtual Energy Bids and all cleared Virtual Energy Offers in the Markets+ Day-Ahead Market.

iii. **Rate Formula**

Annually, the Market Operator will determine the Schedule 1-A5 Service rate for each calendar year as described in Addendum 1 of this Schedule 1-A.

b. **Charges To Market Participants**

The Schedule 1-A5 charge is the product of the Schedule 1-A5 rate and the Market Participant's billing determinants.

Markets+ virtual transaction administration service is provided by the Market Operator to all Market Participants that participate in the submission of Virtual Energy Bids and Virtual Energy Offers in the Markets+ Day-Ahead Market, pursuant to Attachment A of this Tariff or an applicable Market Participant Agreement as contained in Attachment E of this Tariff ("Schedule 1-A6 Service"). The revenue collected by the Market Operator pursuant to this Schedule 1-A6 will be applied as a credit to Schedule 1-A costs.

2. **Schedule 1-A6 Markets+ Virtual Transaction Administration Service**

a. **Markets+ Virtual Transaction Administration Service Charge**

The Schedule 1-A6 Service charge provides for the recovery of any costs incurred by the Market

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Operator in providing this Schedule 1-A6 Service.

i. Billing Determinants

A Markets+ Day-Ahead Market charge for each submitted Virtual Energy Offer and Virtual Energy Bid will be calculated for each Asset Owner for each Operating Day. Charges collected by the Market Operator under this charge type are used by the Market Operator to reduce the Market Operator's expenses used to calculate the rate specified under Schedule 1-A of this Tariff, and are calculated as follows:

Day-Ahead Virtual Energy Transaction Fee Amount =
[(Day-Ahead Virtual Energy Transaction Daily Count) * (Day-Ahead Virtual Energy Transaction Fee Rate)]

(1) Day-Ahead Virtual Energy Transaction Daily Count is equal to the sum of Virtual Energy Bids and Virtual Energy Offers submitted as of the close of the Day-Ahead Market for all Settlement Locations and hours in the Operating Day.

(2) Day-Ahead Virtual Energy Transaction Fee Rate is $0.05 for each Virtual Energy Offer or Virtual Energy Bid.

ATTACHMENT O
MARKETS+ GOVERNANCE

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1. Introduction

This Attachment sets forth the governance structure for ~~SPP's~~ Markets+ ~~service offering~~. This governance structure describes the SPP Bboard of Ddirectors' oversight of ~~the~~ Markets+ ~~service offering~~, the authorities of the Markets+ Independent Panel, and details the Markets+ stakeholder process.

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2. Definitions

Affiliate: ~~Affiliate relationships are relationships between~~ Markets+ Market Participants that have one or more of the following attributes in common:

1. Are subsidiaries of the same company.
2. One Markets+ Market Participant is a subsidiary of another Markets+ Market Participant.
3. Have, through an agency agreement, turned over control of a majority of their generation facilities to another Markets+ Market Participant.
4. Have, through an agency agreement, turned over control of a majority of their transmission system to another Markets+ Market Participant, except to the extent that the facilities are turned over to an independent transmission company recognized by FERC.
5. Have an exclusive marketing alliance between Markets+ Market Participants, including, but not limited to, delegating functional control of market operations to another Markets+ Market Participant.
6. Ownership by one Markets+ Market Participant of 10% or greater of another Markets+ Market Participant.

Federal Energy Regulatory Commission ("FERC"): The Federal Energy Regulatory Commission is an independent agency that regulates the interstate transmission of natural gas, oil and electricity. FERC is the regulatory agency that will oversee and approve Markets+.

Markets+ Independent Panel ("MIP"): A five-member panel that is independent from Markets+ Market Pparticipants and Markets+ Market sStakeholders. The MIP is the highest level of authority for decisions related to the Markets+ market with the SPP board of directors providing independent oversight.

Markets+ Market Participant ("MMP"): ~~An entity that has executed a Markets+ Market Participant Service Agreement, as part of the Markets+ tariff and contributes generation and/or load to the Markets+ market.~~ An entity that is a Market Participant as defined in the Markets+ Tariff.

Markets+ Market Stakeholder ("MMS"): ~~Category of stakeholders~~A stakeholder that has

executed ~~a~~ the Markets+ sStakeholder ~~pParticipation a~~Agreement~~, does not contribute generation and/or load to the Markets+ market~~ and pays an annual fee of $5,000. A MMS has voting rights at the Markets+ Participants Executive Committee, ~~the MIP Selection Forum~~ and is eligible for a voting seat, if appointed, on the Markets+ Nominating and Governance Committee, working groups and task forces. The annual fee may be waived for eligible entities that are nonprofit organizations under the Internal Revenue Code or a governmental entity designated by state statutes to represent the interests of end-use customers before a state's regulatory agencies.

Markets+ Non-Voting Stakeholder ("MNVS"): General category of stakeholders who provide input at all stakeholder meetings that do not have voting rights on working groups and task forces and pay no annual fee.

SPP: Southwest Power Pool, Inc. or successor organization.

Staff: The technical and administrative staff of SPP as hired by the officers to accomplish SPP's mission.

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3. Participation in Markets+

SPP shall administer the Markets+ market pursuant to the Markets+ FERC-approved tariff, including a Markets+ Market Participant ~~Service~~ Agreement and Markets+ ~~Market~~ Stakeholder Agreement. Such agreements contain terms and conditions that must be met for an entity to participate in Markets+. An entity must execute, or have on file with FERC, the Markets+ Market Participant Agreement or the Markets+ Stakeholder Agreement to participate in the Markets+ governance structure as a voting entity.

~~(i)~~ **~~Markets+ Market Participant Service Agreement~~**: ~~Entities that contribute generation and/or load to the Markets+ market, including agents or representatives participating in the Markets+ market on behalf of such entities, must execute the Markets+ Market Participant Service Agreement ("MPA"). Markets+ Market Participants are eligible to participate in the Markets+ governance structure as a voting entity.~~

~~(ii)~~ **~~Markets+ Market Stakeholder Participation Agreement~~**: ~~Entities that do not contribute load or generation to the Markets+ market but want to participate in the Markets+ governance structure as a voting entity must execute the Markets+ Market Stakeholder Participation Agreement ("MSA") and make an annual payment of $5,000 or obtain a waiver from SPP of the annual fee.~~

4. Organizational Structure

4.1 SPP Board of Directors

SPP's independent board of directors provides ultimate oversight of SPP's administration of Markets+ subject to FERC regulatory jurisdiction. The SPP Bboard of Ddirectors shall give significant recognition and deference to the MIP decision-making role.

The SPP Bboard of Ddirectors shall review and consider:

1. Decisions of the MIP, after completion of the applicable Markets+ stakeholder process, that have a material adverse effect on SPP, including:
    a. Material agreements and material changes to those agreements between SPP and Markets+ Market Participants or SPP and Markets+ Market Stakeholders.
    b. Issues or concerns raised by the ~~market~~ Market ~~monitor~~ Monitor related to any FERC filing, rule or process within the scope of the ~~market~~ Market ~~monitor's~~ Monitor's authority as established by FERC that has been previously raised to the MIP.
    c. Legal and/or litigation disputes or actions involving SPP or the implementation of Markets+; and.
    d. Financial ramifications or corporate risk to SPP.
2. Markets+ budgets, any debt obligations related to Markets+, or material changes to SPP's staffing requirements.
3. Appeals of MIP decisions made pursuant to Section 4.2.1.

All reviews by the SPP Bboard of Ddirectors shall be in coordination with the MIP. Additionally, the SPP Bboard of Ddirectors shall solicit and consider written comments from the MIP and Markets+ stakeholders before taking action on any Markets+ voting item. Any time the SPP Bboard of Dd irectors takes action to review any issue due to a material adverse effect on SPP, the Bboard of Dd irectors shall publish the basis for the materiality.

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4.2 Markets+ Independent Panel

4.2.1 Purpose and Scope of Activities

The MIP is the highest level of authority for decisions related to the Markets+ market with the SPP Bb oard of Ddirectors providing independent oversight. Actions taken by the MIP under the authorities defined in its charter will be filed with FERC, unless appealed per this section or reviewed by the SPP B board of Ddirectors pursuant to its authority. Absent an appeal, SPP Staff is authorized to submit requisite regulatory filings to implement the MIP's decision.

Appeals: Any member of the MIP may request the SPP Bboard of Ddirectors review any action or inaction of the MIP. Only members of the MIP may appeal to the SPP Bboard of Ddirectors. Upon such a request by a member of the MIP, the SPP Bboard of Ddirectors shall review the matter for resolution in consultation with the MIP. Should the SPP Bboard of Ddirectors determine there is not sufficient consensus supporting the MIP's decision, and provided time allows, the SPP Bboard of Dd irectors may remand the issue to the MIP and/or the appropriate Markets+ working group for further consideration. The MIP is responsible, through the Markets+ State Committee ("MSC"), and the Markets+ Participants Executive Committee ("MPEC"), and designated working groups, committees, and task forces, for developing, and deciding, or recommending policies, procedures or system enhancements related to the administration of the Markets+ market.

In carrying out its purpose, the MIP shall:

1. Provide a forum for the entities that have executed a Markets+ Market Participant Service Agreement or a Markets+ Stakeholder Participation Agreement with SPP, the MSC, or aand Markets+ Nnon-Vvoting Sstakeholders to discuss issues related to the ongoing administration and advancement of Markets+ development in the Western Interconnection. The MIP has the

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authority to set priorities and direct the MPEC to investigate potential market design and tariff revisions.

2. Approve or reject proposed amendments to the Markets+ Ttariff made by the MPEC or the MSC before the filing of such amendments at FERC. If the MSC proposes a tariff amendment(s) to the MIP, the MPEC will be provided the opportunity to review and comment on the proposed changes.
3. Consider, approve or reject market rules if such rules solely apply to the administration of the Markets+ market and have no application to the SPP Integrated Marketplace or any other service provided by SPP. To the extent such rules apply to the SPP Integrated Marketplace or any other service provided by SPP, the MIP shall be afforded the opportunity to provide input to any other applicable SPP organizational group and the SPP Bboard of Ddirectors.
4. Collaborate with SPP Staff on the development of Markets+ tariff provisions, market protocols, business practices and interregional agreements to promote transparency and efficiency in the operation of the Markets+ market.
5. Evaluate and provide consultation to SPP on the Markets+ market administration budget to the MSC, Markets+ Market Participants and Markets+ Market Stakeholders, including modifications or adjustments of the Markets+ market administration rate, in accordance with the Markets+ Ttariff.
6. Review, consider and decide whether to approve market design system or process enhancement proposals recommended by SPP, the MSC, the MPEC or any designated working group, committee, or task force established by the MPEC. Recommendations to enhance systems or processes materially impacting SPP's administration of the Markets+ market or the Markets+ market administration budget must be approved by the MIP before beginning implementation of the enhancement.
7. Resolve any disputes regarding the establishment of a working group or task force and the staffing of that working group or task force.

4.2.2 Composition and Qualifications

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The MIP shall consist of five persons, one of which shall be an SPP independent director. The MIP shall select its chair. The members of the MIP shall be independent of any Markets+ Market Participant, Markets+ Market Stakeholder or Markets+ Non-Voting Stakeholder and shall not be limited in the number of terms he/she may serve.

Members of the MIP shall have recent and relevant senior management expertise and experience in one or more of the following disciplines: electric industry, including electric transmission and generation planning, markets, or general understanding of electric utility regulation.

Members of the MIP shall comply with SPP's Standards of Conduct and conflict of interest rules set forth in the SPP Bylaws. Members of the MIP shall not be an employee, director, consultant or contractor of, and shall have no interest in any third party, or any of its affiliates as defined in SPP's FERC-approved tariffs regulating independence of SPP employees, directors, or MIP members, which shall be deemed to include ownership (outside of a mutual fund, blind trust or similar arrangement as permitted herein) by a panelist or his/her immediate family members of prohibited securities.

4.2.3 Term and Election

4.2.3.1 Term

Four of the members of the MIP shall be elected by the MPEC pursuant to the voting structure in Section 4.3.1.4 to a four-year term commencing upon election and continuing until his/her duly elected successor takes office. The initial term for non-SPP directors will be a one, two, three or four-year term to allow staggering.

The ballot for the elected members of the MIP shall consist of a single person for each seat to be filled and each MPEC member will cast his/her vote to approve or disapprove the entire slate.

4.2.3.2 Election Process

1. At least ninety (90) calendar days before the MPEC meeting when election of new members of

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the MIP is required, the Markets+ Nominating and Governance Committee ("MNGC") shall commence the process to nominate persons equal in number to the members of the MIP to be elected. The process will include obtaining the services of an executive search firm to conduct a nationwide search for qualified candidates;

2. At least forty-five (45) calendar days before the MPEC meeting when election of new members of the MIP is required, the MNGC shall determine the persons it nominates for election as members of the MIP, specifying the nominee for any vacancy to be filled. The staff secretary shall prepare the ballot accordingly and shall deliver same to the MPEC representatives at least thirty (30) calendar days before the MPEC meeting when the election is scheduled to occur;
3. For purposes of electing or removing members of the MIP only, each group of Markets+ Market Participants that are Affiliates shall be considered a single Markets+ Market Participant.
4. Each MPEC representative shall be entitled to cast a vote by written ballot, whether in person or remotely by email or other reliable electronic means, for or against the nominee. The votes will be calculated in accordance with the MPEC voting structure in Section 4.3.1.4. In the event a member of the MIP position is not filled, the MNGC will determine a new nominee for recommendation for election by the MPEC no later than the next regular MPEC meeting.

4.2.3.3 Vacancies

Any member of the MIP may resign by written notice to the MIP and SPP corporate secretary noting the effective date of the resignation. The MPEC may remove an elected member of the MIP with cause by vote. Removal proceedings may only be initiated by a petition signed by not less than 35% of the MPEC sector-weighted representation. The petition shall state the specific grounds for removal and shall specify whether the removal vote is to be taken at a special meeting of the MPEC or at the next regular meeting of the MPEC. An external member of the MIP who is the subject of removal proceedings shall be given fifteen (15) calendar days to respond to the petition in writing to the MPEC chair and SPP corporate secretary.

If a vacancy occurs, the MNGC will present a nominee to the MPEC for consideration and election in accordance with Section 4.2.3.2 to fill the vacancy for the unexpired term at a special meeting of the

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MPEC following thirty (30) calendar days' notice from the staff secretary. The replacement member of the MIP shall take office immediately upon election and shall serve the remainder of the unexpired term.

4.2.3.4 Meetings

Meetings of the MIP are open to all interested parties and written notice of the date, time, place and purpose of each meeting will be provided as described below. However, the MIP may limit attendance during specific portions of a meeting by an affirmative vote of the MIP. Matters for consideration in closed or limited sessions should be limited to personnel, legal and proprietary, confidential or security sensitive information.

At a minimum, meetings will be scheduled such that there will be an official meeting quarterly. Annually, there will be at least one face-to-face meeting.

Written notice and public posting of the date, time, place and purpose of each regular meeting shall be given at least fifteen (15) calendar days in advance of each regular meeting. Agendas for regular meetings will be publicly posted no less than seven calendar days before the meeting.

Telephone conference meetings may be called by the MIP chair with prior notice of at least one business day.

4.2.3.5 MIP Voting Structure

Decisions of the MIP shall be by simple majority vote of the members participating, whether in person or remotely by telephone, web conference or similar technology and voting, subject to the quorum requirements in Section 6. Members of the MIP must be participating at a meeting to vote. No votes by proxy are permitted. The SPP staff secretary shall collect and tally the ballots and announce the results of a vote.

4.2.4 Interim MIP

Until such time as the MIP is established, a three-person subcommittee of the SPP Bboard of Dd irectors shall perform the functions of the MIP described herein. The Markets+ Nominating and Governance Committee shall commence the process of electing the members of the MIP following the FERC-approved effective date of Markets+ Tariff.

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4.3 Committees Advising the Markets+ Independent Panel

4.3.1 Markets+ Participants Executive Committee

The MPEC will provide a forum for Markets+ Market Participants, Markets+ Market Stakeholders, the MSC, and Markets+ Non-Voting Stakeholders to discuss issues related to the ongoing administration and advancement of market development in the Western Interconnection.

The MPEC will review system or process enhancement proposals recommended by SPP, the MSC, ~~the~~ Markets+ Market Participants, Markets+ Market Stakeholders, Markets+ Non-Voting Stakeholders or any designated working group, committee or task force established by the MPEC. The MPEC shall provide to the MIP its recommendation on proposals received for the MIP's consideration and decision. ~~The~~ MPEC recommendations to the MIP are advisory and non-binding. In its presentation to the MIP, the MPEC shall report any minority views expressed to the MPEC during its consideration. Recommendations to enhance systems or processes materially impacting SPP's administration of the Markets+ market or the Markets+ market administration budget must be approved by the MIP before beginning implementation of the enhancement.

4.3.1.1 Composition

Each Markets+ Market Participant and Markets+ Market Stakeholder shall appoint one representative to the MPEC. Each representative designated shall be a senior level management employee with financial decision making authority. The MPEC representatives shall appoint the chair and vice chair. Each representative of the MPEC may continue to be a representative thereof until the Markets+ Market Participant appoints a successor representative. ~~A~~ Each Markets+ Market Participant and Markets+ Market Stakeholder ~~shall be~~is eligible to appoint only one representative for itself.

4.3.1.2 Authority

The MPEC will have authority to make recommendations to the MIP regarding:

- Proposed amendments to the Markets+ Ttariff

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- Markets+ market protocols to support the filed Ttariff
- The administrative rate charged to participants of the Markets+ market

The MPEC may establish standing working groups and ad hoc task forces as needed to facilitate its authorities as described above. The MPEC is also charged with electing members of the MIP in accordance with the process set forth in Section 4.2.3.2.

4.3.1.3 Meetings

Meetings of the MPEC are open to all interested parties and written notice of the date, time, place and purpose of each meeting will be provided as described below. However, the MPEC may limit attendance during specific portions of a meeting by an affirmative vote of the MPEC. Matters for consideration in closed or limited session should be limited to personnel, legal and proprietary, confidential or security sensitive information.

At a minimum, meetings will be scheduled such that there will be an official meeting quarterly. ~~Annually, t~~ There will be at least one face-to-face meeting annually.

Written notice and public posting of the date, time, place and purpose of each regular meeting shall be given at least fifteen (15) calendar days in advance of each regular meeting. Agendas for regular meetings shall be publicly posted no less than seven (7) calendar days before the meeting.

Telephone conference meetings may be called by the MPEC chair with prior notice of at least one business day.

4.3.1.4 Voting Structure

Upon execution of the Markets+ Market Participant Agreement or execution of the Markets+ Stakeholder Agreement and payment of the annual fee or fee waiver, an entity shall be assigned to one of three membership sectors: Investor-Oowned uUtilities, pPublic pPower, or iIndependent. The sectors are defined as follows:

Investor-Oowned uUtilities ("IOU"): This sector includes Markets+ Market Participants that are public utilities under the Federal Power Act, regulated by one or more state regulatory commission and subject to a fiduciary responsibility to investors to earn a return on rate-based assets, and agents or

representatives participating in the Markets+ market on behalf of such entities. Votes in this ~~sector shall be~~are calculated based upon load-ratio share. Markets+ M~~m~~arket P~~p~~articipants in this sector may be assigned to a geographic region for informational voting purposes.

Public Power: This sector includes Markets+ Market Participants that are publicly-owned utilities, electric cooperatives and power marketing administrations, and agents or representatives participating in the Markets+ market on behalf of such entities. Votes in this sector ~~shall be~~are calculated based upon load-ratio share. Markets+ M~~m~~arket participants in this sector may be assigned to a geographic region for informational voting purposes.~~-~~

Independent~~s~~: This sector includes Markets+ Market Participants that are not an IOU or a public power utility ~~(including independent power producers and marketers of electrical power)~~ and all Markets+ Market Stakeholders. The votes ~~for~~ in the i~~I~~ndependent S~~s~~ector will be calculated on a one vote per ~~member~~ entity basis. However, ~~but no less than~~at least one-half of the sector's weighted vote ~~shall~~ will be reserved for the following entities in the independent sector:

1) Markets+ Market Participants;
2) Markets+ Market Stakeholders with load above one (1) megawatt located within the Markets+ ~~footprint~~Footprint; and~~or~~
3) Markets+ Market Stakeholders that are membership organizations of at least 5 members in which a majority of voting members are engaged in the business of generating, selling, or buying electricity at wholesale.

Each sector's vote will be calculated separately with the result for that sector being a percent of approving vote to the total number of participants in the sector voting. Each of the three sectors represents 33 1/3% of the vote. An action is approved by the MPEC if the average of these percentages is at least 67%.

Markets+ Market Participants and Markets+ Market Stakeholders may be assigned to a geographic region as determined by the MIP. The MPEC voting results shall be presented to the MIP prior to the MIP taking action on any voting item recommended by or appealed from the MPEC, and if applicable, shall include voting results by any assigned geographic regions of Markets+ Market Participants and

Markets+ Market Stakeholders.

4.3.2 Markets+ State Committee

4.3.2.1 Composition/Membership

The MSC shall provide advice to the MIP, the MPEC, and any working group or task force on all matters pertinent~~, including but not limited to, initiative prioritization and policy issues,~~ to ~~the participation in the Markets+ market of the~~ Markets+ Market Participants under the Markets+ Ttariff. Such matters include, but are not limited it, initiative prioritization and policy issues. As the Markets+ market design evolves, the MIP will evaluate expanding the authorities designated to the MSC. SPP Staff will assist the MSC by providing information and support relevant to the Markets+ market. Members of the MSC and other state officials (state energy offices, state environmental offices, state consumer advocates, etc.) are eligible for appointment to Markets+ task forces.

One representative from each state in which a Markets+ Market Participant has generation or load participating in the Markets+ market in that state may participate as a member of the MSC. Each state representative will be appointed by the utility regulatory commission of that state.

The MSC shall have ~~the~~ discretion to determine participation of representatives from other state agencies, including state energy offices, state environmental offices and state consumer advocates, in the MSC's governing structure.

4.3.2.2 Meetings and Voting

The MSC shall determine its meeting provisions and voting structure.

4.3.2.3 Support and Funding

SPP shall facilitate the retention of independent staffing for the MSC sufficient and stable enough to support the MSC's ability to develop analytical and legal analysis in order to present independent positions related to the Markets+ market and before FERC. The MSC shall annually submit a proposed budget to the MIP for approval. Before approval, the MIP shall seek comment from the MPEC. The approved MSC budget costs will be allocated to the Markets+ Market Participants.

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4.3.2.4 Data Access

The MSC will have access to performance data and data specific to policy initiatives, subject to any confidentiality agreements.

4.4 Working Groups

Through an affirmative vote in accordance with the voting structure set forth in Section 4.3.1.4, the MPEC may establish standing working groups to assist with its mission. Before voting on the establishment of a working group, the MPEC shall consider potential resource and financial impacts in excess of those contemplated.

4.4.1 Composition and Terms

Unless otherwise provided herein, each working group shall have a chair to preside over meetings. The chair of all organizational groups shall be nominated by the MPEC for consideration and appointment by the MIP. The term of the chair of all working groups shall be two years. Working groups have discretion to determine the need for a vice-chair. Should a working group establish a vice-chair position, the vice-chair shall be elected by the working group.

Following a solicitation of nominations by SPP Staff, working group representatives shall be recommended by SPP Staff to the MPEC for approval. The recommendation and approval of representatives shall consider the various types and expertise of Markets+ Market Participants and Markets+ Market Stakeholders and their geographic locations to achieve a widespread and effective representation of Markets+ Market Participants and Markets+ Market Stakeholders. Criteria and sector representation for serving on a working group will be determined in the working group's scope document. An appointment to a working group is for an individual, not a corporate entity.

4.4.2 Meetings

Working groups shall meet as necessary and the meetings shall be open. However, any working group may limit attendance at a meeting by an affirmative vote of the working group. Matters for consideration in closed or limited attendance session should be limited to personnel, legal and proprietary, confidential or security sensitive information. Unless otherwise agreed to by the working group, representatives shall be given at least fifteen (15) business days' written notice of the date, time, place and purpose of each regular or special meeting. Telephone or web conference meetings may be called as appropriate by the chair of any working group with at least one (1) business day's prior notice.

4.4.3 Vacancies

The MPEC chair shall appoint representatives to fill working group vacancies on an interim basis.

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4.4.4 Voting Structure

Each representative of a working group shall have one vote. A simple majority of representatives, whether participating in person or remotely by telephone, web conference or similar technology or represented by proxy and voting, shall be required for approval of an action. Unless otherwise stated, a working group may determine to vote on an issue by email. The outcome of any email vote must be recorded in the minutes for the group.

4.5 Standing Committees

4.5.1 Markets+ Nominating and Governance Committee

The Markets+ Nominating and Governance Committee ("MNGC") is responsible for reviewing and maintaining the overall governance of the Markets+ service, including nominations for the MIP, in accordance with its scope as approved by the MIP. The MNGC shall conduct periodic reviews of the Markets+ governance structure. Any revisions to Markets+ governance recommended by the MNGC shall be presented to the MPEC for consideration before being presented to the MIP for approval. Any modification to Markets+ governance requires a super majority ($4/5^{th}$ vote) of the MIP.

To the extent Markets+ participation allows, the MNGC will consist of 12 representatives of Markets+ Market Participants and Markets+ Market Stakeholders, including one representative from each of the following sectors (including representative associations) or groups:

1. Independent power producers
2. Markets+ State Committee member
3. Public interest organizations and consumer advocates
4. Cooperatives
5. State agencies and provincial entities
6. Municipal utilities, including public utility districts and joint action agencies
7. Federal agencies
8. Investor-owned utilities

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9. Power marketers
10. Large energy and industrial customers
11. Residential and small commercial retail customers
12. MIP representative, not up for re-nomination, shall serve as chair.

Each sector will nominate and vote on its representative to the MNGC. To achieve widespread and effective representation on the MNGC, representatives shall be subject to terms and, if applicable, may be assigned to geographic regions on a rotating basis to be determined by the MIP.

4.5.2 Meetings

The MNGC shall meet as necessary. Meetings shall be open, however, the MNGC may limit attendance at a meeting by an affirmative vote of MNGC representatives. Matters for consideration in closed or limited attendance session should be limited to personnel, legal and proprietary, confidential or security sensitive information. Unless otherwise agreed to by the MNGC, representatives shall be given at least fifteen (15) business days' written notice of the date, time, place and purpose of each regular or special meeting. Telephone or web conference meetings may be called as appropriate by the chair of the MNGC with at least one (1) business day's prior notice.

4.5.3 Voting Structure

Decisions of the MNGC shall be by simple majority vote of the representatives participating, whether in person or remotely by telephone, web conference or similar technology and voting. If a representative is unable to attend a meeting, the representative may appoint a proxy from his or her sector to participate in the meeting. The SPP staff secretary will collect and tally the ballots and announce the results of a vote.

4.6 Ad Hoc Task Forces

A temporary task force may be proposed by the MPEC chair or working group chair and approved by the MPEC or applicable working group through an affirmative vote in accordance with the voting structure set forth in Section 4.3.1.4. Upon establishment of a task force reporting to the MPEC or a

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working group, the MPEC chair or working group chair shall appoint a chair of the task force to preside over meetings. All ad hoc task forces shall be temporary and shall have the scope of its activities limited to a specific purpose. Before the establishment of an ad hoc task force, the MPEC chair or working group chair should consider any potential resource and financial impacts in excess of those contemplated.

4.6.1 Composition and Terms

Task force representation shall be appointed by the MPEC chair or working group chair after the applicable staff secretary solicits nominations for task force members. The MPEC chair or working group chair, in coordination with SPP Staff, shall consider the various types and expertise of Markets+ Market Participants and Markets+ Market Stakeholders and their geographic locations to achieve a widespread and effective representation. Representatives from the MSC, state energy officers and state consumer advocates are also eligible to serve on task forces. Criteria and sector representation for serving on a task force will be determined in the group's scope. An appointment to a task force is for an individual, not a corporate entity.

4.6.2 Meetings

Task forces shall meet as necessary and the meetings shall be open. However, any task force may limit attendance at a meeting by an affirmative vote of the task force. Matters for consideration in closed or limited attendance session should be limited to personnel, legal and proprietary, confidential or security sensitive information. Unless otherwise agreed to by the task force, representatives shall be given at least fifteen (15) business days' written notice of the date, time, place and purpose of each regular or special meeting. Telephone or web conference meetings may be called as appropriate by the chair of any task force with at least one (1) business day's prior notice.

4.6.3 Vacancies

The MPEC chair or working group chair shall appoint representatives to fill task force vacancies on an interim basis.

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4.6.4 Voting Structure

Each representative of a task force shall have one vote. A simple majority of representatives, whether participating in person or remotely by telephone, web conference or similar technology, or represented by proxy and voting, shall be required for approval of an action. Unless otherwise stated, a task force may determine to vote on an issue by email. The outcome of any email vote must be recorded in the minutes for the group.

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5. SPP Staff Independence and Support

Each Markets+ working group, committee or task force shall be assigned an SPP Staff member who shall attend all meetings and act as secretary to the group. Staff secretaries of all committees, working groups and task forces shall be non-voting, independent and impartial. The secretary shall keep minutes of pertinent discussions, business transacted, decisions reached and actions taken at each meeting. Minutes shall be published within seven (7) calendar days following a meeting but in any event in advance of the next meeting and considered final documents upon their approval by the working group, committee or task force.

SPP shall strive to provide support to all working groups, committees and task forces while taking into account the Markets+ market administration budget and other priorities of the SPP organization. Should it become necessary for SPP to hire additional staff or augment staffing to maintain the expected level of support, SPP will advise the MIP and MPEC of any budgetary impacts.

6. Attendance, Quorum and Proxy

If a representative is unable to attend a meeting of the MPEC, a working group or task force, he/she may, ~~in writing to the applicable chair, vice chair and staff secretary,~~ appoint, in writing to the applicable chair, vice chair and staff secretary, a proxy representative who shall have such rights to participate and vote as the representative specifies. The proxy representative may be another member of the MIP, MPEC or the committee, working group or task force or another person who has the authority to act on behalf of the representative. Members of the MIP must be participating at a meeting to vote. No votes by proxy are permitted.

The quorum for a meeting of the MIP, the MPEC, the MSC or any working group, committee or task force shall be a majority of the representatives thereof, provided a lesser number may adjourn the meeting to a later time. A representative participating by phone is considered to be in attendance of the meeting for the purpose of quorum. The quorum for a meeting must be established and maintained throughout the meeting in order for the group to take any binding action(s). Notwithstanding the above, any actions taken before a quorum is lost are considered valid and binding. A proxy will serve to meet the quorum requirements as follows:

- A proxy provided to another representative of the MPEC will not be recorded as attendance at the meeting and will not serve to meet or maintain the quorum requirements.
- A proxy provided to another person with the authority to act on behalf of the representative will be recorded as attendance at a meeting for the purpose of meeting or maintaining the quorum requirements.

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7. Appeals to the MPEC and the MIP

Should any Markets+ Market Participant, Markets+ Market Stakeholder, or the MSC disagree on an action or inaction taken or recommended by any working group or task force, such Markets+ Market Participant, Markets+ Market Stakeholder, or the MSC may, upon written request to the MPEC staff secretary, appeal and submit an alternate recommendation, including a recommendation for inaction to the MPEC within seven (7) calendar days after the meeting following such working group or task force action or inaction. The MPEC shall timely consider and take any action it deems necessary to address the appeal.

Should any Markets+ Market Participant, Markets+ Market Stakeholder, or the MSC disagree on the MPEC's action on any issue, such Markets+ Market Participant, Markets+ Market Stakeholder, or MSC member may, upon written request to the MIP staff secretary, appeal and submit an alternative recommendation to the MIP within seven (7) calendar days after the meeting following the MPEC action.

The MIP shall timely consider and take any action it deems necessary to address the appeal. This may include affirming the action or inaction appealed, reversing the action or inaction appealed or remanding the matter back to the appropriate group(s) ~~or groups~~.

SPP Staff, 2024-01-25T10:10:00Z
Not used
SPP Staff, 2024-01-26T07:10:00Z
Not used.
SPP Staff, 2024-01-25T10:12:00Z
Clarification.
SPP Staff, 2024-01-25T10:11:00Z
Added missing definition used in settlements.
SPP Staff, 2024-01-25T10:14:00Z
Not used in Tariff.

Defined in the Protocols
SPP Staff, 2024-01-25T10:14:00Z
New boilerplate- East IM RR543 (Critical Loads and Other Enhancements - Demand Response)
SPP Staff, 2024-01-25T10:18:00Z
Out of order. Moved to below.
SPP Staff, 2024-01-25T10:18:00Z
Clarification.
SPP Staff, 2024-01-25T10:30:00Z
Not used in Tariff.
Used in Protocols
SPP Staff, 2024-01-25T10:31:00Z
Clarification
SPP Staff, 2024-01-25T10:33:00Z
Not used in Tariff.
Used in Protocols.
SPP Staff, 2024-01-25T10:34:00Z
Expanded to include OOME.
SPP Staff, 2024-01-25T10:35:00Z
Not used.
SPP Staff, 2024-01-25T10:37:00Z
Clarification
SPP Staff, 2024-01-26T13:25:00Z
Addition of SPP to definition.
SPP Staff, 2024-01-25T10:37:00Z
Clarification
SPP Staff, 2024-01-25T10:39:00Z
Not used,.
SPP Staff, 2024-01-25T10:39:00Z
Not used
SPP Staff, 2024-01-25T10:39:00Z
Will be defined the Protocols.
SPP Staff, 2024-01-25T10:39:00Z
Not used in Tariff.
Used in Protocols.
SPP Staff, 2024-01-25T10:40:00Z
Not used.
SPP Staff, 2024-01-25T10:42:00Z
Not used in Tariff.
Used in Protocols.
SPP Staff, 2024-01-25T10:43:00Z
Clarification
SPP Staff, 2024-01-25T10:43:00Z
Reference bus is not used as a defined term in tariff.
SPP Staff, 2024-01-25T10:44:00Z
Clarification
SPP Staff, 2024-01-25T10:44:00Z
This detail will be included in Protocols.
SPP Staff, 2024-01-25T10:45:00Z
Not used
Christine Dillard, 2024-01-31T16:37:00Z
Clean up due to movement of sentence to section 6.3
SPP Staff, 2024-01-25T09:49:00Z
Clarified order of operation.
SPP Staff, 2024-01-25T09:50:00Z

Clarified order of operation.
SPP Staff, 2024-01-25T09:51:00Z
Clarified order of operation.
SPP Staff, 2024-01-25T10:05:00Z
Clarified approval requirements and removed date. Date will be specified in Protocols.
SPP Staff, 2024-01-25T09:52:00Z
Clarification for accuracy.
SPP Staff, 2024-01-25T09:53:00Z
Clarification for accuracy. SPP changed "Scarcity Price" to clarify and remove confusion prior to FERC filing. The areas where the replacements occur described how the various values of the slopped demand curve are determined, not necessarily the final price that may be reflected during scarce conditions where scarcity pricing is implemented. By replacing here, "Scarcity Price/Pricing" now only appears when referencing the prices implemented during scarce conditions and the modified language makes it clear that the calculations are for the various values of the slopped demand curve.

SPP Staff, 2024-01-25T09:56:00Z
Clarification.
SPP Staff, 2024-01-24T13:04:00Z
Clarified Day-Ahead Settlement when there is no Day-Ahead Market solution (Congestion Rent will not be settled)
SPP Staff, 2024-01-25T09:57:00Z
Clarified VER limits and registration of Non-Dispatchable VERs.
SPP Staff, 2024-01-24T13:06:00Z
Clarified wording to make clear how much Resource capacity must be made available to initial RUC process.
SPP Staff, 2024-01-26T07:37:00Z
Relocated to Settlements Sections 9.2.16 (DA MOO) and 9.3.26 (RT MOO)
SPP Staff, 2024-01-26T07:37:00Z
Relocated language to Attachment A, Section 9.3.26 (RT MOO)
SPP Staff, 2024-01-26T07:41:00Z
New boilerplate per approved Integrated Marketplace ER24-270 (RR521 Non-Standard Load Clean-up)
SPP Staff, 2024-01-26T07:42:00Z
Boilerplate from IM; not applicable to Markets+
SPP Staff, 2024-01-26T14:11:00Z
For MDWG Approval.
SPP Staff, 2024-01-26T07:45:00Z
New boilerplate- Pulled over from FERC Approved docket ER23-2664 (RR543)
SPP Staff, 2024-01-26T07:48:00Z
Initially missed boilerplate-FERC Approved language from ER19-460 (FERC Order 841/RR323)
SPP Staff, 2024-01-26T07:49:00Z
Not applicable in M+
SPP Staff, 2024-01-25T09:59:00Z
Added LRE attestation requirement for Must-Offer Requirement purposes for MPs serving load that are not LSE's.
SPP Staff, 2024-01-25T10:01:00Z
Will be defined in the Protocols.
SPP Staff, 2024-01-25T10:02:00Z
Clarified that all Uncommitted Imports will be responsible for increased costs, not just Uncommitted Imports cleared in the DA Market.
SPP Staff, 2024-01-26T07:49:00Z
Will be added to Protocols
SPP Staff, 2024-01-25T10:04:00Z
If needed, will be included in Protocols
SPP Staff, 2024-01-25T10:07:00Z

Clarified reasoning for MTU
SPP Staff, 2024-01-26T13:14:00Z
Addition at request of stakeholders
SPP Staff, 2024-01-26T14:19:00Z
For MDWG Approval.
SPP Staff, 2024-01-24T13:10:00Z
Consistent with the way marginal loss over-collection was handled in WEIS, this Loss Adjustment Factor is required to reduce the amount of over-collection $ due to marginal losses modeling.
SPP Staff, 2024-01-26T07:53:00Z
Moved to Schedule 1-A6 for consolidation with other fee amounts.
SPP Staff, 2024-01-25T13:23:00Z
Boilerplate that was initially missed.
SPP Staff, 2024-01-26T14:20:00Z
For MDWG Approval.
SPP Staff, 2024-01-25T13:28:00Z
GHG Revenue. For MDWG Approval.
SPP Staff, 2024-01-26T14:28:00Z
For MDWG Approval.
SPP Staff, 2024-01-26T14:28:00Z
For MDWG Approval.
SPP Staff, 2024-01-26T14:35:00Z
This section has not been approved by the MDWG and is still being edited by SPP staff.
SPP Staff, 2024-01-26T14:36:00Z
This section has not been approved by the MDWG and is still being edited by SPP staff.
SPP Staff, 2024-01-26T13:54:00Z
Added -1 to make this a payment
SPP Staff, 2024-01-24T13:13:00Z
Consistent with the way marginal loss over-collection was handled in WEIS, this Loss Adjustment Factor is required reduce the amount of over-collection $ due to marginal losses modeling.

SPP Staff, 2024-01-24T13:13:00Z
Moved Loss Factor to Section 9.3.1.
SPP Staff, 2024-01-26T14:21:00Z
For MDWG Approval
SPP Staff, 2024-01-26T14:22:00Z
For MDWG Approval.
SPP Staff, 2024-01-26T15:22:00Z
GHG Settlements Market Design. Pending MDWG Review and still being edited by SPP staff.
SPP Staff, 2024-01-26T15:22:00Z
GHG Settlements Market Design. Pending MDWG Review and still being edited by SPP staff.
SPP Staff, 2024-01-26T15:22:00Z
GHG Settlements Market Design. Pending MDWG Review and still being edited by SPP staff.
SPP Staff, 2024-01-26T15:23:00Z
GHG Settlements Market Design. Pending MDWG Review and still being edited by SPP staff.
SPP Staff, 2024-01-26T15:23:00Z
GHG Settlements Market Design. Pending MDWG Review and still being edited by SPP staff.
SPP Staff, 2024-01-26T14:29:00Z
For MDWG Approval.
SPP Staff, 2024-01-26T14:30:00Z
For MDWG Approval.
SPP Staff, 2024-01-26T14:31:00Z
For MDWG Approval.
SPP Staff, 2024-01-26T14:31:00Z

For MDWG Approval.
SPP Staff, 2024-01-26T14:32:00Z
For MDWG Approval.
SPP Staff, 2024-01-26T14:32:00Z
For MDWG Approval.
SPP Staff, 2024-01-26T14:32:00Z
This section has not been approved by the MDWG and is still being edited by SPP staff.
SPP Staff, 2024-01-26T14:34:00Z
This section has not been approved by the MDWG and is still being edited by SPP staff.
SPP Staff, 2024-01-25T10:09:00Z
Corrected wording error. Formula is correct.
SPP Staff, 2024-01-26T14:35:00Z
This section has not been approved by the MDWG and is still being edited by SPP staff.
SPP Staff, 2024-01-26T13:15:00Z
Boilerplate incorporated following approval of Schedule 1-A during January 24th MPEC
SPP Staff, 2024-01-18T14:45:00Z
Proposal made by MPs in recognition that SPP must change ESR Offer Mitigation Logic to better reflect dispatch-limited ESRs
SPP Staff, 2024-01-26T13:18:00Z
Changed terminology for consistency.
Miller,Todd E (BPA) - LP-7, 2024-02-12T06:28:00Z
In the body of the tariff and Att A Market Operator is used. While in this Att and other Att SPP is the acting party. Is this intentional or is there a need for consistency throughout?
SPP Staff, 2024-01-26T13:20:00Z
Duplicative
Miller,Todd E (BPA) - LP-7, 2024-02-12T06:13:00Z
Defined term above
Miller,Todd E (BPA) - LP-7, 2024-02-12T06:24:00Z
Below these steps are at SPP's discretion and the beginning just will. Needs the qualifier up front to avoid confusion.
Miller,Todd E (BPA) - LP-7, 2024-02-12T06:28:00Z
Unnecessary word
Miller,Todd E (BPA) - LP-7, 2024-02-12T06:39:00Z
Unnecessary
Miller,Todd E (BPA) - LP-7, 2024-02-12T06:46:00Z
Need to identify which MP Agreement.
Miller,Todd E (BPA) - LP-7, 2024-02-12T06:47:00Z
Suggestion
Miller,Todd E (BPA) - LP-7, 2024-02-12T06:56:00Z
Typo
Miller,Todd E (BPA) - LP-7, 2024-02-12T06:58:00Z
typo
SPP Staff, 2024-01-26T13:20:00Z
Revised to match tariff
SPP Staff, 2024-01-26T13:21:00Z
This section cleaned up because description of agreements covered by definition section
SPP Staff, 2024-01-26T13:21:00Z
Clarification
SPP Staff, 2024-01-26T13:22:00Z
Same clarification as above
SPP Staff, 2024-01-26T13:22:00Z
Substantive language approved during January 23-24 MPEC. Revisions made for clarity.

SPP Staff, 2024-01-26T13:23:00Z
Revised for clarity

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, July 25, 2023 12:32 PM
To: Thompson, Justin; Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] RE: APS Suggested Additions to Attachment A_Sec 4-4.2.8

Thank you, Justin. I have forwarded to my internal team. We will discuss these during the meeting tomorrow.

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C (b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Justin.Thompson@aps.com <Justin.Thompson@aps.com>
Sent: Tuesday, July 25, 2023 2:21 PM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Kristen Darden <kdarden@spp.org>
Subject: **External Email** APS Suggested Additions to Attachment A_Sec 4-4.2.8

CAUTION: This email originated from outside of the SPP network. Do not click links or open attachments unless you recognize or can verify the sender, or were expecting an email from the sender. The original sender of this email is Justin.Thompson@aps.com

Hi Russ and Kristen,

I have attached APS' suggested edits to the Tariff we are discussing tomorrow. The changes revolve around providing mechanisms to manage Fuel Limited Resources better.

Thanks,

Justin Thompson
Arizona Public Service
Director Resource Operations and Trading
602-250-2060 Office

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SPP Southwest Power Pool

PURPOSE

The Markets+ Design Working Group (MDWG) is responsible for the development and oversight of policies related SPP's administered wholesale energy markets.

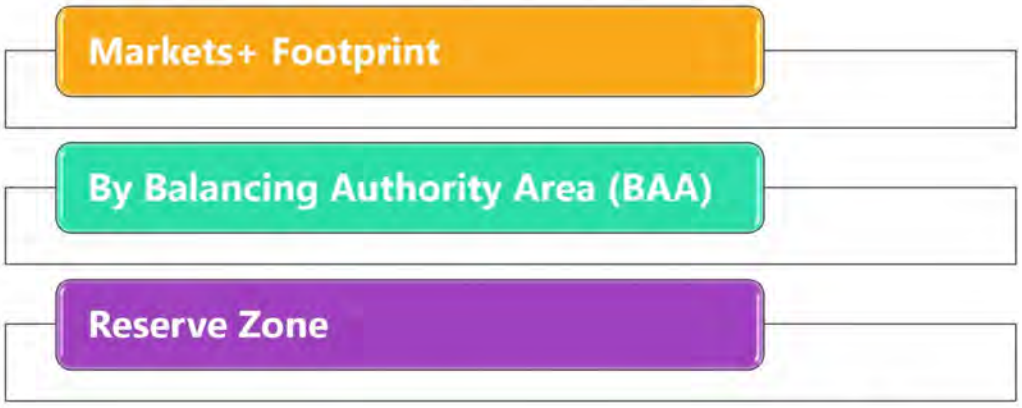
ESSENTIAL POINTS

- SPP provided education on potential different cost allocation methodologies: 1) By Balancing Authority Area (BAA), 2) Market-wide, or 3) By Reserve Zone.
- During 7/26/23 MDWG, group approved cost allocation by BAA, with a future MDWG meeting to discuss each specific charge and distribution type.
- MPEC approval needed of MDWG's determination of M+ cost allocation methodology approach, to allow the development of tariff drafting.

MARKETS +


Southwest Power Pool
WESTERN ENERGY SERVICES
MARKETS+ DESIGN WORKING GROUP (MDWG): COST ALLOCATION METHODOLOGY
MPEC | AUGUST 9, 2024
JIM GONZALEZ (SPP)
RUSS MANTIFEL, MDWG CHAIR (BPA)
SPP
Working together to responsibly and economically keep the lights on today and in the future.
SouthwestPowerPool
SPPorg
southwest-power-pool
MARKETS+
[AutoDate]

COST ALLOCATION (DISTRIBUTION) OPTIONS



SPP

MARKETS+

Markets+ Footprint

- Sum costs for the Market Footprint
- Allocate costs to the Market Participants in the Market Footprint
  - Load-ratio share
  - Deviation-ratio share
  - Pro-rata based on market activity
- Current method of allocating costs
- Requires little system change

SPP

MARKETS+

Balancing Authority Area (BAA)

- Sum costs within each BAA
- Allocate costs to Market Participants within that BAA
  - Load-ratio share
  - Deviation-ratio share
  - Pro-rata based on market activity
- Requires additional system modifications
  - Identification of the BAA where costs occurred
  - Identification of the BAA of each Settlement Location for allocation

SPP MARKETS

Reserve Zone

- Sum costs for each Reserve Zone
- Allocate costs to the Market Participants in Reserve Zone
  - Reserve-zone obligation based on load-ratio share
- Current method of allocating costs
- Requires little system change

SPP

MARKETS+

WHY DOES COST ALLOCATION MATTER?

- Depends on:
  - Markets+ Footprint
  - Available transmission capability
  - Footprint interconnection
    - More interconnected = Market-wide recommended option
    - More disconnected = BAA recommended option

SPP

MARKETS+

7/26/2023 MDWG MOTION

- *Paul Dietz (GCPUD) motioned to approve moving forward with the BAA distribution cost allocation methodology based on cost-causation with the intent to go into each charge type detail during a future MDWG meeting, and reassess the cost allocation methodology after Markets+ go-live. Laura Trolese (TEA) provided the second. Motion carried unanimously.*

SPP

MARKETS+

MPEC ACTION NEEDED

- MDWG recommends MPEC approval of MDWG's endorsement to move forward with BAA distribution cost allocation methodology.

SPP

MARKETS

From: Sibyl Geiselman <sgeiselman@publicgeneratingpool.com>
Sent: Thursday, October 19, 2023 10:01 AM
To: Cornelius, Adam; Jim Gonzalez; Kristen Darden; Trolese, Laura; Carrie Simpson; Mantifel,Russell (BPA) - BT-3
Cc: Mary Wiencke; Fina, Joe
Subject: [EXTERNAL] RE: [External Sender] RE: MPEC materials

Thanks for the dialogue on this and the updated materials. I look forward to seeing you all shortly in the MPEC.
-Sibyl

From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Wednesday, October 18, 2023 3:43 PM
To: Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>; Sibyl Geiselman <sgeiselman@publicgeneratingpool.com>; Trolese, Laura <ltrolese@teainc.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Mary Wiencke <mwiencke@publicgeneratingpool.com>; Fina, Joe <GFina@SNOPUD.com>
Subject: RE: [External Sender] RE: MPEC materials

Jim, and Kristen.

Thank you for providing the updated materials reflecting the broader discussion. To Sibyl's point, I think it is helpful for MPEC to have that information for context, especially in this case when the tariff vote was essentially implementing the policy that was previously decided.

On product duration, my understanding from the discussion was that it would be determined in protocols. It is reasonable that the starting point for the protocol discussions would be to bring over the timings from SPP IM. I think the updated language in the analysis generally captures this:

> *SPP presented education on SPP Integrated Marketplace's Ramp and Uncertainty Reserve Products and the potential design for Flexibility Reserve Products during the August 10th, August 29th, and October 11th MDWG meetings. The group approved moving forward with three flex products for Markets+: 1) Short-Term Flex Up, 2) Short-Term Flex Down, and 3) Mid-Term Flex Up. Short-Term Flex Up and Short-Term Flex Down are ten-minute products, while Mid-Term Flex Up is a one-hour product, in alignment with Integrated Marketplace boilerplate design. The group did discuss the potential flexibility for modifying the durations of the products in the future, if needed.*

I think it would be helpful to at least note verbally that those durations are in the protocols, not the tariff, and would not require a tariff filing to modify.

Thanks,
Adam

From: Jim Gonzalez <jgonzalez@spp.org>
Sent: Wednesday, October 18, 2023 12:31 PM
To: Kristen Darden <kdarden@spp.org>; Geiselman, Sibyl <sgeiselman@publicgeneratingpool.com>; Trolese, Laura <ltrolese@teainc.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Wiencke, Mary <mwiencke@publicgeneratingpool.com>; Fina, Joe <GFina@SNOPUD.com>; Cornelius, Adam <ACCornelius@Snopud.com>
Subject: [External Sender] RE: MPEC materials

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Good afternoon,

My understanding is the highlighted portion was endorsement of the protocol-level requirement details outlined in the ppt. Very specifically, I recall the motion discussion making it clear that the motion was to take the SPP boiler-plate design for the flexibility products and to push proposed alternatives such as the ability to explicitly offer for online flex products to discussion after the initial filing. That said, I don' think there is anything limiting MDWG from adjusting the durations times if the group determines that it would better reflect the needs of the anticipated Markets+ footprint.

I agree that we should revise the MPEC materials to accurately reflect the abstentions and SCPUD's reason for abstention and that documenting some of the context around the motion could be informative. The iterative approach of a working group endorsing a concept prior to tariff language prior to detailed protocols should provide additional checks as each more specific fleshing out of the working group desire requires subsequent approval by the group. This iterative approach also provides stakeholder the opportunity to communicate concerns to MPEC and IMIP as the approved details become more precise and less general.

discussion of potential biddable resources, the group decided to discuss this along with other market design enhancements after the FERC filing of the Markets+ Tariff.

Motion: Lindsey Schlekeway (NVE) motioned to approve SPP's proposal to have the following products and associated requirements in Markets+ at go-live: 1) Short-Term Flexibility Product Up, 2) Short-Term Flexibility Product Down, and 3) Mid-Term Flexibility Product, with the removal of an explicit offer for online Mid-Term Flexibility Up. Further discussion on the option to offer maximum or minimum clearing quantity per resource in the Protocols and not Tariff will be discussed for initial tariff filing. Discussion for including the potential for biddable/offerable Flexibility Products and associated cost allocation will occur following FERC filing of the Markets+ Tariff. Laura Trolese (TEA) provided the second. Motion carried with three abstentions (PGP, SCPUD, and TAC).

SCPUD Reason for Abstention: Snohomish PUD abstained due to concerns around the lack of offerability of the flexibility products, lack of a product to cover day-ahead to real-time uncertainty, and cost allocation. Snohomish appreciates that these will be covered following the

---

From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, October 18, 2023 2:03 PM
To: Geiselman, Sibyl <sgeiselman@publicgeneratingpool.com>; Trolese, Laura <ltrolese@teainc.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>
Cc: Wiencke, Mary <mwiencke@publicgeneratingpool.com>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Cornelius, Adam <accornelius@snopud.com>
Subject: RE: MPEC materials

Hey Sibyl –

Thank you for reaching out. In regards to updating the Recommendation, I would be glad to update and include SCPUD's abstention and reason. I've brought in Jim Gonzalez to help us out on the discussion below around flex products.

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6) [redacted]

29331374

201 Worthen Drive * Little Rock, AR 72223-4936
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Working together to responsibly and economically keep the lights on today and in the future.

From: Sibyl Geiselman <sgeiselman@publicgeneratingpool.com>
Sent: Wednesday, October 18, 2023 1:39 PM
To: Trolese, Laura <ltrolese@teainc.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Kristen Darden <kdarden@spp.org>
Cc: Wiencke, Mary <mwiencke@publicgeneratingpool.com>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Cornelius, Adam <accornelius@snopud.com>
Subject: **External Email** MPEC materials

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Be very cautious of any links or attachments unless you recognize this sender - sgeiselman@publicgeneratingpool.com and are expecting this email.
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Hi Laura, Carrie, Russ and Kristen,
Upon reviewing the MPEC materials for tomorrow's meeting, I have a couple of concerns regarding the background materials provided for the MPEC meeting. As PGP has stated previously, we need more of a record of conceptual design conversations, concerns, and for the record to reflect what was, and wasn't (to the extent it is a critical component of the design) approved by the MDWG. The materials provided include design features that were not approved by MDWG, and I don't think they are reflective of the discussion.

As I recall, the discussion (see ppt attached) was focused on what would be included in the tariff (very little detail) vs what would be included in protocols (the parameters that truly define the products, for the most part). When we later approved the tariff language, it was with this in mind. I think that the background materials for MPEC reflect a decision/recommendation that was intentionally sidestepped by the MDWG, which is the duration of the products (see attachment from the MPEC materials):

ANALYSIS

SPP presented education on Flexibility Reserve Products and discussion occurred. After discussion amongst the MDWG, the group landed on three flex products: 1) Short-Term Flex Up, 2) Short-Term Flex Down, and 3) Mid-Term Flex Up. Short-Term Flex Up and Short-Term Flex Down are ten-minute products, while Mid-Term Flex Up is a one-hour product. The language incorporated into this section has been previously approved. Flexibility Reserve Products settlements language will be brought forward for approval at a different time. The group unanimously approved moving forward with the language as presented by staff for use as a draft blackline Tariff for Markets+.

To more accurately reflect the decision made by the MDWG, I believe that this analysis section should be revised to remove the parameters ("ten-minutes" and "one-hour") and reflect the broader discussion above. For the MPEC's knowledge, and for completeness of the record, we also propose that you include in the Analysis portion of the materials the actual motion that carried through the MPEC at the August 29th meeting, including the official statement of abstention from SnoPUD, as found in the minutes here and shown below:

AGENDA ITEM 7 – FLEXIBILITY PRODUCT DESIGN

Jim Gonzalez (SPP) presented an overview of Flexibility Product Reserve market design, stating the MDWG preferred during the 8/10 MDWG meeting, to align with the SPP Integrated Marketplace Ramp Product and Uncertainty Reserve Products, for a Markets+ Flexibility Reserve Product. Jim reviewed three potential products:

- Short-Term Flexibility Product Up
- Short-Term Flexibility Product Down
- Mid-Term Flexibility Product

The group discussed what is considered Phase 2 versus Phase B of Markets+. After further discussion of potential biddable resources, the group decided to discuss this along with other market design enhancements after the FERC filing of the Markets+ Tariff.

Motion: Lindsey Schlekeway (NVE) motioned to approve SPP's proposal to have the following products and associated requirements in Markets+ at go-live: 1) Short-Term Flexibility Product Up, 2) Short-Term Flexibility Product Down, and 3) Mid-Term Flexibility Product, with the removal of an explicit offer for online Mid-Term Flexibility Up. Further discussion on the option to offer maximum or minimum clearing quantity per resource in the Protocols and not Tariff will be discussed for initial tariff filing. Discussion for including the potential for biddable/offerable Flexibility Products and associated cost allocation will occur following FERC filing of the Markets+ Tariff. Laura Trolese (TEA) provided the second. Motion carried with three abstentions (PGP, SCPUD, and TAC).

SCPUD Reason for Abstention: Snohomish PUD abstained due to concerns around the lack of offerability of the flexibility products, lack of a product to cover day-ahead to real-time uncertainty, and cost allocation. Snohomish appreciates that these will be covered following the FERC filing, but could not support the motion at this time.

Please let me know the process to follow to help support the official record reflecting the actual discussion and design decisions (or lack thereof). PGP appreciates your attention to these details and we look forward to the meeting tomorrow.

Sincerely,

Sibyl Geiselman

Sibyl Geiselman
Market Policy Advisor
PUBLIC GENERATING POOL
Phone: 503-730-1046
Email: sgeiselman@publicgeneratingpool.com

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From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Wednesday, August 30, 2023 11:30 AM
To: Applegate, Rick; Kochheiser,Todd W (BPA) - TOI-DITT-2; Kelli Schermerhorn; Eaton,Sara L (BPA) - PTMA-5; Jim Gonzalez; Kristen Darden
Cc: Mantifel,Russell (BPA) - PGL-5; Cornelius, Adam; Siewert,Christopher W (BPA) - PGS-5
Subject: Re: [EXTERNAL] RE: Grouped Hydro Language

Hi all, those times work for me too.

Jeff

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From: Applegate, Rick <rapplegate@cityoftacoma.org>
Sent: Wednesday, August 30, 2023 10:59:54 AM
To: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Kelli Schermerhorn <kschermerhorn@spp.org>; Spires, Jeff <Jeff.Spires@powerex.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Cornelius, Adam <accornelius@snopud.com>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: Re: [EXTERNAL] RE: Grouped Hydro Language

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BPAs times work for me.

From: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>
Sent: Wednesday, August 30, 2023 8:28:49 AM
To: Kelli Schermerhorn <kschermerhorn@spp.org>; Applegate, Rick <rapplegate@cityoftacoma.org>; Spires, Jeff <jeff.spires@powerex.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Cornelius, Adam <accornelius@snopud.com>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: RE: [EXTERNAL] RE: Grouped Hydro Language

Kelli,

These times would probably work for BPA (Pacific):

9/7: 8-10
9/7: 2-3
9/8: 8-10
9/8: 2-4

Thanks you,

Todd

From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Wednesday, August 30, 2023 6:38 AM
To: Applegate, Rick <rapplegate@cityoftacoma.org>; Spires, Jeff <jeff.spires@powerex.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Cornelius, Adam <accornelius@snopud.com>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: [EXTERNAL] RE: Grouped Hydro Language

I will be helping facilitate the settlements workshop in Denver at the end of this week, then traveling back to MT; how is the 7th / 8th looking for this group? Thank you!

From: Applegate, Rick <rapplegate@cityoftacoma.org>
Sent: Tuesday, August 29, 2023 5:05 PM
To: Spires, Jeff <jeff.spires@powerex.com>; Kelli Schermerhorn <kschermerhorn@spp.org>; Eaton, Sara <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Cornelius, Adam <accornelius@snopud.com>; twkochheiser@bpa.gov; 'Siewert,Christopher W (BPA) - PGS-5' <cwsiewert@bpa.gov>
Subject: **External Email** RE: Grouped Hydro Language

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I am available on Friday as well, but unfortunately have other SPP meeting conflicts with the other times that work for Jeff...To the extent you need to meet during those times, please feel free. My only issue with respect to the language is the requirement of a hydraulic linkage in bullet point number one. If that bullet point is removed in its entirety, I am happy.

Thank you,

Rick

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Tuesday, August 29, 2023 1:27 PM
To: Kelli Schermerhorn <kschermerhorn@spp.org>; Eaton, Sara <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Cornelius, Adam <accornelius@snopud.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov; 'Siewert,Christopher W (BPA) - PGS-5' <cwsiewert@bpa.gov>
Subject: Re: Grouped Hydro Language

Hi Kelli

Thank you for following up. I think a call would be valuable before moving this forward. Speaking for Powerex, we were comfortable with the language that BPA proposed and we have some challenges with the edits from SPP. I think it would be useful to arrange a discussion to hear your concerns about BPA's proposed language and to work through workable alternatives.

I am on the road this week so my availability is limited to Thursday 130-3 pm PT or Friday 12 pm - 3 pm PT. Anytime Tuesday Sept 5th would work for me as well.

Jeff

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From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Tuesday, August 29, 2023 1:06 PM
To: Eaton, Sara <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Cornelius, Adam <accornelius@snopud.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov <twkochheiser@bpa.gov>; 'Siewert,Christopher W (BPA) - PGS-5' <cwsiewert@bpa.gov>
Subject: RE: Grouped Hydro Language

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Hello team,

Please let me know if it would be helpful to discuss this language once you have had a moment to digest. Thanks much!

Kelli Schermerhorn
Lead Analyst, Market Design West
Staff Secretary, M+ Resource Adequacy Task Force

From: Kelli Schermerhorn
Sent: Monday, August 28, 2023 8:31 AM
To: Eaton, Sara <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Spires, Jeff <jeff.spires@powerex.com>; Cornelius, Adam <accornelius@snopud.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: RE: Grouped Hydro Language

Good morning!

We reviewed the comments provided last week, please see the attached response. It would be nice to discuss this as a smaller group before discussing in MDWG; we were thinking given the importance of this issue, we may wish to move approval to the 9/20 meeting to allow more time for consideration.

Please let me know if you all would like to touch base on these revisions.

Thank you for your engagement and thought on these issues.

Kelli Schermerhorn
Lead Analyst, Market Design West
Staff Secretary, M+ Resource Adequacy Task Force

From: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Sent: Friday, August 25, 2023 12:32 PM
To: Jim Gonzalez <jgonzalez@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Spires, Jeff <jeff.spires@powerex.com>; Kelli Schermerhorn <kschermerhorn@spp.org>; Cornelius, Adam <accornelius@snopud.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: **External Email** Grouped Hydro Language

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Hi Jim,

Thanks for your patience on the hydro language.
BPA has worked with Powerex, Snohomish and Tacoma to come to some shared language that would work for all of us and how we participate with our resource aggregations.
We think this language would be a good starting point for discussions in the upcoming MDWG.

Please let us know if you have any questions on the draft language.
Best,

Sara Eaton (she/her)
Senior Markets Policy Analyst | Market Policy and Pricing | PTMP
Bonneville Power Administration
C: (b)(6) | W: 503-230-5222 | sleaton@bpa.gov

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From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, November 14, 2023 12:13 PM
To: Detmer, Nick; Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] RE: 2024 MDWG Meetings

Great, thanks. And also we won't be scheduling that extra November MDWG meeting. We currently only have this Friday, 11/17 and Tuesday, 11/28. We have no meetings in December either. I do not see the need for it, unless for some reason we get delayed 11/17 and/or 11/28.

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Tuesday, November 14, 2023 2:11 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: 2024 MDWG Meetings

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From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, November 14, 2023 1:09 PM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Subject: 2024 MDWG Meetings

EXTERNAL - STOP & THINK before opening links and attachments.

Hey there –

Tracy, our contractor, is starting to work on the M+ WG/TF 2024 meeting schedule. Once I have that, I will pass along to you both for your review. We are looking at once a month to start off with. We will be covering Protocols and lots of them. ☺

January – The MGHGTF is meeting December 8 in Seattle and then a subsequent meeting after that I believe. For GHG language to move forward to the 1/24-25 MPEC, it still needs to peruse through the MDWG for our endorsement. I would like to schedule an MDWG meeting **Thursday, 1/11, 11:00 a.m. – 1:00 p.m., CPT (10:00 a.m. – 12:00 p.m., MT/9:00 a.m. – 11:00 a.m., PT)**, strictly to review GHG. We will keep it short and sweet since we will really be reiterating that it's the MGHGTF's scope to design it and the MDWG just ensures it doesn't break the market. Thoughts on this meeting?

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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This email and any attachments are for the sole use of the intended recipient(s) and may contain confidential information. If you receive this email in error, please notify the sender, delete the original and all copies of the email and destroy any other hard copies of it.

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Monday, July 15, 2024 11:39 AM
To: Josh Robertson; Zahnow, Jessica Lynn; Hakala, Tuuli; Kent.Walter@aps.com; Mantifel,Russell (BPA) - MTM-3
Cc: Ching, Vincent; Haines, Philip - Marketing; Hayes,Matthew C (BPA) - MTM-3; Ahmad, Omaya
Subject: [EXTERNAL] Latest Draft of Issue Alert on Governance After Today's Call
Attachments: Issue Alert 1 Governance DRAFT_v3 Redline.docx; Issue Alert 1 Governance DRAFT_v3 Clean.docx

Hi all,

Thanks again for the call this morning. I've attached a clean and redline that incorporates the discussion today. As mentioned, it would be ideal to receive any additional feedback by the end of today so we can share with the broader group.

Jeff

Jeff Spires | Director, Power | Powerex Corp. | Cell (b)(6)

From: Spires, Jeff
Sent: Sunday, July 14, 2024 9:46 PM
To: Josh Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Kent.Walter@aps.com; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Ahmad, Omaya <Omaya.Ahmad@aps.com>
Subject: Updated Draft of Issue Alert on Governance

Hi everyone,

Thanks to those that have provided edits and thoughts on the initial draft. In advance of tomorrow's call, please see the latest version based on the input and feedback we've received so far. There was a fair bit of re-wording to tighten up the document as well as a few new sentences related to competition between two markets driving better outcomes in the long run. Overall I think this is a significant improvement on the previous version. Given the fair number of modifications I thought it best to share a clean copy.

Jeff

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Markets+ Phase 1 Funding Parties To Publish "Issue Alerts" To Inform Public Dialogue On Day-Ahead Market Choices

In recent months, there has been considerable industry dialogue focused on the market seams that will exist between EDAM/EIM and Markets+, as well as the EDAM/EIM governance enhancements being pursued through the Pathways Initiative. While both topics are important, the Markets+ Phase 1 Funding Parties believe this dialogue is incomplete without also considering the numerous governance and market design differences between Markets+ and EDAM/EIM that are driving continued support for Markets+. To address this information gap, the Markets+ Phase 1 Funding Parties will be issuing a series of "Issue Alerts" to identify and explain the key governance and market design elements that differ between Markets+ and EDAM/EIM and why these differences have important consequences for customers in terms of reliability, economic value, and environmental objectives.

The Markets+ Phase 1 Funding Parties will share a new Issue Alert every few weeks covering the following topics:

1. Governance
2. Reliability
3. ~~Price Formation~~
3. Fair and Accurate Market Pricing
4. Seams Issues
5. ~~GHG Attribution~~
5. Support for Clean Resources
6. Market Operator Actions & Modeling
7. Durable Customer Benefits

Field Code Changed

Issue Alert 1:
The Markets+ Governance Framework Is The Best Option For A Multi-State Day-Ahead Organized Market

Governance is a key consideration in the selection of a day-ahead market. It determines how key decisions are made in a market where participants and regions sometimes have different interests. A governance framework establishes market design, tariffs, business practices and operating protocols – determining initial rules and how they will adapt over time. Governance affects the daily actions of market operators and the values against which market performance is measured. Consequently, governance has a major influence on market outcomes, including the determination of market prices, how costs are allocated, the extent and allocation of reliability risks during stressed grid conditions, and the success of environmental programs.

The governance framework of a western day-ahead market has the potential to affect $25 billion or more in annual trade. This is because the transition to a full day-ahead and real-time organized market (whether EDAM/EIM or Markets+) is expected to replace much of the bilateral day-ahead and real-time transactions that occur today while also impacting forward transactions and the utilization of the western transmission grid.



Sound governance is a foundational requirement for a day-ahead organized market to provide the benefits of increased efficiency and enhanced reliability while also ensuring equitable outcomes for all participants and all western sub-regions. ~~The key features of sound governance were described in Bonneville Power Administration's Staff Recommendation on Day-Ahead Market Participation:~~

~~*The market has*~~Key features include a durable, effective, and independent governance structure which provides fair representation to all market participants and stakeholders~~.~~, and in which participants take a regional view. Stakeholders initiate, develop, and own outcomes. Decision making and stakeholder engagement occurs in a transparent and inclusive manner.

The Markets+ Governance framework fully achieves this objective through these key features:

1. A fully independent board / panel with authority over all aspects of the market;
2. A transparent market development process led by stakeholders, with stakeholder voting rights to determine whether each specific market design proposal moves forward; ~~and~~

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3. A fully independent and impartial market operator that does not also act as one of the participating balancing authorities with its own interests.; and
4. A participation framework where all generators, load and BAAs are participating in the same manner with equivalent rules, rights, and responsibilities.

Importantly, the Markets+ governance framework is already up and running, and it provided the decision-making framework for developing the Markets+ initial market design and proposed tariff.

While the Pathways Initiative has proposed incremental improvements to the governance of EDAM and EIM, it cannot result in a governance framework comparable to Markets+ for several reasons:

1. The starting point for EDAM and EIM is a market design and tariff developed under the California ISO's existing governance framework. The Pathways Initiative does not propose to replace this initial market design with a stakeholder-driven design.
2. Both EDAM and EIM were built as extensions of a legacy institutional framework with embedded dependencies on, and obligations to, California state agencies, which the Pathways Initiative does not propose to eliminate.
3. The Pathways Initiative has not proposed a framework in which stakeholders with formal voting rights—rather than California ISO staff—will determine how the market design will evolve over time.
4. The Pathways Initiative does not ensure that the California ISO, as a market operator, will balance the interests of all stakeholders and avoid undue influence from California interests.
5. EDAM/EIM is an extension of the CAISO's existing market, with CAISO BAA having different rules, rights, and responsibilities, as well as different settlement practices. There are no current plans to enable an equivalent participation framework for all entities, including CAISO, within the Pathways Initiative governance model.
6. A fully independent governance framework will not realistically be achieved until well after most western entities will have made their market participation decisions, even if the significant and numerous uncertainties are ultimately overcome.

The stakeholder-driven Markets+ development process has resulted in a market design that is substantially different from the EDAM/EIM design in several key respects. Production cost models—including the models used in the multiple studies published comparing Markets+ and EDAM/EIM—are generally unable to reflect and quantify these important market design differences. This is because these models assume the two markets are largely identical in important aspects when in fact they are not. The models incorrectly assume:

- Both markets are always fully resource adequate/resource sufficient, and thus there is no material reliability risk or undue leaning;
- Scarcity events rarely or never occur in either market (and no scarcity pricing);
- There are few, if any, differences in how prices are calculated between the two markets;
- Congestion rent is allocated similarly in both markets;
- Environmental programs, including GHG attribution, are similar in both markets; and
- There are no operator actions such as load biasing or changing import/export limits in either market.; and
- Substantive hurdle rates and inefficiencies severely limit trade between markets.

Field Code Changed

Not only do these studies make the above incorrect simplifying assumptions, they also incorrectly assume that each distinct market design will have no impact on:

1. the extent to which entities participate in the day-ahead market (versus transacting in forward and day ahead bilateral markets); and
2. future investments in generation or transmission

In reality, differences in the design of a voluntary day ahead market can drive increased or decreased participation, while also encouraging or discouraging generation and transmission investments. For example, a market that inaccurately suppresses peak prices will discourage flexible generation and storage solutions. Similarly, a market that has a history of misallocating congestion rent will generally discourage transmission investments.

Finally, experience in the East demonstrates that the ongoing existence of two or more competing organized markets provides the opportunity for participants to continuously evaluate which organized market provides the best value for its customers. This places ongoing competitive pressure on each organized market to continuously evolve to deliver value to all of its participants and all of its sub-regions, driving immeasurable value for consumers while also reducing risk.

Future Issue Alerts will focus on key market design differences, which have the potential to greatly impact real-world economic, reliability and environmental outcomes for customers.

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Future Issue Alerts will focus on key market design differences, which have the potential to greatly impact real-world economic, reliability and environmental outcomes for customers.

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From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, February 14, 2024 1:29 PM
To: Trolese, Laura; Cole, Brian
Cc: Mantifel,Russell (BPA) - MTM-3; Detmer, Nick; Carrie Simpson
Subject: [EXTERNAL] RE: MDWG Member Change

Of course:

- IOU – 7
- PP – 9
- Independent – 8
- MSC – 1

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C (b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Laura Trolese <ltrolese@teainc.org>
Sent: Wednesday, February 14, 2024 1:31 PM
To: Kristen Darden <kdarden@spp.org>; Cole, Brian <brian.cole@aps.com>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>; Carrie Simpson <csimpson@spp.org>
Subject: **External Email** RE: MDWG Member Change

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Thank you. Can you remind me the count for MDWG on number of IOU, public power, and independents?

Laura Trolese
Director, Western Markets & Strategy

Mobile: (b)(6)
Email: ltrolese@teainc.org

The Energy Authority®

From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, February 14, 2024 11:28 AM
To: Cole, Brian <brian.cole@aps.com>; Laura Trolese <ltrolese@teainc.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>; Carrie Simpson

<csimpson@spp.org>
Subject: RE: MDWG Member Change

Hello –

I wanted to follow-up on this. We received two public power nominations:

1. Dave Hardy (TSGT)
2. Laura Olson (SRP)

SPP staff and the MDWG Chairs respectfully recommend Laura Olson to fill the Public Power seat. We will have this on the 2/20 MPEC agenda for your approval.

Thank you.

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, January 18, 2024 6:28 PM
To: Robertson, Josh C <Josh.Robertson@srpnet.com>; Cole, Brian <brian.cole@aps.com>; Martin, Marcie <Marcie.Martin@srpnet.com>; Trolese, Laura <ltrolese@teainc.org>
Subject: Re: MDWG Member Change

Hey Laura -

Currently, Barbara Cenalmor has designated Laura Olson as her proxy, while we are seeking nominations to fill a MDWG Public Power seat. I worked with Communications last week to get the email created and dispersed, including a nomination form, with a deadline of 1/22. I have an email out to Communications, following up to see if we have sent the email out and check in on all nominations received. I have documented SRP's nomination proposal of Laura Olson (SRP). Once the Monday 1/22 window closes, we will seek MPEC approval of SPP staff's recommendation for the new seat. Here's a snip-it from the Service Offering:

- **Following a solicitation of nominations by SPP staff, working group representatives shall be recommended by SPP staff to the MPEC for approval.** The recommendation and approval of representatives shall consider the various types and expertise of Markets+ Market Participants (MMPs) and Markets+ Market Stakeholders (MMS) and their geographic locations to achieve a widespread and effective representation of MMPs and MMSs. Criteria and sector representation for serving on a working group will be determined in the group's scope. An appointment to a working group is for an individual, not a corporate entity.

Once I hear an update from Communications, I will be able to give you more information if we think we are able to place this on the 1/23-24 MPEC agenda for action.

Thank you!

Kristen Darden

| Senior Market Analyst
| Western Services Development
| Southwest Power Pool
| kdarden@spp.org
| M: (b)(6)

From: Laura Trolese <ltrolese@teainc.org>
Sent: Thursday, January 18, 2024 11:25:11 AM
To: Kristen Darden <kdarden@spp.org>; Robertson, Josh C <Josh.Robertson@srpnet.com>; Cole, Brian <brian.cole@aps.com>; Martin, Marcie <Marcie.Martin@srpnet.com>
Subject: **External Email** FW: MDWG Member Change

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Hi Kristen,
Can you advise on the best way for SRP to change their representative on MDWG?

Laura Trolese
Director, Western Markets & Strategy

Mobile: (b)(6)
Email: ltrolese@teainc.org

The Energy Authority®

From: Joshua C Robertson <Joshua.Robertson@srpnet.com>
Sent: Thursday, January 18, 2024 9:23 AM
To: Laura Trolese <ltrolese@teainc.org>
Cc: Brian Cole <Brian.Cole@aps.com>; Marcie L Martin <Marcie.Martin@srpnet.com>
Subject: MDWG Member Change

Hey Laura-

We need to switch our MDWG representative and I believe this needs a vote at MPEC. If that's correct, can we get that added to the agenda for next week's meeting?

Thanks,

Josh Robertson
Director
SRP | Energy Market Strategy | PAB361
P.O. Box 52025, Phoenix, AZ 85072-2025
P: (602) 236-2994 | **M**: (b)(6)

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29331416

From: Kirby,Elizabeth A (BPA) - BT-3
Sent: Thursday, October 5, 2023 10:16 AM
To: Kristen Darden
Cc: Mantifel,Russell (BPA) - BT-3; Carrie Simpson
Subject: RE: [EXTERNAL] Re: **External Email** BPA/SPP Face to face?

No worries at all, my brain is mush lately so I totally get it ☺ It sounds like only Russ and I will be in person for the 26th, and no tech staff will be there for the 2nd. If there isn't free time around MPEC, we're happy to work on setting something up either here, Little Rock, or somewhere conveniently in between.

From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, October 4, 2023 5:51 PM
To: Kirby,Elizabeth A (BPA) - BT-3 <eakirby@bpa.gov>
Cc: Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>; Carrie Simpson <csimpson@spp.org>
Subject: RE: [EXTERNAL] Re: **External Email** BPA/SPP Face to face?
Importance: High

I'm so sorry! I wasn't even thinking when you literally said "after the 26th". Bless it. I instantly went to 10/25. Would Friday morning, 10/27, be an option? The MORWG should be done by 12:30pm Wednesday, 10/25, but I understand if your team isn't available at that time. Carrie also mentioned in a separate email that 11/2 is open in Phoenix if that would work better for you all? She, along with some others, will be there for an M+ leadership forum.

From: Kirby,Elizabeth A (BPA) - BT-3 <eakirby@bpa.gov>
Sent: Wednesday, October 4, 2023 3:11 PM
To: Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Carrie Simpson <csimpson@spp.org>
Subject: RE: [EXTERNAL] Re: **External Email** BPA/SPP Face to face?

Thank you for getting back to me so quickly! I will already be there for the MORWG meeting so I'd be available during the afternoon, but I will have to check with our other folks on whether they can fly in the morning of 10/25 and be there for an afternoon meeting. I think we will have fewer of our folks there (e.g. legal folks) than for the MPEC but I'll see if we can make that work. Is there time around the MPEC at all, or should I highlight that if 10/25 doesn't work we'll have to set something separate up?

From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, October 4, 2023 12:49 PM
To: Kirby,Elizabeth A (BPA) - BT-3 <eakirby@bpa.gov>
Cc: Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>; Carrie Simpson <csimpson@spp.org>
Subject: [EXTERNAL] Re: **External Email** BPA/SPP Face to face?

Hey Libby!

Yes we could try to make that work. Would you be available the Wednesday before, 10/25?

Kristen Darden
Real-Time Markets

29331462

Southwest Power Pool
(b) (6)

On Oct 4, 2023, at 1:44 PM, Kirby,Elizabeth A (BPA) - BT-3 <eakirby@bpa.gov> wrote:

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Hey Kristen,

We've been tossing around the idea of meeting with some SPP folks in person to work through some BPA questions. We're wondering about what timing for y'all looks like after the 10/26 phoenix meeting and before/after the November MPEC in phoenix. I know there are a lot of potential add on meetings flying around, so wanted to get a sense of whether that's possible or if we should try to find an alternative time to set something up.

Thanks,

Libby Kirby | Electrical Engineer
Bonneville Power Administration | BTO – Market Initiatives
Desk: (503) 230-4286 | Mobile: (b)(6)

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From: Bellcoff,Steve (BPA) - PGPR-5
Sent: Wednesday, August 30, 2023 10:50 AM
To: Rebecca Sexton (WPP); Ryan Roy (WPP); Maya McNichol (WPP); Katie Gregor (WPP); Charles Hendrix (SPP)
Cc: Nelson,Kathryn A (CONTR) - BT-3; Mantifel,Russell (BPA) - PGL-5; Hayes,Matthew C (BPA) - PGST-5; Nelson,Kathryn A (CONTR) - BT-3; Simon,Anne L (CONTR) - BD-3
Subject: RE: [EXTERNAL] WRAP/BPA Discussion
Attachments: Starting Points for conversation today.docx

I owed a list of points to start discussions from for this afternoon.
I will be in person – not positive how many others...

Attached is somethings I could put together in a few minutes for us to start conversation with.
I have our FS submittals on my computer and misc other files that I can use to talk from during meeting!

Sorry, this is so 11th hour :)
Steve

-----Original Appointment-----
From: Rebecca Sexton (WPP) <Rebecca.Sexton@westernpowerpool.org>
Sent: Wednesday, July 19, 2023 1:00 PM
To: Rebecca Sexton (WPP); Ryan Roy (WPP); Maya McNichol (WPP); Katie Gregor (WPP); Bellcoff,Steve (BPA) - PGPR-5; Charles Hendrix (SPP)
Subject: [EXTERNAL] WRAP/BPA Discussion
When: Wednesday, August 30, 2023 1:00 PM-4:00 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Western Power Pool (7525 NE Ambassador Pl Ste M, Portland, OR 97220, United States)

This meeting is to review the FS workbook and impacts of binding provisions.
Please forward as appropriate!

Microsoft Teams meeting

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29331467

Starting Points for conversation today (8/30):

- One Region/Hub or two –
  - Requirements to be single Mid-C participant.
  - Submittal requirements to meet FS requirements.
  - Sharing in SWEDE Region – our transmission is almost all NT in the region so sharing outside of the Mid-c Point is almost impossible.
- B2H –
  - Submittal of proposed transmission lines/capacity
  - BPA's rights will be NT, so will meet load plus any load growth needs (PRM)
  - Current scheduled energization date is July 2026 (Idaho has commented recently they are shocked at all the required permitting – but still on that date)
  - Is this exemption or????
  - Greenlink (NV Energy)
- Transfer loads –
  - We have loads in 9 BA's besides our own
  - Transfer Services by contract are planned at 1:10 forecasts in FS, then updated at Pre-Schedule to an actual tag, any adjustment/correction happens in settlement After the Fact. Other party responsible for any load change between Pre-schedule tag and operating hour
- Load Exclusions –
  - Specifically focused on NLSL for us
  - Form/Application for load exclusion
  - Approval process of exclusion, is this seasonally/annually/once intel withdrawn
- Pump Gen
  - General conversation about how Pump Storage goes into system.
  - Keys Pumping Station/Banks Lake – not currently in our submittals.
- *
- *
- BPMs –
  - general conversation about BPMs and how they affect any evaluation we make of binding season
  - BPA customer interaction with BPMs
- Markets
  - Ops program interactions with Markets
  - How could we see that playing out in the future – how can we help guide conversation

From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, August 2, 2023 9:25 AM
To: Mantifel,Russell (BPA) - PGL-5; Detmer, Nick
Subject: [EXTERNAL] Potential FTF MDWG October

Hey there –

I'm trying to get a location and date scheduled for a face-to-face meeting in October. There's availability at APS in Phoenix, AZ, Thursday, 10/19 and Friday, 10/20. I'd like to have a joint meeting with the Transmission Group and Seams/RA to cover tariff and design.

Thoughts on: 1) Date, 2) Location, and 3) Topics?

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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From: Jim Gonzalez <jgonzalez@spp.org>
Sent: Tuesday, October 10, 2023 6:57 AM
To: Cornelius, Adam; Kristen Darden; Mantifel,Russell (BPA) - BT-3
Subject: [EXTERNAL] RE: [External Sender] Markets+ Design Working Group (MDWG) 10/10/23 Meeting Materials

I like the proposed change. That was pulled from the RTO tariff. I remember the discussion that led to it. One of the stakeholders was adamant that the language list them both out individually based on specific contract language for one of their JOUs.

Jim

From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Monday, October 9, 2023 7:47 PM
To: Kristen Darden <kdarden@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** FW: [External Sender] Markets+ Design Working Group (MDWG) 10/10/23 Meeting Materials

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Kristen, Russ, and Jim,

A couple of hopefully very minor notes on draft Section 4.2.8, potentially up for approval tomorrow.

1. Individual Resource is capitalized, but I don't see it as a defined term.
2. In the draft tariff version posted on 9/15, Jointly Owned Unit is defined as:
   A Resource that is: 1) Owned by more than one Market Participant; or 2) A Resource for which (a) one or more Market Participants and one or more non Market Participants have contractual rights or financial obligations and (b) which the Market Participant registers as a Jointly Owned Unit

   Is there a reason that this requires both at least one MP and at least one non-MP to have contractual rights or financial obligations? Should this be revised to something like:
   A Resource that is: 1) Owned by more than one Market Participant; or 2) A Resource for which (a) one or more entities, at least one of which is a Market Participant, have contractual rights or financial obligations and (b) which the Market Participant registers as a Jointly Owned Unit

Thanks,

Adam Cornelius
Principal Utility Analyst | Power Supply | Snohomish County PUD
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ACCornelius@snopud.com

From: SPP Markets+ <marketsplus@spp.org>
Sent: Tuesday, October 3, 2023 2:45 PM
To: Cornelius, Adam <ACCornelius@Snopud.com>
Subject: [External Sender] Markets+ Design Working Group (MDWG) 10/10/23 Meeting Materials

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Markets+ Design Working Group (MDWG) 10/10/23 Meeting Materials have been posted to the SPP website for review at the link below:

MDWG Meeting Materials

Please direct questions to Kristen Darden at kdarden@spp.org.

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From: Christine Dillard <cdillard@spp.org>
Sent: Friday, September 1, 2023 1:46 PM
To: Fina, Giuseppe (Joe); Chris Nolen; Pettit, David E; Gorlin@WAPA.GOV; Alaine Ginocchio; Jason.Kuzma@pse.com; Engelby, Ben; Charles.VonReis@chelanpud.org; Miller,Todd E (BPA) - LP-7; 'Karilee S Ramaley'; Irene Scruggs; Gilhen, Jonathan; Sabers, Cathy; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7; Lee Engel; Davis,Thomas E (BPA) - LT-7; Kallstrom, Jeffrey; Starnes, Heather
Cc: Emon Mahony; Rachel Kane; Joseph Ghormley; Kristen Darden; Carrie Simpson; Mantifel,Russell (BPA) - PGL-5; Michael Riley
Subject: [EXTERNAL] RE: Markets+ Legal Group Meeting
Attachments: Markets+ Attachment B and C_DRAFT_090123.docx

Hi all,
Please find attached, and available in sharepoint, Attachments B and C – Market Power Mitigation plan and Market Monitoring Plan.

Have a good Labor Day weekend!

Christine Dillard | Attorney, Markets & Regulatory Policy
cdillard@spp.org (b)(6) (c)

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Working together to responsibly and economically keep the lights on today and in the future.

-----Original Appointment-----
From: Fina, Joe <GFina@SNOPUD.com>
Sent: Monday, May 15, 2023 1:07 PM
To: Fina, Joe; Christine Dillard; Chris Nolen; Pettit, David E; Gorlin@WAPA.GOV; Alaine Ginocchio; Jason.Kuzma@pse.com; Engelby, Ben; Charles.VonReis@chelanpud.org; Todd Miller; 'Karilee S Ramaley'; Irene Scruggs; Gilhen, Jonathan; Sabers, Cathy; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; Lee Engel; Davis,Thomas E (BPA) - LT-7; Kallstrom, Jeffrey; Starnes, Heather
Cc: Emon Mahony; Rachel Kane; Joseph Ghormley; Kristen Darden; Carrie Simpson; Mantifel, Russ; Michael Riley
Subject: **External Email** Markets+ Legal Group Meeting
When: Thursday, September 21, 2023 2:00 PM-4:00 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

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ATTACHMENT B
Market Power Mitigation Plan

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Addendum 1 Reserved for Future Use

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1. Purpose and Objective

The Market Mitigation Measures (the "Measures") contained within this Market Power Mitigation Plan provide for mitigation of the exercise of horizontal and vertical market power by Market Participants in certain specified circumstances. The Market Operator will implement the Market Power Mitigation Plan as defined.

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2. Definitions

For purposes of this Market Power Mitigation Plan, capitalized terms have the meanings specified below:

2.1 Frequently Constrained Areas

As defined in Section 3.1.1 of this Attachment AF.

2.2 Measures

SPP's Market Mitigation Measures set forth in this document.

2.3 Performance Factor

The calculated ratio of actual fuel burn to either theoretical fuel use (design heat input) or the most recent heat rate performance test, consistent with the Markets+ Protocols.

~~2.4 Plan~~

~~SPP's Market Power Mitigation Plan set forth in this Attachment AF.~~

2.5 Resource-to-Load Distribution Factor (RLDF)

The simulated impact of incremental power output from a specific Resource ("source") on the loading of a specific flowgate based on delivery to a representation of the locational weighting of all loads within all Settlement Locations ("sink").

3. Mitigation Measures for Economic Withholding – Market Power in Energy and Flexibility Reserve

This section sets forth the market power mitigation measures that are applied in the Day-Ahead Market, Reliability Unit Commitment processes and the Real-Time Balancing Energy Markets, collectively referred to as the Energy and Flexibility Reserve Product Markets.

3.1 Market Participant Communication

A Market Participant must provide accurate and factual information and not submit false or misleading information, or omit material information, in any communication with the Market Monitor, unless the Market Participant exercises due diligence to prevent such occurrences.

3.2 ~~Local~~ Market Power Test

A Resource satisfying at least one of the following conditions is determined to have ~~local~~ market power:

~~(~~1) ~~The Resource is located in a Frequently Constrained Area and one or more of the transmission constraints that define the Frequently Constrained Area is binding or the Reserve Zone that defines the area is binding;~~

(2) The Resource~~: is not in a Frequently Constrained Area and~~

(a) has a Resource-to-Load-Distribution factor less than or equal to negative five percent (-5%) relative to a binding transmission constraint; or~~or~~

(b) is located in a binding Reserve Zone~~;~~; ~~and~~

(~~3~~2) The Resource is committed, or the Multi-Configuration Resource ("MCR") is transitioned, ~~to address a Local Reliability Issue~~as a Reliability Must Run; or

(3) [RSI].

~~3.2.1 Frequently Constrained Areas~~

~~A Frequently Constrained Area is an electrical area identified by the Market Monitor that has at least one binding transmission constraint or binding Reserve Zone constraint that:~~

~~(i) is expected to be binding for at least five hundred (500) hours during a given twelve (12) month period; and~~

~~(ii) has at least one (1) pivotal supplier; and~~

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(iii) significantly affects overall congestion in that area.

All Frequently Constrained Area designations along with supporting analysis will be posted on the Market Operator's website.

3.2.1.1 Pivotal Supplier Test

A supplier is pivotal when the energy output or provision of Flexibility Reserve Products by any or some of its Resources jointly must be increased or decreased to resolve the binding transmission constraint or binding Reserve Zone constraint during some or all hours. This will be determined by utilizing transmission load flow cases or RTBM market cases reflecting a variety of market conditions.

These load flow or market cases will be used to estimate: (i) the generation shift factors for all relevant Resources and relevant resources outside the Markets+ Footprint relative to each potentially constrained flowgate; (ii) the capability of all Resources to meet the requirements of each binding Reserve Zone constraint; (iii) the base loadings of Resources; (iv) the base allocation of Flexibility Reserve Products on Resources; and (v) the base flows on each flowgate. A supplier is pivotal when a binding transmission constraint or a binding Reserve Zone constraint cannot be relieved by changing the base loadings for other suppliers' Resources.

3.2.1.2 Initial Designation of Frequently Constrained Areas

The Market Monitor will define and recommend the Frequently Constrained Areas to the SPP Markets+ Independent Panel prior to the start of Markets+.

3.2.1.3 Changes to Frequently Constrained Area Designation

The Market Monitor will reevaluate the Frequently Constrained Areas at least annually. A reevaluation may be performed more frequently if the Market Monitor believes that conditions have changed with respect to the binding transmission constraints or binding Reserve Zone constraints that define a Frequently Constrained Area, or if congestion on constraints that are not designated as a Frequently Constrained Area warrant a new analysis. The Market Operator may also propose an area be designated or undesignated as a Frequently Constrained Area to the Market Monitor. The Market Monitor will post the updated Frequently Constrained Area information along with the associated analysis on the Market Operator's website at least fourteen (14) calendar days prior to the

~~Frequently Constrained Area updates becoming effective and will notify Market Participants of the posting. Market Participants may contact the Market Monitor within the fourteen (14) day posting period if there are concerns with the Market Monitor's proposed updates. The Market Monitor will consider and respond to Market Participant concerns and will make updates if needed. The Market Monitor will notify Market Participants when updates become effective.~~

3.3 Mitigated Offer Calculation Methodology

Market Participants must submit a mitigated offer calculation methodology, including accurate cost data and verifiable supporting documentation sufficient to replicate the mitigated energy offer curve, to the Market Monitor for approval for each Resource. Market Participants must keep the methodology up to datee with . Mitigated offers must be calculated according to the approved methodology.

For a new Market Participant registering a new Resource in the market, the Market Participant must submit the methodology no less than 120 days before its first offer. For an existing Market Participant registering a new Resource, the Market Participant must submit the methodology no less than thirty (30) calendar days before its first offer.

If the Market Monitor communicates to a Market Participant that a methodology is not approved, the Market Monitor will identify the reasons, and the Market Participant must re-submit as soon as practicable. The methodology is effective beginning on the Operating Day following Market Monitor approval. If the Market Monitor does not respond to a submitted methodology in fifteen (15) calendar days, then the submitted methodology is allowed until the Market Monitor communicates otherwise.

3.4 Mitigation Measures for Energy Offer Curves

A Market Participant must submit Mitigated Energy Offer Curves daily in accordance with the mitigated offer development guidelines in the Markets+ Protocols.

1) For MCRs, for which a single configuration allows physical units to be swapped (e.g., Combustion Turbine 2 for Combustion Turbine 1), the costs used in the mitigated offer development for that configuration must

be those of the least cost physical unit that is available and can be swapped in such configuration.

2) [The mitigated Energy Offer Curve may be updated up to the close of the Day-Ahead Market for use in the Day-Ahead Market.

i. For any period a Resource is not committed by the Day-Ahead Market, the mitigated Energy Offer Curve for that period may be updated until the RUC begins.

ii. For Resources committed by the Day-Ahead Market, the mitigated Energy Offer Curve submitted as of the close of the Day-Ahead Market will apply to the Day-Ahead Market on the day before the Operating Day and the RTBM on the Operating Day unless an exception is allowed in Section 3.4 (J) of this Attachment B;

iii. For all other Resources, the mitigated Energy Offer Curve submitted at the time the RUC begins will apply to the RUC on the day before the Operating Day, and the RUC processes and the RTBM on the Operating Day. -]

3) For the pricing Simultaneous Co-optimization Methodology, the composite Energy Offer Curve and mitigated composite Energy Offer Curve will be calculated and used by the Market Operator for FSRs in the Day-Ahead Market and RTBM.

~~A. For a Resource with an Energy Offer Curve greater than or equal to $25/MWh that was committed by the Market Operator, t~~The conduct threshold~~s are as follows:~~

~~(1) For a Resource located in a Frequently Constrained Area, the conduct threshold~~ is a ~~17.5~~10% increase above the mitigated Energy Offer Curve~~;~~

(2) For ~~a Resource not located in a Frequently Constrained Area, the conduct threshold is a 25% increase above the mitigated Energy Offer Curve~~.

B. ~~For a Resource with an Energy Offer Curve greater than or equal to $25/MWh, t~~The Market Operator applies mitigation measures by ~~replacing the Energy Offer Curve with the mitigated Energy Offer Curve~~placing a cap on the Energy Offer Curve of 10% above the mitigated Energy Offer Curve if:

(1) The Resource's Energy Offer Curve exceeds the mitigated Energy Offer Curve by the ~~applicable~~ conduct threshold; and

(2) The Resource has ~~local~~ market power as determined in Sections 3.2(1) or 3.2(~~2~~3); and

~~(~~3) The Resource ~~either:~~

~~(a) F~~fails the Market Impact Test as described in Section 3.7~~, or~~

~~(b) Was a Reliability Must Run commitment~~.

A Resource with a~~n Energy Offer Curve below $25/MWh is not subject to mitigation measures on its Energy Offer Curve for economic withholding.~~

C. For a Resource ~~with an Energy Offer Curve greater than or equal to $25/MWh~~ that has ~~local~~ market power as determined in Section 3.~~1~~2(~~3~~2), the Market Operator applies mitigation measures by placing a cap on the Energy Offer Curve of 10% above the mitigated Energy Offer Curve. ~~A Resource with an Energy Offer Curve below $25/MWh is not subject to mitigation measures on its Energy Offer Curve for economic withholding.~~

D. The mitigated ~~e~~Energy ~~o~~Offer Curve must be the Resource's short-run marginal cost of producing energy as determined by the unit's heat rate or similar production efficiency ratio; fuel costs and the costs related to fuel usage, such as transportation and emissions costs ("total fuel related costs"); and Energy Offer Curve ("EOC") variable operations and maintenance costs ("VOM").

E. For Resources that are not ESRs, opportunity cost must be an estimate of the Energy and Flexibility Reserve Product Markets revenues net of short run marginal costs for the marginal forgone run time during the timeframe when the Resource experiences the run-time restrictions.

The forecasted Locational Marginal Prices are based on (i) the relationship between (a) the monthly average on-peak and off-peak system LMP and (b) the expected price of natural gas and (ii) hourly deviations between (a) the LMP at the Resource Settlement

Location and (b) the system LMP, as determined by the Market Monitor. The formulas and instructions in the price forecast model are determined by the Market Monitor and published in the Markets+ Protocols as part of the Mitigated Offer Development Guidelines, updated, as needed, by the Market Monitor. Historic LMPs are considered for the three-year period immediately preceding the period of time in which the Resource is bound by the referenced restrictions. The forecasted costs to generate energy at the Resource's Settlement Location are subtracted from the forecasted Locational Marginal Prices, as specified in more detail in Appendix G of the Markets+ Protocols. If the difference between the forecasted Locational Marginal Prices and forecasted costs to generate energy is negative, the resulting opportunity cost is zero. The Market Monitor will verify all Market Participants' opportunity cost calculations for consistency and accuracy. When the Market Monitoring Unit determines that the market price for any period was not competitive, it will adjust the LMP forecasting process used in the opportunity cost calculations to ensure that forecasted LMPs do not reflect non-competitive market conditions.

The following formula applies to all mitigated Energy Offer Curves unless specified otherwise in this Section 3.2(E) of this Attachment C:

Mitigated Energy Offer ($/MWh) = HeatRate (mmBtu/MWh) * Performance Factor * Total Fuel Related Costs ($/mmBtu) + EOC VOM ($/MWh) + Opportunity Costs ($/MWh) +[Schedule 1-A3 Charge ($/MWh) + Schedule 1-A4 Charge ($/MWh)]

The run-time restrictions must be updated more frequently as fewer hours remain available. The Market Participant may include in the calculation of its mitigated Energy Offer Curve an amount reflecting the resource-specific opportunity costs expected to be incurred under the following circumstances:

(1) Externally imposed environmental run-hour restrictions as verified by the Market Monitor; or

(2) Physical equipment limitations on the number of starts or run-hours, as verified by the Market Monitor and determined by reference to the manufacturer's recommendation or bulletin, or a documented restriction imposed by the applicable insurance carrier; or

(3) Fuel supply or transportation limitations, for up to one year, resulting from an event of force majeure or other circumstances verified by the Market Monitor.

F. The Market Participant must submit heat rate curves, descriptions of how spot fuel prices and/or contract prices are used to calculate fuel costs, variable fuel transportation and handling costs, emissions costs, and VOM to the Market Monitoring Unit. All cost data and cost calculation descriptions are subject to the review and approval of the SPP Market Monitoring Unit to ensure reasonableness and consistency across Market Participants. The submitted information must be sufficient for replication of the mitigated Energy Offer Curve and must include, among other data, the following information:

(1) For fuel costs, Market Participants must provide the Market Monitoring Unit with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants must submit VOM costs, calculated in adherence with the Appendix G of the Markets+ Protocols, reflecting short-run marginal costs, exclusive of fixed costs.

Further details associated with the development, validation, and updating of these costs are included in Appendix G of the Markets+ Protocols.

G. For Demand Response Resources utilizing Behind-The-Meter Generation, the mitigated Energy Offer Curve methodology must be developed in the same manner as a generating Resource as described above. For load reduction Demand Response Resources, the mitigated Energy Offer Curve methodology must include the quantifiable opportunity costs associated with the reduction, net of related offsetting increases in usage.

H. For Dispatchable Variable Energy Resources, the mitigated Energy Offer Curve methodology may include, but must not exceed, any calculation of quantifiable costs that

vary by MWh output, including short-run incremental VOM. Mitigation does not apply to Non-Dispatchable Variable Energy Resources in the Real-Time Balancing Market.

I. For an ESR, the mitigated Energy Offer Curve methodology may include, but must not exceed, (i) charging cost and (ii) opportunity cost, both adjusted for round-trip efficiency. Charging cost is the cost at which the ESR charged, and opportunity cost is the average profit in the next hour forgone by charging or discharging in the current hour. The sum of the charging cost and opportunity cost is the average LMP that is expected for the next Operating Hour. This expected average LMP for the next Operating Hour is the unweighted average of the LMPs for the most recent forty-five (45) days comparing like Operating Hours. The mitigated Energy Offer Curve for MSRs must have at least two breakpoints: one for charging and another for discharging. More breakpoints may be added to the extent that other costs vary.

The following formula applies to mitigated Energy Offer Curves for ESRs:

Charging Mitigated Energy Offer ($/MWh) =

Performance Factor * Average LMP Expected for the Next Hour ($/mmBtu) * Round-Trip Efficiency - EOC VOM ($/MWh)

Discharging Mitigated Energy Offer ($/MWh) =

Performance Factor * Average LMP Expected for the Next Hour ($/mmBtu) / Round-Trip Efficiency + EOC VOM ($/MWh)

J. Intra-day changes to the mitigated Energy Offer Curve are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past their initial commitment period by the Day-Ahead Market or a RUC process, the Market Participant may submit an updated mitigated Energy Offer Curve that reflects the procurement of higher cost fuel; or

(2) A Resource must switch fuels due to unforeseen operating conditions; or

(3) The Resource is an ESR; ~~O~~or

(4) As approved by the Market Monitor during periods of high intraday fuel price volatility.

Intra-day changes to the mitigated Energy Offer Curve must follow the mitigated offer development guidelines in Appendix G of the Markets+ Protocols and will be validated by the Market Monitor.

K. A Market Participant that has a Resource with short-run marginal costs greater than the Safety-net Energy Offer Cap may submit an Energy Offer Curve using the same guidelines for development of the Resource's Mitigated Energy Offer Curve established in Appendix G of the Markets+ Protocols. The Energy Offer Curve above $1,000/MWh must be equal to the Mitigated Energy Offer Curve and may include an adder with a maximum of $100/MWh due to the uncertainty of expected costs. For purposes of LMP calculation, the Energy Offer Curve will be limited to a maximum of $2,000/MWh and must be verified by the Market Monitor prior to the start of the applicable market clearing process. If the Energy Offer Curve cannot be verified prior to the start of the applicable market clearing process, then the Resource may be eligible to receive make-whole payments for its actual costs after verification by the Market Monitor. The default value is $1,000/MWh for any offer above $1,000/MWh until the offer can be verified. If the verified Energy Offer Curve is greater than $2,000/MWh, the Energy Offer Curve will be capped at $2,000/MWh in the applicable market clearing process, and the Resource may be eligible for make-whole payments for actual costs exceeding $2,000/MWh. Market Participants must submit evidence of actual costs to the Market Monitor. The Market Monitor must verify the actual costs for use in make-whole payments. In order to include the costs in the make-whole payments of the S120 Settlement Statement, the submission must occur within 75 calendar days after the Operating Day and the verification must be complete no later than noon on the business day prior to 105 calendar days after the Operating Day.

L. Cost data submitted for the development of mitigated offers, including opportunity cost data, are subject to the confidentiality provisions set forth in Section 11 of Attachment AE of this Tariff.

3.5 Mitigation Measures for Start-Up Offers and No-Load Offers

A Market Participant must submit a mitigated Start-Up Offer and a mitigated No-Load Offer for each resource in accordance with the mitigated offer development guidelines in the Markets+ Protocols. The mitigated Start-Up and No-Load Offers may be updated up to the close of the

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Day-Ahead Market for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead Market, the Start-Up and No-Load Offers may be updated until the RUC begins. The mitigated Start-Up and No-Load Offers submitted at the time the RUC begins will apply to the RUC on the day before the Operating Day unless an exception is allowed in Section 3.3(G) of this Attachment ~~A~~FB.

A. ~~For a Resource that was [committed by the Market Operator], t~~The Start-Up and No-Load Offer conduct threshold is a ~~25~~10% increase above the mitigated Start-Up or mitigated No-Load Offer, as applicable.

B. The Market Operator applies ~~For a Resource that was [committed by the Market Operator],~~ mitigation measures ~~are applied~~ by ~~replacing~~ placing a cap on the Start-Up or No-Load Offer of 10% above ~~with~~ the applicable mitigated Start-Up or No-Load Offer if:

(1) The Resource's Start-Up or No-Load Offer exceeds the mitigated Start-Up or mitigated No-Load Offer, as applicable, by the applicable conduct threshold; and

(2) The Resource has ~~local~~ market power as determined in Sections 3.2(1) or 3.2(3); and

~~(~~3) The Resource ~~either:~~

~~(a) F~~fails the Market Impact Test as described in Section 3.7~~, or~~

(b) ~~Is manually committed~~.

C. For a Resource that has ~~local~~ market power as determined in Section 3.~~1~~2(~~3~~2), the Market Operator applies mitigation measures by placing a cap on the Start-Up Offer or No-Load Offer of 10% above the mitigated Start-Up Offer or No-Load Offer, as applicable.

D. The mitigated Start-Up Offer must represent the cost per start as determined from start fuel usage and the costs related to that fuel usage, Performance Factor, cost of electricity for station use to start ("Station Service"), start-up VOM cost, start major maintenance cost, and start additional labor costs, if required above normal station staffing levels. Further guidelines for the mitigated Start-Up Offer are documented in Appendix G of the Markets+ Protocols.

The mitigated Start-Up Offer for Demand Response resources must be:

1) For load that is shut down or curtailed, the cost to shut down or curtail the load for a given period, which varies with the number of deployments rather than the amount of response, and
2) For load that is not shut down or curtailed, the start cost of Behind-The-Meter Generation utilizing the mitigated Start-Up Offer calculation applicable to other generation Resources as defined above.

The mitigated Start-Up Offer for Variable Energy Resources must be zero.

E. The mitigated No-Load Offer must be the hourly fixed cost, represented in $/hr, required to operate the Resource at zero electricity output to the grid.– The mitigated No-Load Offer can be calculated using either (1) the no-load fuel approach that includes no-load fuel (mmBtu/hour), Performance Factor, no-load VOM cost ($/mmBtu), total fuel related cost ($/mmBtu), and no-load major maintenance cost ($/hr); or (2) calculated using the no-load cost approach that includes heat input at Minimum Economic Capacity Operating Limit (mmBtu), Performance Factor, total fuel related cost ($/mmBtu), no-load VOM cost ($/mmBtu), incremental cost up to Minimum Economic Capacity Operating Limit ($/MWh), Minimum Economic Capacity Operating Limit (MW), and no-load major maintenance cost ($/hr). Further guidelines for the mitigated No-Load Offer are documented in Appendix G of the Markets+ Protocols.

The mitigated No-Load Offer for Demand Response Resources utilizing Behind-The-Meter Generation must adhere to the same definition above as a generating Resource. For Demand Response Resources utilizing load reduction, the mitigated No-Load Offer must not exceed the quantifiable ongoing hourly costs associated with load reduction.

The mitigated No-Load Offer for Variable Energy Resources shall be zero.

F. The Market Participant must submit all inputs used in calculating mitigated Start-Up and mitigated No-Load Offers to permit the Market Monitor to verify submitted offers. Required information includes: heat rate curves, descriptions of how spot fuel prices and/or contract prices are used to calculate fuel costs, variable fuel transportation and handling costs, emissions costs, and VOM cost. All cost data and cost calculation descriptions are subject to the review and

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approval of the Market Monitoring ~~Unit~~ to ensure reasonableness and consistency across Market Participants. Information to be provided by the Market Participant must include the following:

(1) For fuel costs, Market Participants must provide the Market Monitoring ~~Unit~~ with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants must submit VOM costs reflecting short-run marginal costs, exclusive of fixed costs.

(4) For start and no-load major maintenance cost, Market Participants may include these costs as a component of the mitigated Start-Up Offer and the mitigated No-Load Offer. Such cost must be based solely on resource-specific information derived from actual variable maintenance costs, when available, or estimated variable maintenance costs. The maintenance period for start major Maintenance cost must be tied to the number of starts, and the maintenance period for no-load major maintenance cost must be tied to the number of Resource run hours.

Further details associated with the development, validation and updating of these costs are included in Appendix G of the Markets+ Protocols.

G. Intra-day changes to the mitigated Start-Up and mitigated No-Load Offers are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past their commitment period, the Market Participant may submit updated mitigated Start-Up and mitigated No-Load Offers that reflect the procurement of higher cost fuel;

(2) A Resource must switch fuels due to unforeseen operating conditions; or

(3) The Resource is an ESR.

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Intra-day changes to the mitigated Start-Up and mitigated No-Load offers must follow the mitigated offer development guidelines Appendix G of in the Markets+ Protocols and will be validated by the Market Monitor.

H. In all cases under this Section 3.3, cost data submitted for the development of mitigated offers, including opportunity cost data, is subject to the confidentiality provisions set forth in Section 11 of Attachment A of this Tariff.

3.5.1 Mitigation Measures for Transition State Offers

The mitigation measures in this section apply only to MCRs. A mitigated Transition State Offer must be submitted daily by the Market Participant in accordance with the mitigated offer development guidelines specified in the Markets+ Protocols for each potential transition state changes. The mitigated Transition State offer may be updated up to the close of the Day-Ahead Market before the Operating Day as defined in Section 5.1 of Attachment BAE of this Tariff for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead Market, the mitigated Transition State Offer may be updated until the Day-Ahead RUC process begins. The mitigated Transition State Offer submitted at the time the Day-Ahead RUC process begins will apply to the Day-Ahead RUC process on the day before the Operating Day and Intra-Day RUC processes on the Operating Day.

A. ~~For an MCR that was not transitioned to address a Local Reliability Issue, t~~The Transition State Offer conduct threshold is a ~~25~~10% increase above the mitigated Transition State Offer.

B. ~~For an MCR that was not transitioned to address a Local Reliability Issue, t~~The ~~Transmission Provider~~Market Operator applies mitigation measures by ~~replacing~~ placing a cap on the Transition State Offer of 10% above~~with~~ the mitigated Transition State Offer if:

(1) The Resource's Transition State Offer exceeds the mitigated Transition State Offer by the applicable conduct threshold; and

(2) The Resource has ~~local~~ market power as determined in Sections 3.~~1~~2(1) or 3.~~1~~2(~~2~~3); and

~~(~~3) The Resource ~~either:~~

~~(a) F~~fails the Market Impact Test as described in Section 3.7~~, or~~

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(b) ~~Is manually committed by the Transmission Provider or by a local transmission operator~~.

C. For an MCR that has ~~local~~ market power as determined in Section 3.~~1~~2(3), the Transmission Provider applies mitigation measures by placing a cap on the Transition State Offer of 10% above the mitigated Transition State Offer.

D. The mitigated Transition State Offer for an MCR must represent the costs of moving from the current configuration to another configuration as determined from the fuel costs incurred during the transition, the costs related to that fuel usage, Performance Factor, and additional maintenance and labor costs incurred during the transition, including transition VOM cost and transition major maintenance cost. Further guidelines for the mitigated Transition State Offer are documented in Appendix G of the Markets+ Protocols.

The Market Participant must submit documentation of the method and any cost data for calculating the mitigated Transition State Offer that is necessary to allow the Market Monitor to validate submitted offers. Further details associated with the development of these costs are included in the Markets+ Protocols.

E. Intra-day changes to the mitigated Transition State Offers are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past their commitment period, the Market Participant may submit an updated mitigated Transition State Offer that reflects the procurement of higher cost fuel; or

(2) A Resource must switch fuels due to unforeseen operating conditions.

Intra-day changes to the mitigated Transition State Offers must follow the mitigated offer development guidelines in Appendix G of the Markets+ Protocols and will be validated by the Market Monitor.

F. In all cases under this Section 3.3.1, cost data submitted for the development of mitigated offers, including opportunity cost data, ~~shall be~~is subject to the confidentiality provisions set forth in Section 11 of Attachment AE of the Tariff.

3.46 Mitigation Measures for Flexibility Reserve Offers

A mitigated offer for each Flexibility Reserve product ~~shall~~ must be submitted daily by the Market Participant in accordance with the mitigated offer development guidelines in the Market~~s~~+ Protocols. For MCRs for which a single configuration allows physical units to be swapped (e.g., Combustion Turbine 2 for Combustion Turbine 1), the costs used in the mitigated offer development for that configuration ~~shall~~ must be those of the least cost physical unit that is available and can be swapped in such configuration. The mitigated Flexibility Reserve Offers may be updated up to the close of the Day-Ahead Market for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead Market, the mitigated Flexibility Reserve Offers may be updated until the Day-Ahead RUC begins. For Resources committed by the Day-Ahead Market, the mitigated Operating Reserve Offers submitted as of the close of the Day-Ahead Market will apply to the Day-Ahead Market on the day before the Operating Day and the RTBM on the Operating Day unless an exception is allowed in Section 3.4(G) of this Attachment C; for all other Resources, the mitigated Flexibility Reserve Offers submitted at the time the Day-Ahead RUC begins will apply to the RTBM on the Operating Day.

A. ~~For a Resource with an Flexibility Reserve Offer greater than or equal to $10/MWh that was not committed to address a Local Reliability Issue, t~~The ~~offer~~ conduct threshold for each of the Flexibility Reserve ~~p~~Products is a ~~25~~10% increase above the mitigated offer for the applicable Flexibility Reserve Product Offer.

B. ~~For a Resource with a Flexibility Reserve Offer greater than or equal to $10/MWh that was not committed to address a Local Reliability Issue, t~~The Market Operator ~~shall~~ applies~~y~~ mitigation measures by ~~replacing~~ placing a cap on the Flexibility Reserve Product Offer of 10% above~~with~~ the applicable mitigated Flexibility Reserve Product Offer if:

(1) The Resource's Flexibility Reserve Product Offer exceeds the applicable mitigated offer by the conduct threshold; and

(2) The Resource has ~~local~~ market power as determined in Sections ~~3.1~~2(1) or 3.1(23); and

~~(~~(3) The Resource ~~either:~~

~~(a) F~~fails the Market Impact Test as described in Section 3.7~~, or~~

(b) Is manually committed by the ~~Market Operator or by a local transmission operator~~.

~~A Resource with a Flexibility Reserve Offer below $10/MWh shall not be subject to mitigation measures on its applicable Flexibility Reserve Offer for economic withholding.~~

C. For a Resource ~~with a Flexibility Reserve Offer greater than or equal to $10/MWh~~ that has ~~local~~ market power as determined in Section 3.~~1~~2(~~3~~2), the Market Operator ~~shall~~ applies~~y~~ mitigation measures by placing a cap on the Flexibility Reserve Product Offer of 10% above the applicable mitigated Flexibility Reserve Product Offer. ~~A Resource with an Flexibility Reserve Offer below $10/MWh shall not be subject to mitigation measures on its applicable Flexibility Reserve Offer for economic withholding.~~

GD. Intra-day changes to the mitigated Flexibility Reserve Products ~~Operating Reserve~~ Offers are allowed under the following conditions:

(1) In the event that the ~~Transmission Provider~~Market Operator requests that a Resource that is supplying ~~Operating Reserves~~Flexibility Reserve Products ~~-~~remain online past their commitment period by the Day-Ahead Market or a RUC process, the Market Participant may submit an updated mitigated Flexibility Reserve Product ~~Operating Reserve~~ offer ~~curve~~ that reflects the procurement of higher cost fuel;

(2) A Resource must switch fuels due to unforeseen operating conditions; or

(3) Intra-day changes to the mitigated ~~Regulation Up and mitigated Regulation Down~~ Offers are allowed after the ~~Day-Ahead~~ RUC clears on the day before the Operating Day under the following condition:

a. The Resource incurs the uncompensated cost in Section 3.4(E)(3) of this Attachment ~~B~~AF, for which the mitigated offer calculation is described in Appendix G of the Markets+ Protocols.

Intra-day changes to the mitigated ~~Operating Reserve~~ Flexibility Reserve Product Offer ~~curve~~ must follow the mitigated offer development guidelines in Appendix G and Section 8.2.2 of the Markets+ Protocols~~. Any such changes~~ and will be validated by the Market Monitor.

HE. The Market Participant may include in the calculation of its mitigated ~~Operating~~ Flexibility Reserve Product Offer an amount reflecting the Resource-specific opportunity costs if the Market Participant is able to demonstrate to the satisfaction of the SPP Market Monitor~~ing Unit~~ that such costs are legitimate and

verifiable and not otherwise included in market outcomes. To the extent such costs include run-time restrictions, such run-time restrictions ~~shall~~ must be updated as specified in the Markets+ ~~t~~Protocols, with more frequent updating to occur the fewer hours that remain available, consistent with the Markets+ Protocols. The formulas and instructions in the price forecast model for any such opportunity costs ~~shall be~~are determined by the ~~SPP~~ Market Monitor~~ing Unit~~ and published in the Markets+ Protocols as part of the Mitigated Offer Development Guidelines, updated, as needed, by the ~~SPP~~ Market Monitor~~ing Unit~~. Opportunity costs for mitigated ~~Operating~~ Flexibility Reserve Product Offers ~~shall~~ must not include Energy and ~~Operating Reserve~~Flexibility Reserve Product Markets revenues associated with forgone Energy or other types of ~~Operating~~ Flexibility Reserve Product production to the extent that such costs are included in market outcomes.

IF. All cost data and cost calculation descriptions are subject to the review and approval of the ~~SPP~~ Market Monitor~~ing Unit~~ to ensure reasonableness and consistency across Market Participants. The information ~~will~~ must be sufficient for replication of the mitigated ~~Operating~~ Flexibility Reserve Product Offers and ~~shall~~ must include, among other data, the following information:

(1) For fuel costs, Market Participants ~~shall~~ must provide the Market Monitor~~ing Unit~~ with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants ~~shall~~ must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants ~~shall~~ must submit VOM costs, calculated in adherence with the Appendix G of the Markets+ Protocols, reflecting short-run marginal costs, exclusive of fixed costs.

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JF. In all cases under this Section 3.4, cost data submitted for the development of mitigated offers, including opportunity cost data, ~~shall~~ is be subject to the confidentiality provisions set forth in Section ~~11~~10 of Attachment A~~E~~ of this Tariff.

3.7 Validation of Mitigated Resource Offer ~~Parameters~~

If ~~T~~the Market Monitor ~~shall review the costs included in each mitigated Resource Offer on an ex-post basis relative to the relevant Operating Day in order to ensure~~ determines that the Market Participant has incorrectly applied the formulas and definitions in Sections 3.~~2~~4, 3.5, 3.~~3~~5.1, and 3.~~4~~6 of this Attachment A~~F~~ B and in the Markets+ Protocols ~~and~~ or determines that ~~the~~ a ~~level of the~~ mitigated offer is otherwise unacceptable. ~~If the mitigated offer determined by the Market Monitor and the Market Participant differ~~, the Market Participant ~~shall~~ must ~~use~~ submit the mitigated offer calculated by the Market Monitor going forward. ~~If a Market Participant submits a dispute over its mitigated offer, the previously approved~~most recent uncontested ~~mitigated offer shall must be~~The Market Monitor calculated mitigated offer must continue to be ~~used~~ submitted ~~from the time the dispute is submitted~~ until ~~the~~ any dispute is resolved. The procedures for submitting and processing disputes related to mitigated offers ~~shall be those~~are specified in the Markets+ Protocols. ~~The Transmission Provider~~Market Operator ~~shall~~ remedies~~y~~ mitigated offer disputes resolved in favor of the Market Participant by providing make whole payments, as necessary, to the Market Participant whose mitigated offer was improperly determined by the Market Monitor. When the Market Monitor determines that a mitigated offer is unacceptable, the Market Operator may claw back revenues for intervals in which the offer was unacceptable, as necessary, from the Market Participant.

Each Market Participant is obligated to provide to the Market Monitor any cost data necessary to allow the Market Monitor to validate its mitigated Resource Offer.

The Market Monitor ~~shall~~ will keep such data confidential, and all cost data submitted under this Section 3.5, including any opportunity cost data, ~~shall be~~are subject to the confidentiality provisions set forth in Section 1~~1~~0 of Attachment A~~E~~ of this Tariff. The Market Monitor ~~shall develop and~~ maintains the mechanism and procedures to allow Market Participants to submit such cost data on the Market Operator's website ~~the mechanism and procedures to allow Market Participants to submit such cost data~~.

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3.8 Additional Mitigation Measures for Resource Offer Parameters

The mitigation measures in this section apply to all Resource Offer parameters expressed in non-currency-based units ~~other than dollars~~ and ~~will only~~ apply only in the presence of ~~local~~ market power. A reference level for each applicable Resource Offer parameter that reflects the physical capability of the Resource ~~shall be~~is determined prior to the start of the Energy and Flexibility Reserve Products Markets by one or both of the following methods: (i) ~~the reference levels will be determined through~~ consultation between the Market Participant and the Market Monitor; and/or (ii) ~~the reference levels will be~~ based on averages of Resource Offer parameters from similar Resources. This methodology for setting reference levels for Offer parameters ~~shall~~ applies~~y~~ to all Resources at the start of the Energy and Flexibility Reserve Products Markets and to all Resources that register subsequent to the start of the Energy and Flexibility Reserve Products Markets. The Market Operator's output forecast for a wind and solar-powered Variable Energy Resource ~~shall be~~is used as the reference maximum output limit for the wind and solar-powered Variable Energy Resource.

The following thresholds ~~shall be~~are used by the Market Monitor to identify Resource Offers that may warrant mitigation and ~~shall be~~are determined with respect to the corresponding reference level:

1. Time-based Resource Offer parameters: An increase of three (3) hours, or an increase of six (6) hours in total for multiple time-based Resource Offer parameters.
2. Resource Offer parameters expressed in units other than time or dollars: One hundred percent (100%) increase for Resource Offer parameters that are minimum values, or a fifty percent (50%) decrease for Resource Offer parameters that are maximum values.
3. Minimum Economic Capacity Operating Limit, Minimum Discharge Limit, or Maximum Charge Limit, as applicable, threshold for Resources committed to address a Local Reliability Issue: twenty-five percent (25%) increase.
4. Maximum Charge Limit, as applicable, threshold for Resources committed to address a Local Reliability Issue: twenty-five percent (25%) decrease.

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In the case that a Resource Offer fails the thresholds described above, the Market Monitor ~~shall~~ will determine the impact on prices or make whole payments. If an impact exceeds the LMP, MCP or make whole payment thresholds in Section 3.7, the Market Monitor will initiate a discussion with the Market Participant concerning an explanation of the parameter changes. The Market Monitor will inform the Market Operator of any potential issue. If the Market Operator, in consultation with the Market Monitor, concludes that the Market Participant has demonstrated the validity of the submitted Resource Offer parameter, no further action will be taken. If not, the Market Operator ~~shall~~ will replace the Resource Offer parameter with the corresponding reference level. Mitigation measures will remain in place until such time that the Market Participant demonstrates the validity of the Resource Offer parameter or the Market Participant notifies the Market Monitor that the Resource Offer parameter has been changed to a value that is within the tolerance range as described above, and the Market Monitor has verified that this change has occurred. In the event that the Market Participant submits a dispute, the mitigation measure will remain in place until the resolution of the dispute.

In all cases under this Section 3.6, cost data submitted for the development of mitigated offers, including opportunity cost data, ~~shall be~~is subject to the confidentiality provisions set forth in Section 10~~1~~ of Attachment ~~AE~~ B of this Tariff.

3.9 Market Impact Test

If any Resource meets the conditions in Section 3.~~1~~ 2 of this Attachment ~~AF~~B, then the Market Operator compares a market solution with no mitigation measures to a market solution with mitigation measures applied. The Market Operator will apply mitigation measures to all such Resources when~~:~~

(1) An LMP or MCP at a Settlement Location exceeds the corresponding price from the market solution with mitigation measures applied by the applicable impact test threshold, or

(2) A make whole payment for any Resource exceeds the corresponding make whole payment from the market solution with mitigation measures applied by make whole payment impact test threshold.

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The LMP, MCP, and make whole payment impact threshold is calculated as the product of (i) the MEC from the market solution with mitigation measures applied and (ii) the Slope Factor. ~~twenty-five dollars ($25) per megawatt hour~~, where the impact threshold is between the minimum and maximum impact thresholds, inclusive.

(1) The Slope Factor determines how much the MEC affects the impact threshold between the minimum impact threshold and maximum impact threshold. The Slope Factor is 0.5; and

~~(1)~~(2) The minimum impact threshold is $5 and the maximum impact threshold is $100~~the MCP impact threshold is twenty-five dollars ($25) per megawatt hour, and the make whole payment impact threshold is twenty-five dollars ($25) per megawatt hour~~.

~~**3.10 Mitigation Exceptions**~~

~~A. The Market Monitor shall, as soon as practicable and if warranted in light of the information available to the Market Monitor,may contact a Market Participant to request an explanation of its actions in cases when an impact threshold in Section 3.7 of this Attachment B is exceeded and the Market Participant's offer exceeded the mitigated offer by more than the applicable conduct threshold, as specified in Section 3.2, 3.3, 3.3.1, or 3.4 of this Attachment B.~~

~~**3.9 Sanctions for Noncompliance with the Day-Ahead Market Must Offer Requirement**~~

~~A. In the case that a Market Participant is found to be noncompliant for an Asset Owner as determined by the conditions set forth in Section 2.11.1 of Attachment A, the Market Participant shall beis assessed a penalty for that Asset Owner by the Market Operator for each megawatt of withheld capacity below the 10% tolerance band. The penalty amount shall beis equal to the Day-Ahead Market LMP associated with the withheld capacity.~~

~~B. The Market Monitor will monitor for, andmay report to FERC's Office of Enforcement, or its successor organization, manipulative behavior associated with Day-Ahead Offers, including (but not limited to) monitoring load-serving Market Participants who do not offer enough net resource capacity to meet their maximum hourly Reported Load. The Market Monitor will may also report to FERC's Office of Enforcement or its successor organization any locational problems, such as deliverability issues, associated with load-~~

~~serving Market Participants' offers in the Day-Ahead Market, any identified efforts by Market Participants to raise prices in the RTBM by limiting Day-Ahead Offers, and the effects of any such efforts upon make whole payments.~~

4. Mitigation Measures for Virtual Energy Bids and Virtual Energy Offers

If a determination is made, as specified in Section 4.6.3 of Attachment C, that excessive divergence exists and the divergence is the result of the Virtual Energy Bids or Virtual Energy Offers of one or more Market Participants, the Transmission ProviderMarket Operator shall will impose mitigation measures. The mitigation measures will should restrict the Market Participants that caused the divergence from submitting any Virtual Energy Bids or Virtual Energy Offers at the Settlement Locations where the Market Participant's Virtual Energy Bids or Virtual Energy Offers caused the excessive divergence. The mitigation measures shall will be imposed for a period of three (3) months after which time the restriction will no longer apply until the behavior is observed again.

54. Miscellaneous Provisions

4.15.1 Rights and Remedies

The Market Power Mitigation Plan does not restrict the ~~Transmission Provider~~Market Operator and Market Participants from asserting any rights they may have under state and federal regulation and laws, including initiating proceedings before the FERC regarding any matter which is subject to this Market Power Mitigation Plan.

Except as otherwise stated in this Market Power Mitigation Plan, disputes as to the implementation of, or compliance with, this Market Power Mitigation Plan ~~shall be~~are subject to the dispute resolution procedures under this Tariff or the SPP Bylaws as applicable or may be raised with the FERC.

ATTACHMENT C
Market Monitoring Plan

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1. Purpose and Objective

1.1 Purpose of the Plan

This ~~Market Monitoring P~~plan ~~(the "Plan")~~ is intended to provide for the monitoring of Markets and Services and submissions of recommendations to the FERC and the SPP Board of Directors.

1.2 Market Monitoring Plan ("Plan")

The Plan ~~shall be~~is developed, implemented and maintained by SPP's Market Monitor. The Market Monitor has the responsibility for implementing the Plan by (a) continuously monitoring Markets and Services, (b) recommending compliance and corrective actions per this Tariff, (c) collecting and retaining the data and information necessary for the performance of the Plan, (d) recommending updates to the monitoring plan contained within Attachment ~~AG~~ C to this Tariff, and (e) periodically reporting on Markets and Services.

1.3 Mission Statement and Objectives of the Market Monitor

1.3.1 Mission Statement

The mission of the Market Monitor is to (a) monitor and report on possible abuses of horizontal and vertical market power and gaming in Markets and Services by any Market Participant (b) identify market design flaws and recommend any changes in design to improve the operation of Markets and Services for the benefit of consumers and Market Participants and (c) monitor~~ing~~ Market Participants' compliance with market rules.

1.3.2 Objectives

The Market Monitor will work to ensure that its functions and activities are implemented fairly and consistently, and that it protects and fosters competition while minimizing interference with open and competitive markets. The Market Monitor's preferred approach is to ~~M~~make~~ing~~ recommendations to improve the operation of markets and to prevent~~ing~~ the exercise of market power in advance rather than punishing offenders afterward ~~shall be the preferred approach~~.

~~T~~The Market Monitor will evaluate existing and proposed market rules, Tariff provisions, and market design elements and recommend proposed rules and Tariff changes to the Market Operator, ~~the~~ FERC~~'s Office of Energy Market Regulation (or its successor organization) staff~~, and other interested entities such as state commissions and Market Participants. The Market Monitor will limit distribution of its identifications and recommendations to the Market Operator and FERC~~'s Office of Energy Market Regulation (or its successor organization) staff~~ in the event

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that the Market Monitor believes that broader dissemination could lead to exploitation, with an explanation of why further dissemination should be avoided.

The Market Monitor will review the performance of the Markets and Services ~~wholesale market~~ and provide an annual report on the state of the market as provided in Section 7 of this Attachment C~~AG~~.

The Market Monitor will recognize that entities otherwise identified as having market power may engage in conduct giving the impression of market power but, after analysis by the Market Monitor, may prove to be pro-competitive and efficient. In making this distinction, the Market Monitor will generally focus on an analysis of the identified conduct and associated market impacts, rather than seeking to determine the intent of the Market Participant (e.g., conducting profitability analyses that would require comprehensive information on all the physical and final positions of a participant).

1.4 Independence of the Market Monitor

The Market Monitor ~~shall be~~ independently ~~from Market Participants to~~ performs those activities necessary to provide impartial and effective market monitoring within the scope of the Plan. ~~Notwithstanding the foregoing, in the normal course t~~The Market Monitor ~~shall~~ may verify information with affected Market Participants prior to making recommendations or reports.

1.5 Resolution of Conflicts

In the event there is a conflict between this Attachment ~~AG~~ C and any other provision of this Tariff, this Attachment ~~AG~~ C will control.

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2. Definitions

For purposes of this Plan, capitalized terms ~~shall~~ have the meanings specified below:

2.1 Confidential Information

The term defined under Section 1 to this Tariff.

2.2 Data and Information

Writings, documents and records of every type, including audio recordings and electronic files.

~~2~~.3 ~~FERC Staff~~

~~The responsible office within FERC designated to receive reports submitted by market monitors.~~

2.4 Interested Government Agencies

The FERC and any state regulatory commission or agency with relevant regulatory oversight responsibilities ~~for SPP Transmission Owners~~.

2.~~5~~4 Markets and Services

I~~ntegrated~~ The markets and services offered under the Market~~s+place~~ tariff~~(as defined in Attachment AE) and SPP's Transmission Services (as defined in the Tariff)~~

~~2.6 Plan~~

The Market Monitoring Plan set forth in this Attachment ~~AG.~~

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3. Market Monitor

The Market Monitor is responsible for implementing the Market Monitoring Plan as defined in this Tariff.

3.1 Staffing and Resources

The Market Monitor ~~shall be~~is an organization within SPP reporting to the Board of Directors, excluding any SPP management representatives serving on the Board of Directors. The Market Monitor ~~shall~~ will be comprised of employees of SPP with the necessary experience and qualifications to perform the duties of the Market Monitor. The duties and responsibilities of the Market Monitor ~~shall be~~are assigned by the Board of Directors. However, the Market Monitor's duties and responsibilities will not include purely administrative matters (e.g., enforcement of late fees and the untimely submission of outage reports and Meter Data). SPP management representatives on the Board of Directors will be excluded from the Board of Directors' oversight of the Market Monitor. SPP ~~shall~~ must establish and provide appropriate staffing and/or resources for the Market Monitor and ~~shall~~ must ensure that the Market Monitor has such adequate employees, funding and/or other resources, access to required information, and the full cooperation of SPP Staff, Organizational Groups, and other persons, as necessary, for the effective functioning of the Market Monitor and implementation of this Plan. The Market Monitor ~~shall have~~has full responsibility for implementing Attachment C.

3.2 Relationships and Notifications

As a general principle, the Market Monitor may obtain input from ~~the~~ SPP staff, FERC ~~Staff, SPP Staff~~, the ~~RSC~~Markets+ Sstate Ccommittee, and affected state regulatory authorities for the purpose of executing its duties. ~~However, i~~

In accordance with this Tariff, the Market Monitor ~~shall~~ must at any time bring any instances of market behavior that may require investigation (including, but not limited to, suspected Tariff violations, suspected violations of FERC-approved rules and regulations, suspected market manipulation, and inappropriate dispatch) to the attention of FERC's Office of Enforcement (or its successor organization) staff.

In the event the Market Monitor identifies a significant market design or policy problem that may require (a) a change to this Tariff or (b) referral to FERC~~After any initial investigation of market design/policies~~, the Market Monitor ~~shall~~ must ~~also~~ provide notification to the Board of

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Directors, the President of SPP, and the appropriate FERC ~~'s Office of Enforcement (or its successor organization)~~ staff, and other interested and relevant entities such as ~~relevant~~ state regulatory commissions ~~and Market Participants~~, as soon as practicable ~~in the event it identifies a significant market problem that may require (a) further investigation, (b) a change to this Tariff, or (c) referral to FERC~~. In the event the Market Monitor believes broader dissemination could lead to exploitation, it may limit distribution of its identifications and recommendations to the Board of Directors, the President of SPP, and FERC ~~Staff~~ with an explanation of why further dissemination should be avoided at that time.

~~T~~he Market Monitor ~~shall~~ may also interface with FERC ~~Staff~~ and other RTO and ISO market monitors in adjacent regions as needed for the purpose of addressing electricity market issues in a comprehensive manner. ~~The Market Monitor shall promptly notify the President of SPP of all such notifications, communications or reports.~~

3.3 Independence and Ethics Standards

The Market Monitor and its employees ~~shall~~ must abide by SPP's Standards of Conduct, which ~~shall be~~are appropriate for establishing the professional and financial independence of the Market Monitor.

Consistent with this requirement, the Market Monitor and its employees ~~shall~~must:

(a) have no material affiliation with any Market Participant or any affiliate of a Market Participant;

(b) not serve as an officer, employee, or partner of a Market Participant;

(c) have no material financial interest in any Market Participant or any affiliate of a Market Participant (allowing for such potential exceptions as mutual funds and non-directed investments);

(d) not engage in any market transactions other than the performance of their duties under this Tariff;

(e) not be compensated, other than by SPP, for any expert witness testimony or other commercial services to SPP or to any other party in connection with any legal or regulatory proceeding or commercial transaction relating to SPP;

(f) not accept anything of value from a Market Participant in excess of a de minimis amount;

(g) advise their relevant supervisor (or, in the case of the Market Monitoring management, SPP's Board of Directors) in the event they seek employment with a Market Participant, and must disqualify themselves from participating in any matter that would have an effect on the financial interest of such Market Participant.

These restrictions are not exclusive of the other requirements specified in SPP's Standards of Conduct. In the event there is a conflict between this Attachment ~~AG~~ C and SPP's Standards of Conduct, this Attachment ~~AG~~ C will control.

The Market Monitor ~~shall~~ must certify compliance with such policies to the President of SPP. The Market Monitor ~~shall~~ must require any external consultants or experts to certify compliance with these policies.

4. Market Monitoring

4.1 Markets to be Monitored

The Market Monitor will monitor Markets and Services. The Market Monitor will not monitor bilateral energy, transmission or capacity markets and services not administered, coordinated or facilitated by SPP, except to assess the effect of these markets and services on Markets and Services, or the effects of Markets and Services on these unmonitored markets. Similarly, the Market Monitor will not monitor the energy, transmission, or capacity markets and services in regions adjacent to the ~~SPP Region~~Markets+ Footprint except to assess the effect of these markets and services on Markets and Services, or the effects of Markets and Services on these adjacent markets.

4.2 Market Monitoring Scope

~~The Market Monitor will implement the Plan. The markets will require continuous monitoring by the Market Monitor.~~ The Market Monitor will monitor Markets and Services by reviewing and analyzing market data and information including, but not limited to:

(a) Resource registration data;

(b) Resource Offer data including non-price related offer parameters required for use in either the Day-Ahead Market, Reliability Unit Commitment processes and/or Real-Time Balancing Market;

(c) Demand Bids for the purchase of Energy in the Day-Ahead Market;

(d) Virtual Energy Bids for the purchase of Energy in the Day-Ahead Market and Virtual Energy Offers for the sale of Energy in the Day-Ahead Energy Market;

(e) Export Interchange Transaction Bids and Import Interchange Transaction Offers for the purchase and sale of Energy in the Day-Ahead Market and the Real-Time Balancing Market;

(f) Actual commitment and dispatch of Resources, including but not limited to Resource MW capability and output, MVAR capability and output, status, and outages;

(g) Locational Marginal Prices and zonal Market Clearing Prices at all Settlement Locations in or affecting any of Markets and Services;

(h) ~~SPP Balancing Authority Area~~Markets+ participating Balancing Authority Area data, including but not limited to demand, area control error, Net Scheduled Interchange, actual total net interchange, and forecasts of operating reserves and peak demand;

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(i) Conditions or events both inside and outside the Markets+ Footprint~~SPP Balancing Authority Area~~ affecting the supply and demand for, and the quantity and price of, products or services sold or to be sold in Markets and Services;

~~(~~j) Information regarding transmission services and rights~~, including the estimating and posting of Available Transfer Capability ("ATC") or Available Flowgate Capability ("AFC"), administration of this Tariff, the operation and maintenance of the transmission system, any auctions or other markets for transmission rights, and the reservation and scheduling of transmission service~~;

(k) Information regarding the nature and extent of transmission congestion in the region and, to the extent practicable, transmission congestion on any other system that affects Markets and Services, including but not limited to causes of, costs of and charges for transmission congestion, transmission facility loading, MVA capability, line status and outages;

(l) Settlement data for the Markets and Services;

(m) Any information regarding collusive or other anticompetitive or inefficient behavior in or affecting any of Markets and Services;

(n) Generation resource operating cost data for estimating resource incremental cost, including fuel input costs, heat rates where applicable, start-up fuel requirements, environmental costs and variable operating and maintenance expenses; and

~~(~~o) ~~Logs of transmission service requests and Generation Interconnection Requests along with the disposition of each request and the explanation of any refused requests;~~

(p) Any additional Resource and transmission facility outage data not otherwise provided for in this Section 4.2;

In addition to the monitoring of market Data and Information, the Market Monitor may communicate with SPP Staff and Market Participants at any time for the purpose of monitoring and assessing market conditions.

~~4.2.1 Additional Market Monitor Duties~~

~~(a) In addition to the monitoring of market Data and Information, the Market Monitor may communicate with SPP Staff and Market Participants at any time for the purpose of monitoring and assessing market conditions.~~

~~(b) The Market Monitor shall will evaluate the effectiveness of Markets and Services in signaling the need for investment in new generation, transmission or demand response infrastructure and will report on its findings at least annually.~~

4.3 Referrals to FERC

(a) The Market Monitor ~~shall~~ will ~~report~~ refer suspected market violations, as defined in 18 CFR 35.28(b)(8), to FERC's Office of Enforcement (or its successor organization) staff in accordance with the FERC's reporting protocols for referrals by market monitors as specified in 18 C.F.R. § 35.28(g)(3)(iv) in a timely manner. Any such ~~reports referals~~referrals by the Market Monitor to FERC Staff ~~shall~~ will be on a confidential basis, and all information and documents included in such reports will not be released to any other party except to the extent FERC directs or authorizes such release, unless such information and documents are already in the public domain.

(b) The Market Monitor will refer any perceived market design flaws and recommended Tariff language changes to the Commission's Office of Energy Market Regulation or its successor office/organization.

4.4 Monitoring for Potential ~~Integrated~~ Market~~place~~ Manipulation

The Market Monitor will monitor for potential instances of market manipulation ~~in the Integrated Marketplace~~. Such actions or transactions that are without a legitimate business purpose ~~and that are intended to~~manipulate, attempt to manipulate, or foreseeably could manipulate market prices (including actions resulting in excessive day-ahead clearing prices), market conditions, or market rules ~~for electric energy or electric products~~ are prohibited. ~~As listed by the FERC, p~~Prohibited behavior includes but is not limited to (a) wash trades, (b) submission of inaccurate, nonfactual, false, or misleading data, or omitting material information, (c) actions to cause artificial congestion ~~and~~ (d) collusive acts, and (e) offering the output of or misrepresenting the operational capabilities of a Resource in a manner which raises market prices by withholding available supply from the market. ~~.~~ The Market Monitor will report any market manipulation ~~in the Integrated Marketplace~~ in a timely manner.

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4.5 Monitoring for Potential Transmission Market Power Activities

The Market Monitor ~~shall~~ will monitor Markets and Services for the exercise of transmission market power by reviewing and analyzing data and information related to the availability of transmission facilities that impact access to services under this Tariff. The Market Monitor will monitor for activities particularly with respect to the withholding of transmission facilities or transmission capacity, including activities such as but not limited to, the following:

(a) Physical withholding by Transmission Owners by providing improper information related to the availability of transmission, such as information related to the capability or other modeling data used by SPP for use in system operations;

(b) Economic withholding by Transmission Owners through the use of methods and data for estimating costs of interconnection and system upgrades that is not comparable for affiliates and non-affiliates;

(c) Unavailability of transmission facilities through planned and unplanned maintenance outages that routinely exceed historical baselines; and

(d) Withholding of transmission capacity through excess reservations that are not actually used.

~~The Market Monitor shall refer any perceived market design flaws and recommended Tariff language changes to FERC's Office of Energy Market Regulation (or its successor office/organization). In addition, t~~The Market Monitor ~~shall~~ will refer any instance(s) of the suspected exercise of transmission market power directly to FERC's Office of Enforcement (or its successor organization) utilizing the protocols for referrals to FERC for suspected instances of the exercise of market power that may be part of a suspected market violation, such as manipulation, in accordance with 18 C.F.R. § 35.28(g)(3)(iv). Where appropriate, the Market Monitor ~~shall~~ will also provide the FERC with an estimate of damages equal to (i) the effect on prices multiplied by (ii) the affected energy produced by the Transmission/Generation Owner. The Market Monitor may also request FERC to impose additional sanctions and penalties, which may consist of a fixed dollar amount based on each instance, or an amount up to (i) the effect on prices multiplied by (ii) the affected energy produced by Market Participants other than the

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Transmission/Generation Owner. ~~All such referrals by the Market Monitor to FERC will be on a confidential basis, and all information and documents included in such reports will not be released to any other party except to the extent FERC directs or authorizes such release.~~

4.6 Monitoring for Market Participant Behavior Possibly Warranting Mitigation

The Market Monitor ~~shall~~ will monitor Markets and Services for potential abuse associated with the following categories of Market Participant behavior: (1) economic withholding; (2) uneconomic production; (3) physical withholding; and (4) uneconomic Virtual Bids and Virtual Offers. ~~; (5) gaming related to GFA Carve Out Schedules; and (6) gaming related to FSE Schedules.~~ Abuse of these types of behaviors is prohibited. The mitigation measures for each of the behaviors identified in items (1) through (4) of this paragraph are described in Attachment ~~A~~FB. When the Market Monitor determines that there is sufficient credible information about a specific abusive practice, the issue will be referred to the Commission's Office of Enforcement (or its successor organization). Nothing in this section ~~shall~~ limits the Market Monitor's obligation to refer other suspected market violations to the Commission's Office of Enforcement, even where suspected behavior does not fall explicitly within the abovementioned categories or descriptions.

4.6.1 Uneconomic Production

The Market Monitor will monitor for cases where uneconomic production by a Resource causes congestion on transmission facilities or price separation between Reserve Zones that is not justified by reliability concerns. For an MSR, both charging and discharging are considered production. The provisions of this Section 4.6.1 ~~shall~~ do not apply to Demand Response Resources.

(a) Potential uneconomic production will be indicated, and subject to further analysis as described in (b) of this Section 4.6.1, when the Resource has a positive Resource-to-Load Distribution Factor and any of the following conditions are met:

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(1) a Resource is identified with an incremental energy offer price less than 50 percent of ~~the applicable reference level~~its mitigated offer as shadow calculated by the Market Monitor; or

(2) a Resource is determined to be generating outside of its Operating Tolerance; or

(3) a Resource is subject to a time-based or other resource offer parameter (non-time and non-dollar based) that appears to facilitate production that is otherwise uneconomic.

(b) For any Resource meeting the conditions described in (a) of this Section 4.6.1, the Market Monitor ~~shall~~ will determine whether: (i) the MW impact from uneconomic production associated with such Resource is exacerbating the transmission congestion or binding a Reserve Zone; and (ii) the uneconomic production is not obviously justified by reliability or other operational concerns.

The Market Monitor will conduct evaluations as specified above and other related assessments to determine if there is sufficient credible information to justify referral to FERC.

4.6.2 Monitoring for Virtual Energy Bids and Virtual Energy Offers

The Market Monitor will monitor the level of divergence between the Day-Ahead Market LMPs and the Real-Time Balancing Market LMPs. Section 4.6.3 defines the monitoring metric and thresholds to be used in determining the existence of excessive LMP divergence. In the case that there is excessive LMP divergence, the Market Monitor will determine if the LMP divergence is attributable to the Virtual Energy Bid and Virtual Energy Offer behavior of one or more Market Participants. If the Market Monitor identifies one or more Market Participants as having caused the excessive LMP divergence through Virtual Energy Bid and Virtual Energy Offer behavior, then the Market Monitor ~~Market Operator~~ ~~shall~~ will ~~impose~~ recommend ~~mitigation measures described in Section 4.0 of Attachment B.~~that the Market Operator apply the mitigation measures described in Section 5.4 of Attachment A.

4.6.3 Metric and Threshold Specifications

The Market Monitor ~~will~~ computes the hourly LMP deviation between the Day-Ahead Market and Real-Time Balancing Market using the following formula: [(LMP_{RTBM} / $LMP_{DA\ Market}$) – 1] * 100. The average hourly LMP deviation is computed over a rolling four (4) week period or any other period that the Market Monitor determines is appropriate. If the ~~four (4) week~~ rolling average is below negative ten percent (-10%) or in excess of ten percent (10%), then the divergence is considered excessive and additional analysis is required.

4.6.4 Physical Withholding

(1) ~~The Market Monitor will monitor for physical withholding of capacity from the Energy and Operating Reserve Markets, and unavailability of facilities.~~ Physical withholding and unavailability of facilities ~~may~~ includes but is not limited to:

(a) Declaring that a Resource has been derated, forced out of service or otherwise been made unavailable for technical reasons that are untrue or that cannot be verified;

(b) Refusing to provide offers or schedules for a Resource when it would otherwise have been in the economic interest to do so without market power;

(c) Operating a Resource in real-time to produce an output level that is less than the Dispatch Target minus the Resource's Operating Tolerance defined in Section 6.4.1 of Attachment A~~E~~ to this Tariff and the Resource is not exempt from URD under Section 6.4.11 of Attachment A~~E~~ to this Tariff;

(d) Derating a transmission facility for technical reasons that are not true or verifiable;

(e) Operating a transmission facility in a manner that is not economic and that causes a binding transmission constraint, ~~or~~ binding reserve zone, ~~or~~ Local Reliability Issue, or Emergency Condition; and

(f) Declaring that the magnitude of the capability of a Resource is reduced for reasons that are not true or verifiable. This capability includes but is not limited to the following:

(i) The capability to provide Energy;

(ii) The capability to provide ~~Operating~~ Flexibility Reserve Products~~.~~;

(iii) In the case of MSRs, the capability to charge and/or to discharge.

(2) Market Participant will not be deemed to be physically withholding if:

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(a) They are following the directions of the ~~SPP~~ Balancing Authority, Reliability Coordinator, transmission service provider, or applicable reliability standards;

(b) They are selling into another market at a higher price;

(c) ~~Their Variable Energy Resources are withheld in the Day-Ahead Market under the conditions in Sections 4.6.4(a), 4.6.4(b), or 4.6.4(f); or~~

(d) The Market Participant is reducing the magnitude of the MSR's maximum capability, either charging or discharging, from its true and verifiable physical or environmental limitations in order to provide that capability for the duration of the minimum clearable commitment period.

4.6.4.1 Thresholds for Identifying Physical Withholding of Resource Capacity

~~4.6.4.1.1 A Market Participant is deemed to be physically withholding capacity in a Frequently Constrained Area if all of the following conditions exist:~~

~~(a) One or more of the transmission constraints or Reserve Zone constraints that define the Frequently Constrained Area are binding; and~~

~~(b) The Market Participant controls or owns a Resource that satisfies condition 4.6.4(a), 4.6.4(b), 4.6.4(c), or 4.6.4(f) of this Attachment CAG and is located in the Frequently Constrained Area identified in (a).~~

4.6.4.1.2 A Market Participant is deemed to be physically withholding capacity ~~in an area not designated as a Frequently Constrained Area~~ if all of the following conditions exist:

(a) One or more transmission constraints are binding or a Reserve Zone is binding; and

(b) The Market Participant owns or controls one of more Resources that have ~~local~~ market power as defined in Section 3.~~1~~ 2 of Attachment B~~AF~~ of this Tariff; and

(c) One of the following conditions apply:

(1) Such Resource(s) satisfy one of the conditions in Sections 4.6.4(a), 4.6.4(b), or 4.6.4(f) of this Attachment C~~AG~~ and the total withheld capacity exceeds the lower of 5 percent of the total capability owned or controlled by the Market Participant or 200 MW; or

(2) Where the real-time output of each such Resource is less than the Dispatch Target minus the Resource's Operating Tolerance defined in Attachment A, Section 6.4.1 of this Tariff and the Resource is not exempt from Uninstructed Resource Deviation under Attachment A~~E~~. Section 6.4.1.1 of this Tariff.

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4.6.4.2 Thresholds for Screening of Potential Physical Withholding of Transmission Facilities

A transmission facility fails the physical withholding screen if either of the following conditions is met:

(a) The transmission facility satisfies a condition in Section 4.6.4(d) or 4.6.4(e) of this Attachment ~~AG~~C; or

(b) The Market Monitor identifies a pattern of scheduling outages resulting in increased market costs compared to an alternative and lower cost impact outage schedule.

4.6.4.3 Sanctions

The Market Monitor will record instances where Market Participants have failed the screens in Sections 4.6.4.1 and 4.6.4.2 of this Attachment ~~AG~~C. The Market Monitor will notify FERC's Office of Enforcement, or successor organization, of suspected physical withholding behavior. In the event the Market Monitor determines there is credible evidence of a market violation, the Market Monitor ~~shall~~ will make a referral to FERC as described in Section 4.3 of this Attachment C~~AG~~.

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5. Review of Market Activity

5.1 Requests

Any Market Participant or Interested Government Agency may raise any issue with the Market Monitor and request that the Market Monitor consider the issue in its monitoring and reporting. The Market Monitor may include this issue in its monitoring or reporting if it determines it is appropriate to do so. The Market Monitor should not monitor or report on any complaint pertaining to issues not related to Markets and Services or activities not monitored and overseen by the Market Monitor.

Any requests by Market Participants and Interested Government Agencies to the Market Monitor may be made confidentially. The Market Monitor ~~shall~~ will maintain the confidentiality to the extent practicable.

6. Compliance and Corrective Actions

6.1 Compliance

The Market Monitor ~~shall~~ will administer the Market Monitoring Plan as described in this Attachment ~~AG~~ C and will report any actual or potential abuse of market power or market design inefficiencies as part of its monitoring process. However, the Market Monitor's activities are limited to matters that (i) are expressly set forth in this Tariff; (ii) involve objectively-identifiable behavior; and (iii) do not subject the Market Participant to sanctions or other consequences other than those expressly approved by FERC and set forth in this Tariff.

As part of the monitoring process, the Market Monitor may issue a demand letter requesting Market Participants causing the issue to arise to change actions as the Market Monitor deems proper to achieve compliance and the Market Monitor may also engage in discussions with persons or entities other than Market Participants as necessary as part of any investigatory or compliance process.

6.2 Corrective Actions for Market Design

If the Market Monitor discerns any weaknesses or failures in market design and market rules, including the determination that Markets and Services are not resulting in just and reasonable prices or providing appropriate incentives for investment in needed infrastructure, the Market Monitor ~~shall~~ will advise the appropriate Organizational Group of SPP, the President of SPP, the ~~RSC~~MSC, appropriate state authorities, FERC ~~Staff~~, and relevant Market Participants. In the event the Market Monitor believes providing such information could lead to exploitation, it will restrict such notification to the President of SPP, the Chairman of the SPP Oversight Committee, and FERC ~~Staff~~, and will provide a justification for such limited notification.

Should SPP not respond within 60 days, the Market Monitor may recommend changes in market design and market rules to the Board of Directors, FERC, and the MRSC as needed. If SPP responds, but does not recommend changes to market design and market rules that are acceptable to the Market Monitor, the Market Monitor ~~shall~~ will report to the Board of Directors and the appropriate regulatory body or bodies as needed, and then SPP may file a petition or submission seeking appropriate action from FERC or any other appropriate enforcement agency. The Market Monitor ~~shall~~ may make recommendations

for changes to this Tariff as necessary to correct weaknesses or failures in Markets and Services.

In the event that any weaknesses or failures in market design require immediate corrective action to ensure just and reasonable prices, the Market Monitor may request the President of SPP to authorize an immediate FERC filing requesting implementation of a corrective action while the appropriate Organizational Group of SPP responds to the Market Monitor's notification as described above. The requested immediate corrective action should be the method least intrusive or disruptive to Markets and Services necessary to resolve the market weakness or failure as determined by the Market Monitor. Prior to making such a request to the President of SPP, the Market Monitor will make reasonable efforts to discuss with affected Market Participants and the staff of affected Interested Government Agencies the market weakness or failure potentially requiring immediate corrective action, unless the Market Monitor determines that such discussions would lead to exploitation.

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7. Periodic Reports and Updates to SPP, Government Agencies, and Market Participants

7.1 Reports and Updates to the Board of Directors

7.1.1 State of the Market Reports

(1) The Market Monitor ~~shall~~ will publish an annual state of the market report providing details on the market for the previous year.~~prepare and submit to the Board of Directors periodic reports on an annual basis (and any other reports required by the Board of Directors) relating to its activities.~~ ~~In such~~As a part of its annual reports, the Market Monitor may make recommendations regarding any matter within its purview as defined in the Tariff. The Market Monitor will submit and present on its annual state of the market report to the Oversight Committee and Board of Directors. ~~The reports to the Board of Directors shall include recommendations as to whether changes are necessary to the Market Monitor, this Plan, this Tariff, the SPP Bylaws, agreements between SPP and its Members, or any other policies, procedures, and standards under the Market Monitor's purview. Any such reports may be subject to confidentiality provisions consistent with Section 8.1.~~

(2) The Market Monitor will publish a quarterly state of the market report providing details on the market for the previous quarter. As part of its quarterly reports, the Market Monitor may make recommendations regarding any matter within its purview as defined in the Tariff. The Market Monitor will post the quarterly state of the market report on the Market Operator's website.

Any such reports may be subject to confidentiality provisions consistent with Section 8.1.

7.1.1~~2~~ Market Monitor Activities Report

The Market Monitor ~~shall~~ will also prepare and submit to the ~~Board of Directors~~Oversight Committee quarterly updates ~~of the reports, at least quarterly, which will~~on Market Monitor activities emphasizinge any issues of concern to the Market Monitor.

7.1.2~~3~~ Report Comments

SPP and Market Participants may comment on any public reports made pursuant to this section, through the appropriate stakeholder process or directly to the Market Monitor. The independent Market Monitor maintains discretion~~shall be free~~ to disregard any comments or suggestions with which it disagrees.

7.2 Reports to Government Agencies, the Market Operator, and Market Participants

After an annual review of the performance of the wholesale markets as discussed in Section 1.3.2 of this Attachment ~~AG~~C, the Market Monitor ~~shall~~ will provide its annual State of the Market Report to FERC, the SPP Board of Directors, the Market Operator, state commissions, Market Participants, and other interested entities. The Market Monitor ~~shall~~ will also make available, as described below, the reports provided to the Board of Directors and other such reports as may be requested by the FERC ~~Staff~~ or such authorities subject to protection of confidential, proprietary and commercially sensitive information and the protection of the confidentiality of ongoing monitoring activities.

7.2.1 The Market Monitor ~~shall~~ will submit such reports to the FERC ~~Staff~~ and other affected regulatory authorities, including the ~~Regional~~ Markets+ State Committees.

7.2.2 The~~se~~ Market Monitor reports ~~shall be~~are made available on the ~~SPP W~~Market Operator's website.

~~7~~.2.3 The Market Monitor will hold ~~C~~conference calls related to ~~the Market Monitor~~these reports. Any interested party may ~~be~~ attend~~ed by the Market Operator, the Board of Directors, FERC Staff and other affected regulatory authorities, Regional State Committee, and Market Participants regardless of which party initiates~~ the~~se~~ conference calls. The Market Monitor ~~shall~~ will make one or more of its staff members available for regular conference calls. Individual entities may request meetings to discuss these reports.

8. Data Access, Collection and Retention

~~The Market Monitor shall regularly collect and maintain~~must have access to all Data and Information necessary for monitoring Markets and Services and implementing mitigation protocols ~~according to the Plan~~.

8.1 Confidentiality

SPP and Market Participants may designate Data and Information as Confidential Information consistent with the terms of SPP's Membership Agreement and Section ~~11~~ 10 of Attachment A~~E~~. If the designation of Confidential Information appears to be unreasonable, the Market Monitor may challenge such designation of Confidential Information consistent with Section ~~11~~ 10 of Attachment A~~E~~.

The Market Monitor ~~shall~~ will provide Confidential Information to Interested Government Agencies consistent with the terms of Section ~~11~~10.4 of Attachment A~~E~~.

8.2 Access to ~~SPP~~ Data and Information

~~T~~The Market Monitor ~~shall~~ must have access to all market impacting Data and Information. This Data and Information will be gathered or generated by ~~SPP~~the Market Operator, participating Balancing Authority, or Market Participant ~~in the course of its operations~~. This Data and Information ~~shall~~ includes, but is not ~~be~~ limited to the operational data, listed in Section 4 of this Plan, gathered or generated by all market impacting entities which may include the Market Operator, Balancing Authority, Reliability Coordinator, and ~~T~~transmission service ~~P~~provider~~, that listed in Section 4 of this Plan~~. All Data and Information listed in Section 4 of this Plan ~~shall~~ must be retained ~~by SPP~~ for a minimum period of ~~three~~six years.

8.3 Access to Market Participant Data and Information

Market Participants ~~shall~~ must retain all Data and Information listed below, and in Section 4 of this Plan as applicable, that is in the custody and control of Market Participants, for a minimum of ~~three~~ six years and ~~will~~ must promptly provide any such Data and Information to the Market Monitor upon request.

Market Participants ~~shall be capable of~~must provid~~e~~ing the Data and Information to the Market Monitor, upon request, in ~~the Market Participant's native~~ a commonly used format along with a description of the ~~native~~ data and format ~~used~~. If necessary, due to proprietary format restrictions, the Market Participant ~~shall be capable of~~must provid~~e~~ing the data to the Market Monitor in a non-proprietary format, such as CSV or XML format along with a description of the data and format ~~used~~. ~~Any such request will be accompanied by an explanation of the need for such Data and Information.~~ Market Participants may designate such Data and Information as Confidential Information, but such Data and Information ~~may~~ must not be redacted or modified in any manner prior to delivery to the Market Monitor by the Market Participant.

~~Data and Information to be retained by~~ Market Participants must retain the following Data and Information for all parties affiliated with the Market Participant and ~~provided~~ provide it to the Market Monitor upon request:

(a) All Data and Information relating to the costs of operating a ~~generating unit~~resource, including but not limited to, heat rates, start-up fuel requirements, fuel purchase~~s costs~~, environmental costs, and operating and maintenance expenses;

(b) All Data and Information regarding opportunity costs of a ~~generating unit~~resource, including but not limited to, regulatory, environmental, technical, or other restrictions that limit the run-time or other ~~generating unit~~resource operating characteristics;

(c) All Data and Information relating to the operating status of a ~~generating facility~~resource, including but not limited to ~~generator~~ logs showing the ~~generating~~ status of a ~~specified unit~~resource, including information relating to an ~~forced~~ outage~~, planned outage~~ or derat~~e~~ing ~~of a generating unit~~;

(d) All Data and Information relating to the operating status of a transmission facility, a contingency, tap setting of a phase shifting transformer, or other operating consideration, including but not limited to ~~forced outages, planned~~ an outages or derat~~e~~ing of a transmission system component;

(e) All Data and Information relating to transmission system or resource planning, including but not limited to studies, reports, plans, models, analyses, and filings with FERC or any state regulatory commission;

(f) All Data and Information relating to the ability of a Market Participant or its ~~Affiliate~~ affiliate to determine the pricing or output level of ~~generating~~ resource capacity owned by another entity, including but not limited to any document setting forth the terms or conditions of such ability;~~.~~

(g) All Data and Information used in the course of business operations in arriving at a decision by a rReserve sSharing gGroup member to call an oOperating rReserve cContingency and to request assistance;~~.~~

(h) All Data and Information used to make decisions in the course of business operations relating to market strategy.

If any additional Data and Information not listed above or in Section 4 of this Plan is required from Market Participants by the Market Monitor for the purpose of fulfilling its responsibilities, the Market Monitor may request such Data and Information from Market Participants. Such Data and Information ~~shall~~ must be provided in a timely manner by Market Participants. ~~Any such request shall be accompanied by an explanation of the need for such data or other information, a specification of the form or format in which the data is to be produced, and an acknowledgement of the obligation of the Market Monitor to maintain the confidentiality of the data.~~ If a Market Participant receiving a request for Data and Information not listed above or in Section 4 of this Plan believes that production of the requested Data and Information would impose a substantial burden or expense, or would require the party to produce information that is not relevant to achieving the purposes or objectives of this Plan, the Market Participant receiving the request ~~shall~~ should promptly ~~so~~ notify the Market Monitor. ~~The Market Monitor shall review the request with the receiving Market Participant to determine whether,~~ If the Market Monitor determines that ~~without unduly compromising the objectives of this Plan,~~ the request can be narrowed or otherwise modified to reduce the burden or expense of compliance, ~~and if so shall so~~ the Market Monitor may modify the request. No party that is the subject of a data request ~~shall~~ will be required to produce any summaries, analyses, or reports of the data that do not exist at the time of the data request, other than a description of the data.

If the Market Monitor determines that the requested Data and Information has not or will not be provided in a timely manner, the Market Monitor may ~~utilize~~ (a) follow the dispute

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resolution procedures under this Tariff or under the SPP Markets+ Bylaws as applicable or (b) make a filing with the appropriate regulatory or enforcement agency to compel the production of the requested information.

8.4 Data Created by Market Monitor

~~A~~ny data created by the Market Monitor, including any reconfiguration of Data and Information ~~obtained from SPP or Market Participants~~under this section, will remain within the Market Monitor's exclusive control. Such data may be shared ~~with SPP and Market Participants~~ at the Market Monitor's sole discretion and on a non-discriminatory basis, subject to the confidentiality provisions specified in this Attachment ~~AG~~ C and Section ~~11~~ 10 of Attachment A~~E~~.

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9. Miscellaneous Provisions

9.1 Rights and Remedies

This Plan does not restrict SPP and Market Participants from asserting any rights they may have under state and federal regulation and laws, including initiating proceedings before the FERC regarding any matter which is subject to this Plan.

9.2 Disputes

Disputes as to the implementation of, or compliance with, this Plan ~~shall be~~are subject to the dispute resolution procedures under this Tariff or under the SPP Markets+ Bylaws as applicable or subject to review by FERC.

10. Review of Market Monitor

The activities of the Market Monitor ~~shall~~ will be reviewed from time to time by the Board of Directors.

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, July 3, 2023 6:26 AM
To: Detmer, Nick; Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] 7/12 MDWG Agenda
Attachments: 071223 MDWG Agenda_DRAFT.docx

Hey there –

Attached is the draft agenda that will be posted by COB Wednesday, 7/5, for the 7/12 MDWG meeting. Let me know if you have any questions, comments, or modifications.

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

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SOUTHWEST POWER POOL, INC.
MARKETS+ DESIGN WORKING GROUP MEETING
July 12, 2023
Net-Conference
11:30 a.m. – 4:00 p.m., CPT
(9:30 a.m. – 2:00 p.m., PT)
Lunch Break: 2:00-2:30 p.m, CPT / 12:00-12:30 p.m., PT

1. Administrative Items ..... Russ Mantifel (5)
    A. Call to order
    B. Statements: Notice of Recording & Anti-trust Statement
    C. Attendance & Agenda Review
2. Review of Past Action Items ..... Kristen Darden (5)
    A. MDWG AI6: RNU Education *(Recommend Closure)*
    B. MDWG AI7: Cost Allocation Education *(Recommend Closure)*
    C. MDWG AI8: Virtuals Education *(Recommend Closure)*
    D. MDWG AI9: Virtuals Effective Date Straw Poll Results *(Recommend Closure)*
3. Consent Agenda ..... Kristen Darden (5)
    A. June 13-14 MDWG Minutes
4. MDWG Roster Update ..... Russ Mantifel (5)
5. MCRTF Liaison Report ..... Jeff Spires (5)
6. Tariff (Approval items) ..... SPP Staff (60)
    A. Attachment A – Section 2-2.3.3: Day-Ahead & Operating Day Activities (Approval) (30)
    B. Attachment A – 3-3.7.2: Locational Marginal Prices & Market Clearing Prices (Approval) (30)
7. Policy Education Sessions ..... SPP Staff (145)
    A. Virtuals ..... Jim Gonzalez (60)
    B. Cost Allocation Methods ..... Steve White (60)

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C. Resource Participation Types ..... Kevin Morelock (45)

8. Tariff Review ..... SPP Staff (5)

   A. Attachment A – 4-5.3: Resource Participation Types; Special Rules & Provisions (5)

9. Summary of Motions and Action Items ..... Kristen Darden (2)

10. Future Meetings ..... Kristen Darden (2)

   A. MDWG Future Meeting
   July 26th, 2023
   Location: Net-Conference
   Time: 11:30 a.m. – 4:00 p.m., CPT / 9:30 a.m. – 2:00 p.m., PT

   B. MDWG Future Meeting
   August 10th, 2023
   Location: Bonneville Power Administration; Portland, OR; Rates Hearing Room
   Time: 8:30 a.m. – 3:00 p.m., PT / 10:30 a.m. – 5:00 p.m., CPT

11. Open Discussion ..... All (5)

12. Adjournment ..... Russ Mantifel

DRAFT

From: Carrie Simpson <csimpson@spp.org>
Sent: Thursday, October 12, 2023 8:15 AM
To: Trolese, Laura; Mantifel,Russell (BPA) - BT-3; Detmer, Nick; Kristen Darden
Cc: Yasser Bahbaz; Kim O'Guinn; Michael Daly; Meghan D. Sever
Subject: [EXTERNAL] RE: MGHGTF Guidance

Thanks, Laura. I prefer Options 2 or 3. Adding a MDWG is logistically impossible at this point due to next week being SPP's RTO committee week and several M+ meetings already on the calendar.

If the desire is to come to MPEC on 19th, we would need a clear request/recommendation from the GHGTF on what direction it needs from the MPEC. **Oh – and materials are due today.** ☺ However -- we can add it to the agenda and then post materials for that item later this week and just take the heat from the stakeholders on the late posting.

From: Laura Trolese <ltrolese@teainc.org>
Sent: Wednesday, October 11, 2023 5:45 PM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>
Subject: **External Email** MGHGTF Guidance

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and are expecting this email.
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Hello,
I've been asked to reach out to all of you regarding the MGHGTF. Mary W has concern that given the closeness of the MGHGTF vote on the conceptual design (11 support, 9 oppose, 2 abstain), she doesn't want to wait until Nov or Dec to potentially have it get kicked back down. The MGHGTF talked today that it may make more sense to get guidance earlier. One thought was to ask for that guidance at the Oct 19 MPEC meeting. But others were concerned that that might usurp the process of first going to MDWG. However, MDWG is not meeting until Oct 26. A few options:

- MDWG hold a separate meeting before Oct 19 to specifically discuss this issue before it goes to MPEC
- Wait until Oct 26 and take MGHGTF to MPEC Nov 7-8.
- Have MGHGTF get guidance from MPEC on Oct 19 before taking it to MDWG

Let me know what you prefer to do! It does seem helpful to have input from MDWG before MPEC but I also understand the timeline risk this creates so am open to suggestions.

Laura Trolese
Director, Western Markets & Strategy

Mobile: (b)(6) [redacted]
Email: ltrolese@teainc.org

TEA
THE EnergyAuthority

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From: Fina, Joe <GFina@SNOPUD.com>
Sent: Monday, September 18, 2023 4:50 PM
To: Chris Nolen; Pettit, David E; Gorlin@WAPA.GOV; Alaine Ginocchio; Jason.Kuzma@pse.com; Engelby, Ben; Charles.VonReis@chelanpud.org; Miller,Todd E (BPA) - LP-7; 'Karilee S Ramaley'; Irene Scruggs; Gilhen, Jonathan; Sabers, Cathy; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7; Lee Engel; Davis,Thomas E (BPA) - LT-7; Kallstrom, Jeffrey; Starnes, Heather; Christine Dillard
Cc: Emon Mahony; Rachel Kane; Joseph Ghormley; Kristen Darden; Carrie Simpson; Mantifel,Russell (BPA) - PGL-5; Michael Riley
Subject: [EXTERNAL] RE: [External Sender] RE: Duty of Candor - MDWG Meeting

Thanks, Chris.

Given that the group did not have a chance to discuss the language in section 4.1 of Attachment A, I'm going to let our members chime in individually during the MDWG meeting. Happy to bring it back to the legal group for further discussion if that is the direction from MDWG.

As to the duty of candor language, I appreciate where the MMU is going, but unless the language is narrowed (perhaps drastically), I'm not sure we're going to be able to get around the issues that were raised and are still unresolved in the rulemaking proceeding.

For full transparency, the language Jonathan had provided comments to were to an earlier version of the section 6.9. proposed language. That language stated:

A Market Participant must provide accurate and factual information and not submit false or misleading information, or omit material information, in any communication with the Market Operator or the Market Monitor, unless the Market Participant exercises due diligence to prevent such occurrences.

The most recent language states:

A Market Participant must exercise due diligence in providing accurate and factual information, not submitting false or misleading information, or omitting material information, in communications with the Market Operator or the Market Monitor.

I'd say that it's a little better, but the broadness and clarity issues remain.

Again, please reply to this email if you have different perspectives on this. I hope many of you can join the MDWG meeting on Wednesday.

Joe

From: Chris Nolen <cnolen@spp.org>
Sent: Sunday, September 17, 2023 9:42 AM
To: Fina, Joe <GFina@SNOPUD.com>; Pettit, David E <David.E.Pettit@xcelenergy.com>; Gorlin@WAPA.GOV; Alaine Ginocchio <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; Todd Miller <temiller@bpa.gov>; 'Karilee S Ramaley' <Karilee.Ramaley@srpnet.com>; Irene Scruggs <iscruggs@ppcpdx.org>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; Lee Engel <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey

<JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; Christine Dillard <cdillard@spp.org>
Cc: Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Michael Riley <michael.b.riley@spp.org>
Subject: [External Sender] RE: Duty of Candor - MDWG Meeting

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Joe-

Thank you for drawing attention to this.

For awareness, the SPP MMU's position will likely be that 18 C.F.R. 35.41(b) places the 'duty of candor' on sellers in the wholesale markets and, by adding their proposed language to the tariff, they are 'only trying to apply the same rule to everyone.'

Note also that the SPP MMU is proposing language in Attachment A, section 4.1 on offer parameters: "Resource Offer parameters that describe the operational and technical limitations of the Resource and are not quantified in dollar terms must represent actual physical capabilities or environmental limitations. Market Participants must provide supporting documentation upon request to the Market Operator or Market Monitor."

As I understood the comments of Powerex, Tacoma, BPA, and others' on the MDWG call Friday, the "...actual physical capabilities or environmental limitations" language could be problematic. It seems the offer parameters are based on a more complex calculus than 'actual capabilities and limitations' can capture.

cmn

Christopher M. Nolen
Managing Attorney
Southwest Power Pool, Inc.
cnolen@spp.org
501.482.2394 office
(b)(6) mobile

From: Fina, Joe <GFina@SNOPUD.com>
Sent: Friday, September 15, 2023 6:30 PM
To: Chris Nolen <cnolen@spp.org>; Pettit, David E <David.E.Pettit@xcelenergy.com>; Gorlin@WAPA.GOV; Alaine Ginocchio <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; Todd Miller <temiller@bpa.gov>; 'Karilee S Ramaley' <Karilee.Ramaley@srpnet.com>; Irene Scruggs <iscruggs@ppcpdx.org>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; Lee Engel <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; Christine Dillard <cdillard@spp.org>
Cc: Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Michael Riley <michael.b.riley@spp.org>
Subject: **External Email** Duty of Candor - MDWG Meeting

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All,

I would like to alert you that the Duty of Candor language that we discussed at our last meeting (with a few slight edits) will be up for a vote at MDWG on Wednesday, Sept. 20 (see attached for materials and registration). Per our discussion, I plan to convey that the legal group does not support the language. It would be great if more of you are also on the call to weigh in. Special thanks to Jonathan Gilhen for providing his perspective in the points below. Reply all if you have additional points. Also, below are links to comments submitted by some trade associations and SPP's MMU in the FERC Duty of Candor proposed rulemaking in Docket No. RM22-20-000. As a reminder, a final rule has not been issued by FERC requiring this language.

- EEI: https://elibrary.ferc.gov/eLibrary/filedownload?fileid=0FB2998F-99D7-C5E7-A688-84639EA00000
- APPA: https://elibrary.ferc.gov/eLibrary/filedownload?fileid=2EE33031-6338-C657-9D7B-84627FD00000
- NRECA: https://elibrary.ferc.gov/eLibrary/filedownload?fileid=2C9DE9B6-E9F9-CEF5-854C-84626CC00000

- SPP MMU: https://elibrary.ferc.gov/eLibrary/filedownload?fileid=4A4549D6-DD97-C901-9E77-845409F00000

[6.9 Duty of Candor]

[A Market Participant must exercise due diligence in providing accurate and factual information, not submitting false or misleading information, or omitting material information, in communications with the Market Operator or the Market Monitor.]

Discussion:

- The proposal from MMU applies an incredibly high standard to *all* information provided in any communication to the Market Operator or the Market Monitor
    - Many types of information, such as forecasts, projections, schedules, bids and offers, expected or potential operational constraints, etc. are not capable of being assessed for accuracy; they are, at least in part, based on business and professional judgement, external information and input, formulae and subjective estimates and/or the exercise of a degree of discretion or latitude by the Market Participant, depending on the circumstances. As such, there are often a range of acceptable outcomes.
    - The obligation to provide accurate and factual information may be appropriate in specific contexts where the "thing" to be communicated is capable of collection and dissemination with the level of precision "accurate" or "factual" requires.
        - However, even in those circumstances, data may be adjusted or updated after the fact, so the information must be accurate to the knowledge and belief of the Market Participant at the time it is communicated
    - Inaccuracy in circumstances that are immaterial to market operations and/or are inadvertent should not result in a tariff violation or investigation
    - The obligation to not submit false or misleading information suffers the same issues (i.e. it is the flip side of the obligation to submit accurate and factual)
- Omission of material information is also problematic
    - If there is a specific obligation to provide information in the tariff, failure to provide that information would be a tariff violation. If there is no obligation, then there is nothing to be omitted. As such, this part of the provision seems unnecessary.
    - Materiality is inherently subjective; it is often a matter of opinion and perspective. A Market Participant may in good faith consider information to not be material or relevant and omit this information and should not be subject to a tariff violation if MMU disagrees.

- In some cases, communication of information such as outages is hindered or delayed as they can happen quickly in real time and may be very brief in duration. That should not be considered a tariff violation and there should be some exceptions to allow either for prompt after-the-fact reporting or financial penalty without finding of a tariff violation.
- Certain information is likely to be shared in an automated manner and provided on a regular basis. Occasional interruptions or technological issues should not constitute a tariff violation

- If a Market Participant engages in a practice of intentionally submitting information that is inaccurate/false or misleading, or withholding relevant material information, that is a market conduct issue for which there are other avenues under the Tariff and FPA (and FERC precedent) without the need for this provision.

Recommendations to MDWG:

1. Do not accept proposed Section 6.9 or any similar provision elsewhere. It is a standard that is impossible to apply in any meaningful and useful way to many informational exchanges pursuant to the Tariff.
2. There may be some circumstances in which the use of "accurate", "factual" etc. is appropriate, however context is very important. The use of "factual", "accurate", "not misleading" etc. should only be used in circumstances where the information/data to be submitted is of a type that is capable of measurement or objective verification and does not depend in any significant way on the application of judgement or the exercise of some discretion by a Market Participant or rely on estimates. Where there is an exercise of business judgment or discretion, the normal restraints on market behavior/conduct will continue to bound that exercise without the need for this provision.

Giuseppe "Joe" Fina
Assistant General Counsel
Public Utility District No. 1 of Snohomish County

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From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, October 10, 2023 4:00 PM
To: Trolese, Laura
Cc: Mantifel,Russell (BPA) - BT-3; Kelli Schermerhorn; Detmer, Nick
Subject: [EXTERNAL] Re: **External Email** Hydro Sub-group

Absolutely. Kelli is working to coordinate the effort. I believe she's looking at this Friday, 10/13, 12-1, CPT.

Kristen Darden
Real-Time Markets
Southwest Power Pool
(b) (6)

On Oct 10, 2023, at 2:01 PM, Laura Trolese <ltrolese@teainc.org> wrote:

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Hello Russ & Kristen,
Can you include me in the hydro sub-group meeting with SPP and MMU?

Laura Trolese
Director, Western Markets & Strategy

Mobile: (b)(6)
Email: ltrolese@teainc.org



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From: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>
Sent: Tuesday, July 16, 2024 4:25 PM
To: Spires, Jeff; Ahmad, Omaya; Hayes,Matthew C (BPA) - MTM-3; Josh Robertson; Hakala, Tuuli; Walter, Kent C; Mantifel,Russell (BPA) - MTM-3
Cc: Ching, Vincent; Haines, Philip - Marketing; Marcie L Martin; Holman, Mark; Aitken, Meredith
Subject: RE: [EXTERNAL] Markets+ Issue Alerts
Attachments: Issue Alert 1 Governance DRAFT_v4 Clean +PSE.docx

Thanks, Jeff. PSE has one final suggestion to address the "being governed out of Little Rock" concern. If the group is not supportive of this addition, PSE can support this clean draft, as-is.

Thank you!

The Markets+ Governance framework fully achieves this objective through these key features:

1. A geographically diverse board / panel fully independent of market participants and stakeholders with authority over all aspects of the market;

Jessica Zahnow
State & Regional Policy – Regional Markets
Phone: (b)(6)
PUGET SOUND ENERGY

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Tuesday, July 16, 2024 12:55 PM
To: Ahmad, Omaya <Omaya.Ahmad@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Hi everyone,

Thanks for the edits and feedback. I've attached a new version in clean and redline that includes the change proposed below. You will see in the redline that I have proposed to make a few modifications to the additional language proposed by Omaya in the previous version in an effort to trim it back slightly (without losing the key points).

I am hopeful this version works for the group – if you can give a quick read and let me know if you have any concerns I'd appreciate it.

Jeff

From: Ahmad, Omaya <Omaya.Ahmad@aps.com>
Sent: Tuesday, July 16, 2024 12:27 PM
To: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: Re: [EXTERNAL] Markets+ Issue Alerts

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Agree with Jessica. I don't know if this is strong enough to illuminate fairness across participating states, but here's a redline for page 2.

The Markets+ Governance framework fully achieves this objective through these key features:

1. A ~~fully independent~~ board / panel independent of market participants and stakeholders with authority over all aspects of the market;

Contrast this with the first 2 EDAM points on page 3, which I think are strong:

1. The starting point for EDAM and EIM is a market design and tariff developed under the California ISO's existing governance framework. The Pathways Initiative does not propose to replace this initial market design with a stakeholder-driven design.
2. Both EDAM and EIM were built as extensions of a legacy institutional framework with embedded dependencies on, and obligations to, California state agencies, which the Pathways initiative does not propose to eliminate.

From: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>
Sent: Tuesday, July 16, 2024 10:39 AM
To: Ahmad, Omaya <Omaya.Ahmad@aps.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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PSE supports Omaya/APS's additions. Josh Jacobs had feedback asking for more detail on why Pathways timing won't provide a viable solution, and Omaya's edits address that well. One other thing Josh points out is that two things we hear out of our commission is, "we don't want to be governed out of Little Rock", and "interested parties don't have a strong voice in M+".

While we don't agree, does anyone have thoughts about an artful way to address these concerns?

Jessica Zahnow

State & Regional Policy – Regional Markets

Phone: (b)(6)

PUGET SOUND ENERGY

From: Ahmad, Omaya <Omaya.Ahmad@aps.com>
Sent: Monday, July 15, 2024 5:00 PM
To: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: Re: [EXTERNAL] Markets+ Issue Alerts

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I made a few additions that are almost entirely on page 3.

- Spelled-out the value of SPP's consensus approach to stakeholder engagement
- Going off Matt's suggestion: opened a spot for others to add examples of where CAISO's governance has left us frustrated

- Added more to the Pathways discussion

Feel free to cut down as needed.

Thanks,

Omaya

From: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>
Sent: Monday, July 15, 2024 4:53 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Thanks for a productive meeting this morning. Before moving forward BPA is going to need some more internal conversation on how this first paper and the overall strategy fits into our public process. We should be able to get something definitive tomorrow.

Apologizes for not flagging this today as it is something I should have known would be a required step.

Thanks,

Matt

-----Original Appointment-----
From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, July 12, 2024 12:15 PM
To: Spires, Jeff; Josh Robertson; Zahnow, Jessica Lynn; Hakala, Tuuli; Kent.Walter@aps.com; Mantifel,Russell (BPA) - MTM-3
Cc: Ching, Vincent; Haines, Philip - Marketing; Hayes,Matthew C (BPA) - MTM-3; Ahmad, Omaya; Marcie L Martin; Holman, Mark; Aitken, Meredith
Subject: [EXTERNAL] Markets+ Issue Alerts
When: Monday, July 22, 2024 9:00 AM-10:00 AM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

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Markets+ Phase 1 Funding Parties To Publish "Issue Alerts" To Inform Public Dialogue On Day-Ahead Market Choices

In recent months, there has been considerable industry dialogue focused on the market seams that will exist between EDAM/EIM and Markets+, as well as the EDAM/EIM governance enhancements being pursued through the Pathways Initiative. While both topics are important, the Markets+ Phase 1 Funding Parties believe this dialogue is incomplete without also considering the numerous governance and market design differences between Markets+ and EDAM/EIM that are driving continued support for Markets+. To address this information gap, the Markets+ Phase 1 Funding Parties will be issuing a series of "Issue Alerts" to identify and explain the key governance and market design elements that differ between Markets+ and EDAM/EIM and why these differences have important consequences for customers in terms of reliability, economic value, and environmental objectives.

The Markets+ Phase 1 Funding Parties will share a new Issue Alert every few weeks covering the following topics:

1. Governance
2. Reliability
3. Fair and Accurate Market Pricing
4. Seams Issues
5. Support for Clean Resources
6. Market Operator Actions & Modeling
7. Durable Customer Benefits

Field Code Changed

Issue Alert 1:
The Markets+ Governance Framework Is The Best Option For A Multi-State Day-Ahead Organized Market

Governance is a key consideration in the selection of a day-ahead market. It determines how key decisions are made in a market where participants and regions sometimes have different interests. A governance framework establishes market design, tariffs, business practices and operating protocols – determining initial rules and how they will adapt over time. Governance affects the daily actions of market operators and the values against which market performance is measured. Consequently, governance has a major influence on market outcomes, including the determination of market prices, how costs are allocated, the extent and allocation of reliability risks during stressed grid conditions, and the success of environmental programs.

The governance framework of a western day-ahead market has the potential to affect $25 billion or more in annual trade. This is because the transition to a full day-ahead and real-time organized market (whether EDAM/EIM or Markets+) is expected to replace much of the bilateral day-ahead and real-time transactions that occur today while also impacting forward transactions and the utilization of the western transmission grid.



Sound governance is a foundational requirement for a day-ahead organized market to provide the benefits of increased efficiency and enhanced reliability while also ensuring equitable outcomes for all participants and all western sub-regions. Key features include a durable, effective, and independent governance structure which provides fair representation to all market participants and stakeholders, and in which participants take a regional view. Stakeholders initiate, develop, and own outcomes. Decision making and stakeholder engagement occurs in a transparent and inclusive manner.

The Markets+ Governance framework fully achieves this objective through these key features:

1. A geographically diverse board / panel fully independent of market participants and stakeholders with authority over all aspects of the market;
2. A transparent and consensus-based market development process led by stakeholders, with stakeholder voting rights to determine whether each specific market design proposal moves forward;

Field Code Changed

3. A fully independent and impartial market operator that does not also act as one of the participating balancing authorities with its own interests; and
4. A participation framework where all generators, load and BAAs are participating in the same manner with equivalent rules, rights, and responsibilities.

Importantly, the Markets+ governance framework is already up and running, and it provided the decision-making framework for developing the Markets+ initial market design and proposed tariff. The stakeholder-led approach fostered collaboration for consensus, and the proposed Markets+ tariff concluded with its separate sections passing through the highest-level stakeholder committee at a greater than 90 percent approval rate.

While the Pathways Initiative has proposed incremental improvements to the governance of EDAM and EIM, it cannot result in a governance framework comparable to Markets+ for several reasons:

1. The starting point for EDAM and EIM is a market design and tariff developed under the California ISO's existing governance framework. The Pathways Initiative does not propose to replace this initial market design with a stakeholder-driven design.
2. Both EDAM and EIM were built as extensions of a legacy institutional framework with embedded dependencies on, and obligations to, California state agencies, which the Pathways initiative does not propose to eliminate.
3. The Pathways Initiative has not proposed a framework in which stakeholders with formal voting rights—rather than California ISO staff—will determine how the market design will evolve over time.
4. The Pathways Initiative does not ensure that the California ISO, as a market operator, will balance the interests of all stakeholders and avoid undue influence from California interests.
5. EDAM/EIM is an extension of the CAISO's existing market, with CAISO BAA having different rules, rights, and responsibilities, as well as different settlement practices. There are no current plans to enable an equivalent participation framework for all entities, including CAISO, within the Pathways Initiative governance model.
6. The Pathways Initiative remains in development, with an evolving scope and an uncertain outcome. Changes to the CAISO governance structure require action at the California legislature. Previous attempts to amend the structure—the most recent one appeared in the 2023 legislative session—have failed to receive broad support in the state and did not advance out of committee. A fully independent governance framework will not realistically be achieved until well after most western entities will have made their market participation decisions, even if the significant and numerous uncertainties are ultimately overcome.

The stakeholder-driven Markets+ development process has resulted in a market design that is substantially different from the EDAM/EIM design in several key respects. Production cost models—including the models used in the multiple studies published comparing Markets+ and EDAM/EIM—are generally unable to reflect and quantify these important market design differences. This is because these models assume the two markets are largely identical in important aspects when in fact they are not. The models incorrectly assume:

- Both markets are always fully resource adequate/resource sufficient, and thus there is no material reliability risk or undue leaning;

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- Scarcity events rarely or never occur in either market (and no scarcity pricing);
- There are few, if any, differences in how prices are calculated between the two markets;
- Congestion rent is allocated similarly in both markets;
- Environmental programs, including GHG attribution, are similar in both markets;
- There are no operator actions such as load biasing or changing import/export limits in either market; and
- Substantive hurdle rates and inefficiencies severely limit trade between markets.

Not only do these studies make the above incorrect simplifying assumptions, they also incorrectly assume that each distinct market design will have no impact on:

1. the extent to which entities participate in the day-ahead market (versus transacting in forward and day ahead bilateral markets); and
2. future investments in generation or transmission

In reality, differences in the design of a voluntary day ahead market can drive increased or decreased participation, while also encouraging or discouraging generation and transmission investments. For example, a market that inaccurately suppresses peak prices will discourage flexible generation and storage solutions. Similarly, a market that has a history of misallocating congestion rent will generally discourage transmission investments.

Finally, experience in the East demonstrates that the ongoing existence of two or more competing organized markets provides the opportunity for participants to continuously evaluate which organized market provides the best value for its customers. This places ongoing competitive pressure on each organized market to continuously evolve to deliver value to all of its participants and all of its sub-regions, driving immeasurable value for consumers while also reducing risk.

Future Issue Alerts will focus on key market design differences, which have the potential to greatly impact real-world economic, reliability and environmental outcomes for customers.

Field Code Changed

From: Christine Dillard <cdillard@spp.org>
Sent: Thursday, March 7, 2024 12:35 PM
To: Mantifel,Russell (BPA) - MTM-3
Cc: Chris Nolen; Binette, Matthew
Subject: [EXTERNAL] M+ SHOC summary

Hi Russ,
Please see the summary below of the SHOC that SPP intends to communicate to FERC. If you have time, we would appreciate your thoughts and feedback on this summary.

Markets+ will allow for a mitigated energy offer curve for hydroelectric Resources with storage to be based on a Seasonal Hydroelectric Offer Curve ("SHOC"). This methodology is modeled after the hydro Default Energy Bid used in CAISO, which the Commission has determined is just and reasonable.[1]

SHOC considers the storage horizon and opportunity costs of a hydroelectric resource when evaluating offer mitigation.[2] The special characteristics of hydroelectric Resources make an opportunity cost-based mitigation methodology particularly appropriate. Hydroelectric Resources with storage do not pay for their fuel, have some ability to generate opportunistically, and have variable access to water to be used for generation. Using a cost-based mitigation methodology would likely result in a mitigated Energy Offer Curve that is inappropriately low, leading to wasting of limited water resources.

In order to be eligible to use SHOC, the Resource must have usable storage capability.[3] Run-of-the river hydroelectric Resources, defined as having one hour of storage or less, must use the greater of (a) the most recent Day-Ahead peak price at the applicable electric pricing hub, and (b) $0/MWh for their mitigated offer curve.[4] These requirements also apply to any hydroelectric Resource for which the hydro operator reasonably expects no usable storage within the Operating Day.[5] This occurs during high-water conditions where hydroelectric operators must flow water. Thus, if generating at less than maximum output would not result in conservation of additional water, the Resource will not be considered to have usable storage.[6] With no ability to store additional water, these units do not have an ability to shift the times at which they use their available fuel, so their opportunity costs are limited.

In addition, the Market Participant must demonstrate that it has firm transmission rights capable of delivery to electric pricing hub or a historical practice of having such rights. This provision is in place to ensure that the Resource can use the rights to deliver incremental sales from the hydroelectric Resource.[7] The Commission specifically noted the requirement for firm transmission rights that can be used to deliver incremental sales as an important safeguard when it approved the methodology for CAISO.[8]

SHOC works by calculating the maximum of three measures of opportunity cost: (a) gas floor, (b) short-term component, and (3) long-term/geographic component. The gas floor is based on the most recent average heat rate of a typical natural gas generator, multiplied by the natural gas price for the region applicable to the hydroelectric resource, multiplied by 1.1.

The short-term component is the maximum of the following, multiplied by 1.4:

(a) the most recent Day-Ahead peak price at the applicable electric pricing hub;

(b) the on-peak balance of the month futures price for the current month at the applicable electric pricing hub; and

(c) the on-peak monthly index futures price at the applicable electric pricing hub for one (1) month after the current month.

The long-term/geographic component is the maximum of the following, multiplied by 1.1:

(a) the most recent Day-Ahead on-peak price at the applicable electric pricing hub(s);

(b) the on-peak balance of the month futures prices for the current month at the applicable electric pricing hub(s); and

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(c) the on-peak monthly index futures price at the applicable electric pricing hub(s) for all future months up to the maximum storage horizon after the current month.

These components are substantially similar to those used in the CAISO hydro DEB, using the same prices and the same multipliers. Markets+ will be using the same pricing hubs, and the same hydroelectric Resources may be considering sales in both CAISO and Markets+. It is therefore just and reasonable, and not unduly discriminatory, to consider opportunity costs in the same manner to aid in market parity.

Thank you,

Christine Dillard | Attorney, Markets & Regulatory Policy
cdillard@spp.org | (b)(6) (c)

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[1] *See Cal. Indep. Serv. Sys. Oper. Corp.*, 168 FERC ¶ 61,213 (2019).
[2] Markets+ Tariff, Attachment B, Section 3.3(M).
[3] Markets+ Tariff, Attachment B, Section 3.3(M).
[4] Markets+ Tariff, Attachment B, Section 3.3(M)(8).
[5] Markets+ Tariff, Attachment B, Section 3.3(M)(10).
[6] Markets+ Tariff, Attachment B, Section 3.3(M)(10).
[7] Markets+ Tariff, Attachment B, Section 3.3(M)(5).
[8] *See Cal. Indep. Serv. Sys. Oper. Corp.* 168 FERC ¶ 61,213 (2019) at ¶ 38

From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, April 24, 2024 2:39 PM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] MPEC Material - WG/TF Vacancies
Attachments: 4.A Markets+ Working Group Vacancies.pptx

Here you go. Holler if you have any questions!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C (b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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PURPOSE

Review process for which Markets+ representatives fill vacancies on working groups and task forces.

ESSENTIAL POINTS

- Review protocol to replace a representative from the appropriate sector for a Markets+ working group.
- Review protocol to replace a representative from the appropriate sector for a Markets+ task force.
- Call attention to current vacancies across working groups and task forces (Remind - an appointment to a working group or task force is for an individual, not a corporate entity).

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Markets+ Working Group and Task Force Nomination Process
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WESTERN ENERGY SERVICES

PROCESS OVERVIEW

- When a representative leaves a working group or task force and their seat becomes vacant, that seat must be filled by an organization of the same type/sector.
  - **An appointment to a working group or task force is for an individual, not a corporate entity.** *(Markets+ Service Offering and Markets+ Tariff Attachment 0)*
- The staff secretary of a working group or task force opens a nomination process following a vacancy on any working group or task force.

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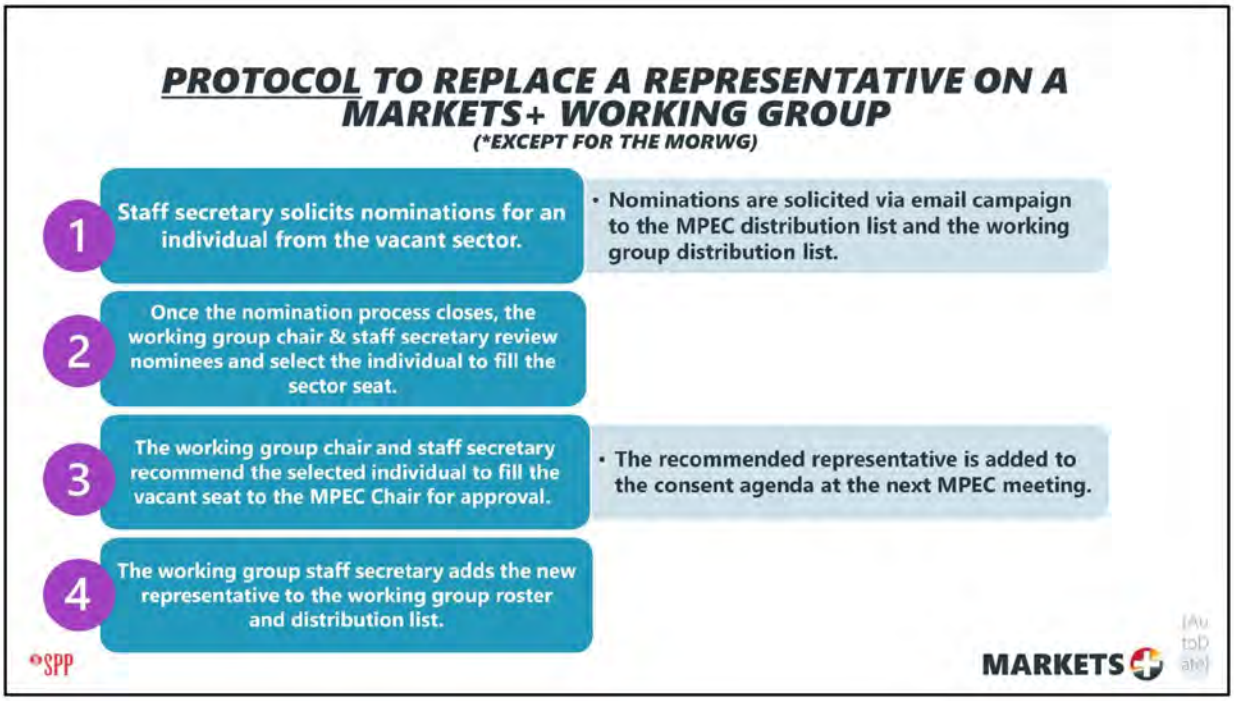
PROTOCOL TO REPLACE A REPRESENTATIVE ON A MARKETS+ WORKING GROUP
(*EXCEPT FOR THE MORWG)
1
Staff secretary solicits nominations for an individual from the vacant sector.
• Nominations are solicited via email campaign to the MPEC distribution list and the working group distribution list.
2
Once the nomination process closes, the working group chair & staff secretary review nominees and select the individual to fill the sector seat.
3
The working group chair and staff secretary recommend the selected individual to fill the vacant seat to the MPEC Chair for approval.
• The recommended representative is added to the consent agenda at the next MPEC meeting.
4
The working group staff secretary adds the new representative to the working group roster and distribution list.
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PROTOCOL TO REPLACE A REPRESENTATIVE ON A MARKETS+ TASK FORCE

1. Task force staff secretary solicits nominations for an individual from the vacant sector.
   - Nominations are solicited via email campaign to the task force distribution list and the working group distribution list (*for whichever working group is assigned to oversee the task force).
2. Once the nomination process closes, the task force chair and staff secretary review nominees together and select the most appropriate individual to fill the sector seat.
3. The task force chair and staff secretary recommend an individual to fill the vacant seat to the working group chair for approval (*for whichever working group is assigned to oversee the task force).
   - The recommended representative is added to the consent agenda at the next working group meeting.
4. The task force staff secretary adds the new representative to the group roster and distribution list.

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A SUCCESSFUL STAKEHOLDER PROCESS

- The Markets+ stakeholder process only works when we have full representation of all sectors and organizations involved.
- Please help us to make sure that appropriate and engaged representatives are participating in Markets+ working groups and task forces.
  - Please nominate individuals when working groups and task forces solicit nominations for vacancies.
  - Please also encourage your representatives on respective working groups and task forces to nominate qualified individuals to fill vacancies.

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Current Vacancies on Markets+ Working Groups and Task Forces	
Markets+ Resource Adequacy Task Force (MRATF)	2 Vacant Seats: Public Power
Markets+ Transmission Working Group (MTWG)	1 Vacant Seat: Public Power
Markets+ Design Working Group (MDWG)	2 Vacant Seats: 1 Public Power and 1 Investor-Owned Utility (IOU)
Markets+ Congestion Rent Task Force (MCRTF)	2 Vacant Seats: 1 Public Power and 1 Independent

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QUESTIONS AND CONCLUDE

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, January 11, 2024 6:33 AM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] RE: Attachments B and C -- BPA Edits from DAM Jam

Hey! Thanks for sending. I'll keep in my back pocket in case we need. Do you care if I go ahead and loop Kelli and Carrie in this email so they can put their eyes on it too just to be prepared in case? We will not send to MMU or anyone else. Looking forward to talking with you as well!

From: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Sent: Wednesday, January 10, 2024 11:17 PM
To: Kristen Darden <kdarden@spp.org>
Subject: **External Email** FW: Attachments B and C -- BPA Edits from DAM Jam

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - rxmantifel@bpa.gov and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Hi Kristen, we MAY want to look at these proposed edits from BPA tomorrow depending on how the conversation goes. So I wanted you to have them but don't want them distributed or presented unless discussion on the B/C sections warrants it. I look forward to talking to you again tomorrow!

From: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Sent: Wednesday, January 10, 2024 4:51 PM
To: Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>; Hayes,Matthew C (BPA) - PGST-5 <mchayes@bpa.gov>; Civelli,Jarrett C (BPA) - MTM-3 <JCCivelli@bpa.gov>; Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>
Cc: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Chang,Elsa (BPA) - MTM-3 <eichang@bpa.gov>; Morse,Adam R (BPA) - MT-3 <armorse@bpa.gov>
Subject: Attachments B and C -- BPA Edits from DAM Jam

Attaching the edits as reviewed in DAM Jam. Cleaned up a of my comments throughout.

One thing we didn't address, but I noticed while reviewing – and we will probably need to speak to it verbally is an MMU comment on water management requests. I can flag this for PGS – I'm guessing would depend on the nature of the request (written vs. verbal).

4.6.4 Physical Withholding
(2)(e) The Market Participant is following water management **requests** or directives pursuant to the legal authority and operational responsibilities of the hydro operator or hydro participant;

MMU Comment: What is the formal nature of "request"? Would the request or directive information be made available to the MMU?

Thanks,

Sara Eaton (she/her)

Senior Markets Policy Analyst | Market Policy and Pricing | PTMP
Bonneville Power Administration
C: (b)(6) W: 503-230-5222 | sleaton@bpa.gov

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From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, July 11, 2023 7:40 AM
To: Thompson, Justin; Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] RE: APS MDWG Tariff Comments

Thank you for APS's comments, Justin. My team and I will review internally and provide responses shortly.

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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From: Thompson, Justin <Justin.thompson@aps.com>
Sent: Monday, July 10, 2023 6:42 PM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Kristen Darden <kdarden@spp.org>
Subject: **External Email** APS MDWG Tariff Comments

CAUTION: This email originated from outside of the SPP network. Do not click links or open attachments unless you recognize or can verify the sender, or were expecting an email from the sender. The original sender of this email is Justin.Thompson@aps.com

Hi Russ and Kristen,

Attached are APS comments on the draft tariff.

Justin Thompson
Arizona Public Service
Director Resource Operations and Trading
602-250-2060 Office

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From: Kristen Darden <kdarden@spp.org>
Sent: Sunday, October 29, 2023 7:38 PM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] October 26th Joint MDWG & MTWG Summary of Motions, Action Items, and Future Meetings
Attachments: 10 26 MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx

Good evening MDWG and MTWG stakeholders and participants –

Let me just say "**THANK YOU**" for a great, successful meeting. We accomplished a lot during our meeting, and I am extremely proud of the progress we made. I look forward to seeing a lot of you again next week during the 11/7-8 MPEC meeting (*If you have not registered for that meeting, here is the link. In-person registration closes tomorrow, Monday 10/30, by 8:00 a.m., CPT).

Attached is the draft summary of the 10/26 joint MTWG and MDWG meeting motions, action items, and future meetings. Please review and let me know if you have any edits.

Thank you again and have a wonderful evening!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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or send a blank email to leave-123425-234284.4924ede4b09f20571c7af2310687f4ba@spplist.spp.org

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SOUTHWEST POWER POOL, INC.
MARKETS+ DESIGN WORKING GROUP &
MARKETS+ TRANSMISSION WORKING GROUP MEETING
10/26/2023
Arizona Public Service
Phoenix, AZ
& Net-Conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MDWG MOTIONS:

1. **Agenda Items 4, 4a, and 4b – Consent Agenda: 10/10/2023 MDWG Minutes and 10/11/2023 MDWG Minutes**

   Motion: Scott Miller (WPTF) motioned to approve the consent agenda as presented. Laura Trolese (TEA) provided the second. Motion carried unanimously.

2. **Agenda Item 7 – Scarcity Pricing**

   Motion: Lindsey Schlekeway (NVE) motioned to approve SPP's Offer Cap/Offer Floor proposals as presented by SPP, amended to reflect the MMU Energy Offer Floor of -$150/MWh, and the Interchange Offer and Virtual Energy Offer Cap $1,000/MWh unless a Resource Offer has been approved by the MMU above $1,000/MWh. Kent Walter (APS) provided the second.

   Motion: Sibyl Geiselman (PGP) motioned to table the motion until the presentation is finished. Russ Mantifel (BPA) provided the second. Motion carried unanimously.

   Motion: Russ Mantifel (BPA) motioned to table the original motion to the November 17th MDWG meeting and create a sub-group with participants from the MDWG and MSWG to address the proposals in the tabled motion on the SPP Offer Cap/Offer Floor. Mike Linn (PPC) provided the second. Motion carried unanimously.

3. **Agenda Item 8a – Attachment A, Sections 2.1.1-2.1.3 and 5.4: Virtuals**

   Motion: Kent Walter (APS) motioned to approve Attachment A, Sections 2.1.1-2.1.3 and 5.4 (Virtuals) as modified during the MDWG. Scott Miller (WPTF) provided the second. Motion carried with two abstentions (PGP and WRA).

4. **Agenda Item 8c – Attachment A, Sec. 4.3-4.3.3: Interchange Transactions**

   Motion: Tuuli Hakala (CCPUD) motioned to adopt Attachment A, Sections 4.3-4.3.3 (Interchange Transactions) as presented and approved by the Markets+ Seams Working

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Group (MSWG). Laura Trolese (TEA) provided the second. Motion carried with one abstention (PGP).

5. **Agenda Item 8d – Attachment A, Sec. 2.3.2: Congestion Management**

   Motion: Russ Mantifel (BPA) motioned to adopt Attachment A, Section 2.3.2 (Congestion Management) as presented and approved by the MSWG. Kent Walter (APS) provided the second. Motion carried unanimously.

6. **Agenda Item 10a – Attachment D: Markets+ Transmission**

   MDWG Motion: Mike Linn (PPC) motioned to adopt Attachment D (Markets+ Transmission) and Attachment A, Sections 8-8.3 (Transmission Capacity Obligations) as presented and approved by the Markets+ Transmission Working Group (MTWG). Laura Trolese (TEA) provided the second. Motion carried with two abstentions (APS and SRP).

7. **Agenda Item 10b – Attachment A: Markets Transmission Use (MTU) Charge Settlements**

   MDWG Motion: Laura Trolese (TEA) motioned to endorse the Markets+ Transmission Use (MTU) settlements charge types as presented. Russ Mantifel (BPA) provided the second. Motion carried with one abstention (SCPUD).

   > **Snohomish County Public Utility District (SCPUD) Abstention:**
   > *SCPUD agrees the tariff language captures the intent of the service offering and scope of MRTF. However, Snohomish has an ongoing concern that this MTU charge only addresses lost ST sales revenue for TSPs and does not address potentially lost secondary transmission sales revenue by holders of TSRs.*

MDWG ACTION ITEM:

Action Item: Markets+ Design Working Group (MDWG) staff secretary, Kristen Darden, will send an email to the MDWG and MSWG email distribution lists seeking volunteers for a sub-group of stakeholders to work through the Markets+ Scarcity Pricing proposal, specific to the Virtuals Offer Floor/Offer Cap and Interchange Transactions Offer Floor/Offer Cap.

FUTURE MEETINGS:

Meeting: November 1st MDWG Meeting
Date: November 1st, 2023
Location: Net-conference
Time: 12:00 p.m. – 5:00 p.m., CPT / 10:00 a.m. – 3:00 p.m., PDT / 11:00 a.m. – 4:00 p.m., MT

Meeting: November 3rd MDWG Meeting
Date: November 3rd, 2023
Location: Net-conference
Time: 10:30 a.m. – 5:00 p.m., CPT / 8:30 a.m. – 3:00 p.m., PDT / 9:30 a.m. – 4:00 p.m., MT

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Meeting: November 28th MDWG Meeting
Date: November 28th, 2023
Location: Net-conference
Time: 10:30 a.m. – 5:00 p.m., CPT / 8:30 a.m. – 3:00 p.m., PDT / 9:30 a.m. – 4:00 p.m., MT

DRAFT

From: Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>
Sent: Wednesday, October 11, 2023 9:56 AM
To: Fina, Joe; Chris Nolen
Cc: Gorlin@wapa.gov; Alaine Ginocchio; Jason.Kuzma@pse.com; Engelby, Ben; Charles.VonReis@chelanpud.org; Miller,Todd E (BPA) - LP-7; Karilee S Ramaley; Irene Scruggs; Sabers, Cathy; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7; Lee Engel; Davis,Thomas E (BPA) - LT-7; Kallstrom, Jeffrey; Starnes, Heather; Christine Dillard; Timothy T. Mastrogiacomo (Tim.T.Mastrogiacomo@xcelenergy.com); Hickey, Lisa; Emon Mahony; Rachel Kane; Joseph Ghormley; Kristen Darden; Carrie Simpson; Mantifel,Russell (BPA) - BT-3; Michael Riley
Subject: [EXTERNAL] RE: [External Sender] Re: **External Email** Oct. 12 Markets+ Legal Group Meeting Agenda

I was in and out of the MDWG call yesterday (thanks to Chris for presenting Legal Group's feedback on Attachment B and C). I checked in with our participants and their recollection is consistent with that noted by Chris below – MDWG would like us to provide our position on duty of candor language generally as MMU appears to have added this in a number of places.

Apologies in advance, I have a fairly firm stop at 4 tomorrow so won't be able to join for the entire call.

Jonathan Gilhen
Lead Counsel, Power & Renewable Products | Powerex Corp.
Email Jonathan.Gilhen@powerex.com

From: Fina, Joe <GFina@SNOPUD.com>
Sent: Wednesday, October 11, 2023 9:47 AM
To: Chris Nolen <cnolen@spp.org>
Cc: Gorlin@wapa.gov; Alaine Ginocchio <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; Todd Miller <temiller@bpa.gov>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; Irene Scruggs <iscruggs@ppcpdx.org>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; Lee Engel <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; Christine Dillard <cdillard@spp.org>; Timothy T. Mastrogiacomo (Tim.T.Mastrogiacomo@xcelenergy.com) <Tim.T.Mastrogiacomo@xcelenergy.com>; Hickey, Lisa <lisa@interwest.org>; Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Michael Riley <michael.b.riley@spp.org>
Subject: RE: [External Sender] Re: **External Email** Oct. 12 Markets+ Legal Group Meeting Agenda

⚠ **Caution: External Email**

Thanks, Chris. As a refresher, attached is a previous email that was sent to the Legal Group that includes our general position of the specific Duty of Candor provision in 6.8.

Also, it looks like our meeting tomorrow overlaps with other meetings members have to attend. I will delay the start time to 3 p.m. pacific and extend the end time to 4:30 p.m. pacific.

From: Chris Nolen <cnolen@spp.org>
Sent: Wednesday, October 11, 2023 9:13 AM
To: Fina, Joe <GFina@SNOPUD.com>
Cc: Gorlin@wapa.gov; Alaine Ginocchio <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; Todd Miller <temiller@bpa.gov>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; Irene Scruggs <iscruggs@ppcpdx.org>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; Lee Engel <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; Christine Dillard <cdillard@spp.org>; Timothy T. Mastrogiacomo (Tim.T.Mastrogiacomo@xcelenergy.com) <Tim.T.Mastrogiacomo@xcelenergy.com>; Hickey, Lisa <lisa@interwest.org>; Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Michael Riley <michael.b.riley@spp.org>
Subject: [External Sender] Re: **External Email** Oct. 12 Markets+ Legal Group Meeting Agenda

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The MMU has proposed Duty of Candor-type language (accurate, verifiable, etc.) in multiple sections. My understanding of the MDWG's ask of the M+ legal group is that the group consider and either endorse or recommend against that type language being included in the broad M+ tariff.

If anyone took a different view of the MDWG ask, please weigh in.

cmn

Christopher M. Nolen
Managing Attorney
Southwest Power Pool, Inc.
cnolen@spp.org
501.482.2394 office
(b)(6) mobile

On Oct 11, 2023, at 11:06 AM, Fina, Joe <GFina@snopud.com> wrote:

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - GFina@SNOPUD.com and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Here is my proposed agenda for tomorrow's Legal Group meeting:

1. Common Service Provisions
   a. Force Majeure and Indemnification
2. Attachment G, Meter Agent Services Agreement
3. Attachment E, Market Participant Service Agreement

4. Update on Special Rules on Use of Tariff
5. Section 6 Duty of Candor Language

I would encourage all of you to review the Meter Agent Services Agreement and the Market Participant Service Agreement in particular. All the documents are on the SharePoint Site. Let me know if there are other items for the agenda.

Thanks, and talk to you all tomorrow.

Joe

Giuseppe "Joe" Fina
Assistant General Counsel
Public Utility District No. 1 of Snohomish County

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From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, August 17, 2023 12:03 PM
To: Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] Interchange Slides
Attachments: 04a-A day in the life examples_DA RT_06131423.pptx

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

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SERVICES
MARKETS+ EXAMPLES
DAY-IN-THE-LIFE AND HYPOTHETICAL EXAMPLES
SPP
Working together to responsibly and economically keep the lights on today and in the future.
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MARKETS+ EXAMPLES

- Different perspectives
  - Merchant Entity/Market Participant
  - Transmission Service Provider
  - Balancing Authority
- Examples of transaction types

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MERCHANT ENTITY/MARKET PARTICIPATION PERSPECTIVE

- Pre-Day Ahead Closing:
  - Submit E-tags representing capacity transfers (associated with WRAP or other firm obligations/deliveries) to support unit commitment decisions
  - Submits DA offers and bid information into the Markets+ system by close of the DA market (time TBD in stakeholder process)
  - Provides firm transmission service reservation information related to any service available to the market that is on non-Markets+ TSP systems.
- Receives results of the DA market (time TBD in stakeholder process)
- After DA Market results
  - Submit offers and bid information for preparation of Reliability Unit Commitment and Real-Time market processes.
  - Continuously updates generator outage information and any other bid/offer information necessary for RUC and real-time processes.

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TRANSMISSION SERVICE PROVIDERS PERSPECTIVE

- Pre-day-ahead closing
  - Provides effective system limits of transmission capability of the TSP's system to the BA
  - Provides quantity of capability on the facilities unavailable to Markets+ (for example: joint owned transmission facilities with ownership not participating in Markets+): Service Flow Constraints
  - Sells transmission service as usual
    - Tracks scheduled firm transactions and forecasted NITS
    - Sells unscheduled firm and non-firm
- After day-ahead closing
  - Evaluates DA clearing by the Markets+
    - Firm DNRs commitments and dispatch clearing within the TSP footprint
    - Dynamic schedules updated reflecting transmission transfers between BAAs
    - Updated dispatchable tags
  - Continues to sell service with latest updated information, including new submissions for TSRs and tags

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BALANCING AUTHORITY OPERATOR PERSPECTIVE

- Pre-day-ahead closing:
  - Provides Market Operator the BA's native min-to-carry capacity constraint that identifies the minimum amount of native generating capacity the BA requires
  - Provides aggregate system limits of transmission capability to the Market Operator reflecting the capability of the facilities within BAA participating in the Market+
    - Includes the Service Flow Constraint assumptions from the TSPs
  - Reviews and approves interchange transactions as usual
  - Coordinates with LSEs on generation plan for the next day
- Post-day-ahead clearing:
  - Approves tags updated by the market systems
  - Continually provides system operating limitations to the Balancing Authority reflecting the capability of the facilities within the BA footprint(s) participating in the Market+ less any carve outs for Service Flow Constraints
  - Updates min-to-carry capacity constraints based on operational needs
  - Reviews and approves interchange transactions as usual
  - Approves updates to Markets+ dynamic transfers reflecting market clearing
  - Coordinates with LSEs on generation plan for next day and subsequent hours

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Example 1: DA & RT inside M+ BA with Generation and Load

Gen Characteristics

MP 1 - G1A:
- Nameplate: min50 – max 150 MW
- Firm Network Resource to L1

MP1 - G1B:
- Nameplate: min 100 – max 600 MW
- Firm Network Resource to L1

Pre-Day Ahead/Pre M+

G1A:
- Pre-DA: 100 MW

G1B:
- Pre-DA: 400 MW

Load forecast
- MP1 - L1: 500 MW

- BA1 NSI = n/a
- BA2 NSI = n/a

Day Ahead

G1A DA Offer:
- Self commit – min 50MW offer
- 50 to 150 MW @ $30

G1B DA Offer:
- Self commit – min offer 400 and max offer 400 MW

Load bids:
- MP1 - L1: 500MW @$200

DA Solution:
- G1A: 100 MW (50fixed + 50 clear)
- G1B: 400 MW (fixed)

- BA1 NSI = n/a
- BA2 NSI = n/a

- LMP = $30

Real Time

G1A RT Offer:
- Self commit – min 50MW offer
- 51 to 150 MW @$30

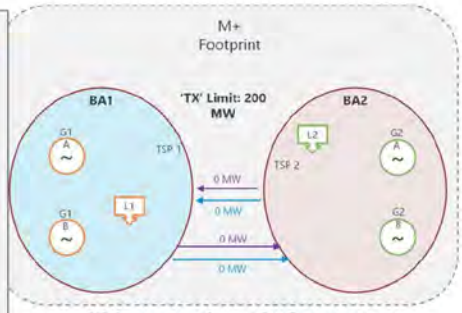
G1B RT Offer:
- Self commit to 400 MW
- 401 to 600 MW @$20

Actual Load
- L1: 500 MW

RT Solution
- G1A: 50 MW (50 fixed/min) (-50)
- G1B: 450 MW (+50)

- BA1 NSI = n/a
- BA2 NSI = n/a

LMP = $20



- **This scenario only focuses on BA1**
- The day-ahead solution clears differently than real-time market for the generators.
- G1A dispatched down in real-time and G1B dispatched up in real-time based on real-time offer information.

MARKETS+

Example 2: DA Transaction and Clearing Example – Firm delivery from BA 1 to BA 2

Gen Characteristics

MP 1 - G1A:
- Nameplate: min 50 – max 150 MW
- LTF: 150 MW PTP to L2

MP1 - G1B:
- Nameplate: min 100 – max 600 MW
- LTF: 600 MW PTP to L1

MP2 - G2A:
- Nameplate: min 350 – max 700 MW
- LTF: 700 MW PTP to L2

MP2 - G2B:
- Nameplate: min 20MW to max 200 MW
- No firm transmission

Pre-Day Ahead

G1A:
- Pre-DA Tag: 100 MW 7f PTP to L2

G1B:
- Pre-DA tag: 500 MW 7f PTP to L1

G2A:
- Pre-DA Tag: 350 MW 7f PTP to L2

G2B:
- Pre-DA Tag: 0 MW

Load forecast
- MP1 - L1: 500 MW
- MP2 - L2: 450 MW

- BA1: NSI = +100 MW
- BA2: NSI = -100 MW

Day Ahead

G1A DA Offer :
- Self commit – min 50MW offer
- 50 to 150 MW @ $30

G1B DA Offer :
- Self commit – min offer 500 and max offer 500 MW

G2A DA Offer:
- Self commit – min 350MW offer
- 350 (min) to 500 MW @$20
- 501-700 (max) @$31

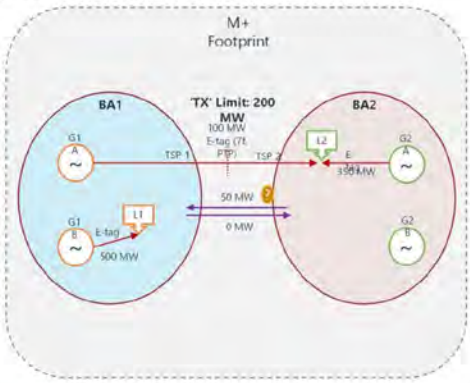
G2B DA Offer :
- No offer

Load bids:
- MP1- L1: 500MW @$200
- MP2 - L2: 450 MW @$200

DA Solution:
- G1A: 50 MW (-50)
- G1B: 500 MW (fixed)
- G2A: 400 MW (+50)
- G2B: 0 MW (fixed)

- BA1 NSI = +50 MW
- BA2 NSI = -50 MW

- LMP = $20



For this example, the offer information DA causes the generation from G2A to dispatch up, above its E-tag, and G1A is dispatched down, below its tag and the net differences reflected via a market transfer. The E-tags do not have market settlements.

Frequently Asked Questions:

- Will this transfer be represented with a tag? Yes, the BAs need to see market transfers and the tag provides that visibility.
  - Is the market tag resource-specific? (ie, BA-to-BA only) – System to System (Sys Source to Sys load)
  - Is the tag type dynamic or normal? Dynamic
  - What priority does the tag have? DA – 6NN (50)
  - Does the resource tag get adjusted? No, stays at 100 MW.

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Example 3: DA Transaction and Clearing Example – Firm delivery from BA 1 to BA 2

Gen Characteristics

MP 1 - G1A:
- Nameplate: min 50 – max 150 MW
- LTF: 150 MW PTP to L2

MP1 - G1B:
- Nameplate: min 100 – max 600 MW
- LTF: 600 MW PTP to L1

MP2 - G2A:
- Nameplate: min 350 – max 700 MW
- LTF: 700 MW PTP to L2

MP2 - G2B:
- Nameplate: min 20MW to max 200 MW
- No firm transmission service

Pre-Day Ahead

G1A:
- Pre-DA Tag: 100 MW 7f PTP to L2

G1B:
- Pre-DA tag: 500 MW 7f PTP to L1

G2A:
- Pre-DA Tag: 400 MW 7f PTP to L2

G2B:
- Pre-DA Tag: 0 MW

Load forecast
- MP1 - L1: 500 MW
- MP2 - L2: 500 MW

- BA1: NSI = +100 MW
- BA2: NSI = -100 MW

Day Ahead

G1A DA Offer:
- Self commit – min 50MW offer
- 50 to 150 MW @ $20

G1B DA Offer:
- Self commit – min offer 500 and max offer 500 MW

G2A DA Offer:
- Self commit – min 350MW offer
- 350 (min) to 700 MW (max) @$30

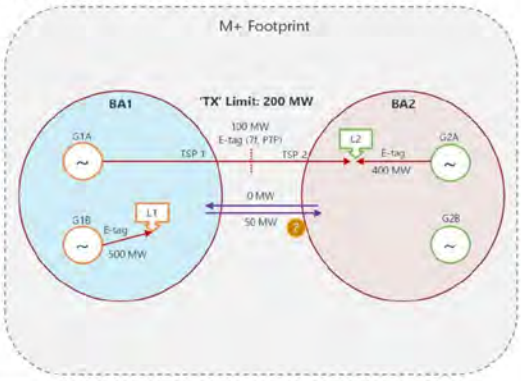
G2B DA Offer:
- No offer

Load bids:
- MP1 - L1: 500MW @$200
- MP2 - L2: 500MW @$200

DA Solution:
- G1A: 150 MW (+50)
- G1B: 500 MW (fixed)
- G2A: 350 MW (-50)
- G2B: 0 MW (no offer)

- BA1 NSI = +150 MW
- BA2 NSI = -150 MW

- LMP = $30



Frequently Asked Questions:
- Will this transfer be represented with a tag? Yes, the BAs need to see market transfers and the tag provides that visibility.
  - Is the market tag resource-specific? (ie, BA-to-BA only) – System to System (Sys Source to Sys load)
  - Is the tag type dynamic or normal? Dynamic
  - What priority does the tag have? DA – 6NN (50)**
  - Does the resource tag get adjusted? No, stays at 100 MW.

** Discussion item for group: MP1 owns firm PTP transmission service from a generator in BA1 and delivering to a load in BA2 in excess of the submitted E-tag.

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Example 4A: DA Transaction and Clearing Example – Firm delivery from BA 1 to BA 2 with RT Constraint/transmission limit

Gen Characteristics

MP 1 - G1A:
- Nameplate: min 50 – max 150 MW
- LTF: 150 MW PTP to L2

MP1 - G1B:
- Nameplate: min 100 – max 600 MW
- LTF: 500 MW PTP to L1

MP2 - G2A:
- Nameplate: min 350 – max 700 MW
- LTF: 700 MW PTP to L2

MP2 - G2B:
- Nameplate: min 20MW to max 200 MW
- LTF: 200 MW PTP to L1

Pre-Day Ahead

G1A:
- Pre-DA Tag: 100 MW 7f PTP to L2

G1B:
- Pre-DA tag: 500 MW 7f PTP to L1

G2A:
- Pre-DA Tag: 400 MW 7f PTP to L2

G2B:
- Pre-DA Tag: 0 MW

Load forecast
- MP1 - L1: 500 MW
- MP2 - L2: 500 MW

- BA1: NSI = +100 MW
- BA2: NSI = -100 MW

Day Ahead

G1A DA Offer:
- Self commit – min 50MW offer
- 50 to 150 MW @ $20

G1B DA Offer:
- Self commit – min offer 500 and max offer 500 MW

G2A DA Offer:
- Self commit – min 350MW offer
- 350 (min) to 700 MW (max) @$30

G2B DA Offer:
- No offer

Load bids:
- MP1 - L1: 500MW @$200
- MP2 - L2: 500MW @$200

DA Solution:
- G1A: 150 MW (+50)
- G1B: 500 MW (fixed)
- G2A: 350 MW (-50)
- G2B: 0 MW (no offer)

- BA1 NSI = +150 MW
- BA2 NSI = -150 MW

- LMP = $30

Real Time

G1A RT Offer:
- Self commit – min 50MW offer
- 50 to 150 MW @$20

G1B RT Offer:
- Self commit – min offer 500
- 501 to 600 MW @$50

G2A RT Offer:
- Self commit – min 350MW offer
- 350 to 700 MW @$30

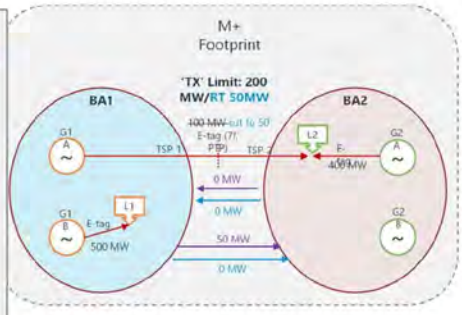
G2B RT Offer:
- 0 to 100 MW @$60

Actual Load
- L1: 500 MW
- L2: 500 MW

RT Solution:
- G1A: 50 MW (-100)
- G1B: 500 MW (0)
- G2A: 450 MW (+100)
- G2B: offline

- BA1 NSI = +50MW
- BA2 NSI = -50MW

LMP = $30



- Same DA as previous example
- Some adjustment to bids for RT
- In RT, transmission limit is now 50MW
- 100MW Tag cut to 50MW
- RT solution redispatches to respect limit and account for loss of energy flowing from BA1 to BA2

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Example 4B: DA Transaction and Clearing Example – Firm delivery from BA 1 to BA with RT Constraint/transmission limit (no tag curtailment)

Gen Characteristics

MP 1 - G1A:
- Nameplate: min 50 – max 150 MW
- LTF: 150 MW PTP to L2

MP1 - G1B:
- Nameplate: min 100 – max 600 MW
- LTF: 600 MW PTP to L1

MP2 - G2A:
- Nameplate: min 350 – max 700 MW
- LTF: 700 MW PTP to L2

MP2 - G2B:
- Nameplate: min 20MW to max 200 MW
- LTF: 200 MW PTP to L1

Pre-Day Ahead

G1A:
- Pre-DA Tag: 100 MW 7f PTP to L2

G1B:
- Pre-DA tag: 500 MW 7f PTP to L1

G2A:
- Pre-DA Tag: 400 MW 7f PTP to L2

G2B:
- Pre-DA Tag: 0 MW

Load forecast
- MP1 - L1: 500 MW
- MP2 - L2: 500 MW

- BA1: NSI = +100 MW
- BA2: NSI = -100 MW

Day Ahead

G1A DA Offer:
- Self commit – min 50MW offer
- 50 to 150 MW @ $20

G1B DA Offer:
- Self commit – min offer 500 and max offer 500 MW

G2A DA Offer:
- Self commit – min 350MW offer
- 350 (min) to 700 MW (max) @$30

G2B DA Offer:
- No offer

Load bids:
- MP1 - L1: 500MW @$200
- MP2 - L2: 500MW @$200

DA Solution:
- G1A: 150 MW (+50)
- G1B: 500 MW (fixed)
- G2A: 350 MW (-50)
- G2B: 0 MW (no offer)

- BA1 NSI = +150 MW
- BA2 NSI = -150 MW

- LMP = $30

Real Time

G1A RT Offer:
- Self commit – min 50MW offer
- 50 to 150 MW @$31

G1B RT Offer:
- Self commit – min 400MW offer
- 401 -450 - $25
- 461-500 -$32
- 501 to 600 MW @$50

G2A RT Offer:
- Self commit – min 350MW offer
- 350 to 700 MW @$30

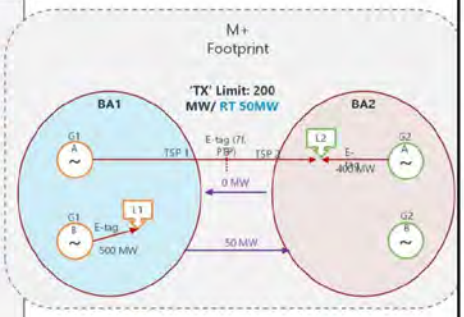
G2B RT Offer:
- 0 to 100 MW @$60

Actual Load
- L1: 500 MW
- L2: 500 MW

RT Solution:
- G1A: 50 MW (-100) LMP= $25
- G1B: 450 MW (-50) LMP = $25
- G2A: 500 MW (+100) LMP=$30
- G2B: 0 MW (offline)

- BA1 NSI = +50MW
- BA2 NSI = -50MW

LMP = see above for each resource



- Same DA as previous example
- Some adjustment to bids for RT
- In RT, transmission limit is now 50MW
- Instead of curtailing 100MW firm tag RT solution redispatches to respect limit provides counterflow to alleviate constraint
- Some price separation due to constraint

DISCUSSION REQUIRED WITH GROUP

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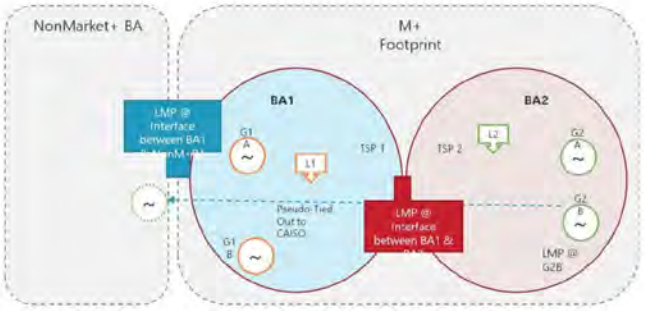
[Au toD ate]

Example 5: Pseudo-Tie out example (DA/RT congestion helping flows)

Pseudo-Tied Resources:
- Incur RT congestion and losses
- Congestion Rent – based on difference in LMPs. CRs only re-imbursed if incurred congestion hurts (paid prevailing flow), if congestion helps CR not charged (not charged for counterflow).

2TSRs:
G2B to BA1/BA2 Int
BA1/BA2 Int and BA1/NonM+BA Int.



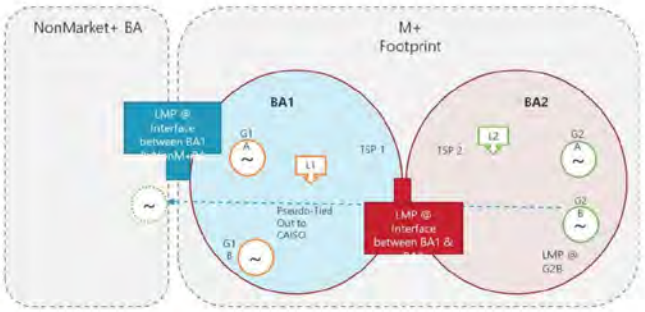
LMP location	DA LMP	RT LMP
G2B	$40	$40
BA1/BA2 Int	$30	$30
BA1/NonM+BA Int	$20	$20

TSR	DA Congestion ignoring losses	RT Congestion ignoring losses	$ impact
G2B to BA1/BA2 Int	40-30= $10 (helps system)	40-30 = $10	RT settlement= paid $10 for RT congestion, CR payment $0; **Net $10**
BA1/BA2 Int to BA1/NonM+BA Int	30-20= $10 (helps system)	30-20 = $10	RT settlement= paid $10 for RT congestion, CR payment $0; **Net $10**

Example 6: Pseudo-Tie out example (DA/RT hurting flows)

Pseudo-Tied Resources:
- Incur RT congestion and losses
- Congestion Rent – based on difference in LMPs. CRs only reimbursed if incurred congestion hurts (paid prevailing flow), if congestion helps CR not charged (not charged for counterflow).

2TSRs:
G2B to BA1/BA2 Int
BA1/BA2 Int and BA1/NonM+BA Int.



LMP location	DA LMP	RT LMP
G2B	$20	$20
BA1/BA2 Int	$30	$30
BA1/NonM+BA Int	$40	$40

TSR	DA Congestion ignoring Losses	RT Congestion ignoring Losses	$ impact
G2B to BA1/BA2 Int	20-30= -$10 (hurts system)	30-40= -$10	RT settlement= charged $10 for RT congestion, CR eligible payment $10; **Net $0**
BA1/BA2 Int to BA1/NonM+BA Int	30-40= -$10 (hurts system)	30-40= -$10	RT settlement= charged $10 for RT congestion, CR eligible payment $10; **Net $0**

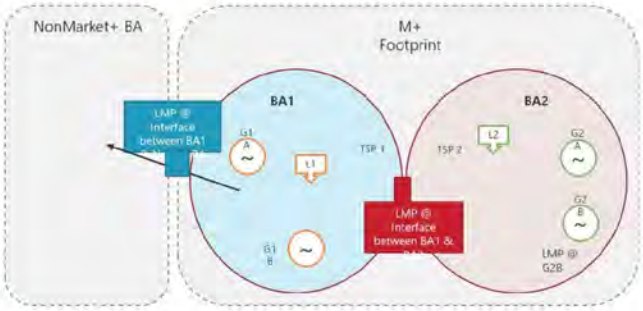
Example 7: Dispatchable Interchange "Out" example (DA)

Dispatchable out interchange transaction:
- Initially proposed to be available only for DA dispatch.
- Bid is evaluated at interface leaving the M+ footprint
- Requires valid tag with transmission service requests additional parameters

Example: MP provides bid for 100 @ $20. (Willing to flow energy if LMP clears less than or equal to $20.)

Here, if the DA LMP clears at $19, the dispatchable interchange transaction will clear and be updated by the market systems.

LMP location	DA LMP	RT LMP
BA1/NonM+BA Int	$19	$40



ADDITIONAL SCENARIOS FOR DISCUSSION

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QUESTIONS
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From: Aaron Shipley <ashipley@spp.org>
Sent: Tuesday, August 29, 2023 10:56 AM
To: Rubin, David; Robertson, Darrin; Pol, Karan; Tenney Denison, Lauren; Taylor, Joseph; McGuirk, George; Tilghman, Henry; Glasgow, Jonathan; Williams, Dan; Hakala, Tuuli; Brooke.Voorhees@blackhillscorp.com; Russell, Derek; Holman, Mark; Kochheiser,Todd W (BPA) - TOI-DITT-2; Truong,Mai N (BPA) - TSB-TPP-2; Mantifel,Russell (BPA) - PGL-5; Ching, Vincent; Clint Savoy; Spires, Jeff; Carrie Simpson
Subject: [EXTERNAL] Conceptual Document for I/E/W M+ & Potential Meeting for Sub Group
Attachments: 230825 M+ boundary transactions_v3 (clean).docx

Importance: High

All,

As discussed at our meeting on 8/23, attached is the conceptual document complied by a small group of the I/E/W sub-group team. Now that this has been created and initial Tariff feedback for interchange transactions have been submitted by the MSWG members, it would be timely for the sub-group to meet and review the comments in conjunction with the conceptual document ahead of the 9/5 MSWG meeting if possible.

Note, the MSWG member feedback on Tariff language needs will be posted later today (8/29) as part of the MSWG 9/5 meeting materials.

Given the larger group and shorter notice I am going to suggest we meet this Friday 9/1 from 11-1 Central. Unless the majority will not be able to attend we will just plan to meet at this time.

Aaron Shipley
Southwest Power Pool
Sr. Interregional Strategist, Interregional Strategy and Engagement
Email: ashipley@spp.org
Office: 501.482.2197

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Participating In Markets+ With Imports, Exports, and Wheel-Through Activity

The following describes the initial concepts discussed by a subgroup of members of this Imports/Exports/Wheel-through sub-group regarding several key elements of a Markets+ framework for imports, exports, and wheel-through transactions.

Approach: Apply Design From SPP Eastern RTO, Modified As Necessary

The proposed approach is intended to be consistent with the recent MPEC resolution to adopt SPP's Eastern RTO design as a default starting point for the initial Markets+ tariff, with modifications as necessary to accommodate different circumstances encountered in the west.

The following design elements are proposed to be adopted from SPP's Eastern RTO framework:

1. *Entities will be required to have an implemented e-Tag in order to have their bids and offers accepted by the market for exports, imports, or wheel-through transactions.*

Parking lot item: Bid information (including quantities and prices, as applicable) will be included on and submitted via a designated field in the e-Tag. While this approach is used in SPP's Eastern RTO, the e-Tag specification used in the west is different. It will be necessary to verify that the e-Tag specification used in the west supports information fields that are confidential and not visible to all entities on the e-Tag. Absent such verification, a different procedure for submitting bid information and for associating bid information with an e-Tag will need to be explored.

2. *The market optimization will evaluate imports, exports and wheel-through transactions based on the source BAA and/or the sink BAA on the implemented e-Tag*

Imports, exports, and wheel-through transactions will be evaluated based on the external sink BAA (for exports), the external source BAA (for imports) or both (for wheel-through) as identified on the e-Tag. This approach better enables the market optimization to identify the most efficient Markets+ generation—which may be located anywhere within the Markets+ footprint—to increase or decrease, considering expected power flows, as well as transmission and other security constraints.

For example, an export from Markets+ sinking in the CAISO BAA would be evaluated, dispatched and priced based on the least-cost increase in generation in the Markets+ footprint capable of supporting a reduction in generation within the CAISO BAA.

Under this approach, the evaluation of imports, exports, and wheel-through transactions will not depend on which particular Markets+ boundary interface is identified by the market participant on the e-Tag.[1] Requiring an implemented e-Tag in order to submit bids for imports, exports, or

[1] In the specific case of transactions involving the use of the Pacific DC Intertie, additional steps will be taken to ensure the evaluation of these transactions appropriately reflects the

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wheel-through transactions ensures Markets+ market awards are consistent with transmission service arrangements under the OATT framework of the applicable TSPs, but it does not dictate the change in dispatch (or the price) associated with such transactions.

The transmission service and scheduling requirements for e-Tags for exports, imports and wheel-through transactions are discussed in a separate section, below.

3. *Opportunities to participate with imports, exports and wheel-through transactions in the day-ahead and real-time markets*

The day-ahead market will support both economic (*i.e.,* price-based) bids and self-schedules (*i.e.,* price-taker bids) for imports, exports, and wheel-through transactions.

Initially, all imports, exports and wheel-through transactions in the real-time market will be required to be self-scheduled. Entities will be able to submit such self-schedules either prior to or during the operating hour (but subject to intra-hour market deadlines), and any self-schedule may be adjusted within the operating hour.

For the initial tariff, the real-time market will consist of a 5-minute dispatch run only. There will be no hour-ahead market process and no 15-minute market process initially.

A stakeholder process will be commenced to explore the pros and cons of enhancing this initial framework by:

- Enabling economic bidding of imports, export or wheel-through transactions in the real-time market; and/or
- Including real-time market processes (*e.g.*, Hour Ahead, 15-min) in addition to the 5-minute dispatch.

Scheduling and E-Tagging Requirements

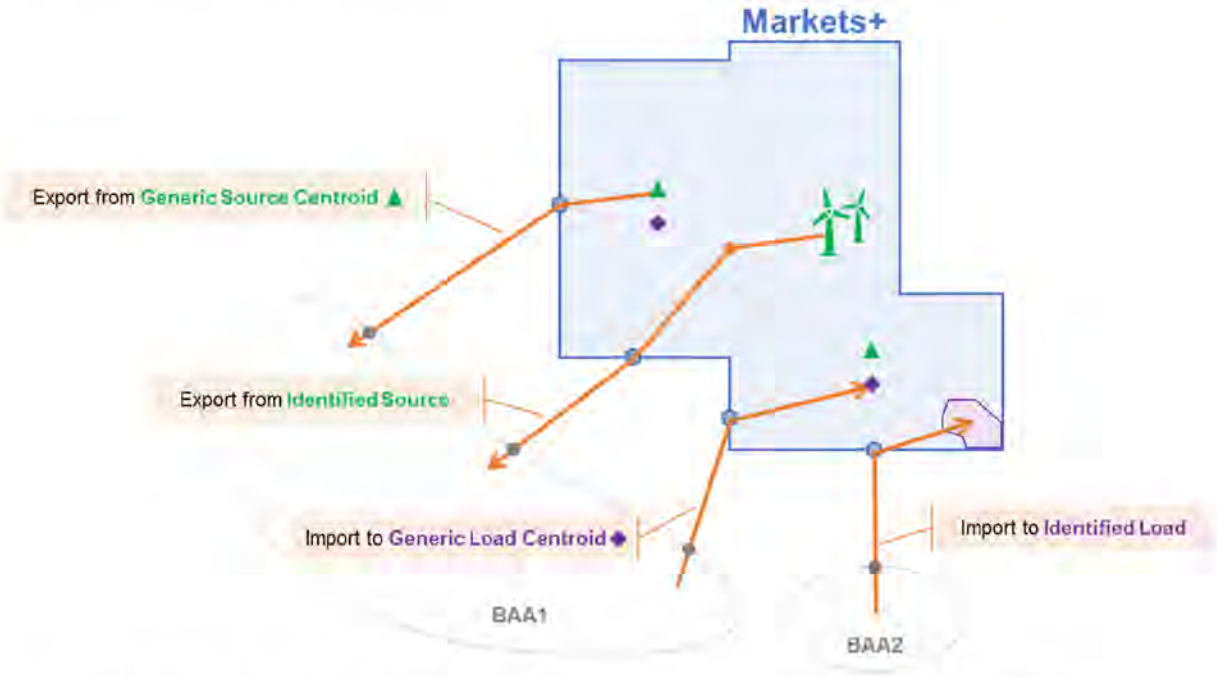
Entities participating in Markets+ with exports will be able to e-Tag their transactions either from an identified source located in Markets+ (system, plant, or unit) or from a generic source, called a Generic Source Centroid. Similarly, entities participating in Markets+ with imports will be able to e-Tag their transactions either to an identified load within Markets+, or to a Generic Load Centroid. The use of Generic Source Centroids and Generic Load Centroids enables participation in Markets+ by any registered participant, without requiring that participant have any relationship with an identified generation source or an identified load.

One Generic Source Centroid and one Generic Load Centroid will be established for every TSP that includes one or more Markets+ boundary interfaces in its service area. A TSP that does not include a Markets+ boundary interface in its service area will not establish any centroids.

---

controllable nature of these facilities. Transactions on these facilities will be treated differently in the bid/offer evaluation, dispatch and pricing processes, but will be scheduled and e-Tagged similarly to other Markets+ import, export and wheel-through transactions

Market participants submitting imports that do not sink to an identified load will use the Generic Load Centroid of the TSP for the Markets+ boundary location over which the import is scheduled. Similarly, market participants submitting exports without an identified source of generation will use the Generic Source Centroid of the TSP for the Markets+ boundary location over which the export is scheduled.



Parking Lot Item: How will wheel-through transactions be e-Tagged? One concept for consideration: Wheel-through transactions are required to be e-Tagged from an external source BAA to the applicable Generic Load Centroid associated with the Markets+ import location of the wheel-through transaction and then from the Generic Source Centroid associated with the Markets+ export location of the wheel-through transaction and then to external sink BAA.

Transmission Service Requirements

All imports, exports, and wheel-through transactions require OATT transmission service consistent with their schedules.

Exports from an identified source require one or more segments of OATT transmission service from the identified source to the Markets+ boundary interface. Exports from a Generic Source Centroid require OATT transmission service from the Generic Source Centroid to the Markets+ boundary interface.

Imports to an identified load require one or more segments of OATT transmission service from the Markets+ boundary interface to the identified load. Imports to a Generic Load Centroid require OATT transmission service from the Markets+ boundary location to the Generic Load Centroid.

Wheel-through transactions require one or more segments of OATT transmission between the two Markets+ boundary interfaces that are the POR and POD for the wheel-through transaction.

The above requirements may be met from existing OATT reservations held by a transmission customer or by purchasing new transmission service from the applicable TSP(s). The required transmission service may be Firm or Non-Firm service. These requirements are intended to support TSPs continuing to receive revenue from the sale of long-term and short-term OATT transmission service associated with imports, exports, and wheel-through transactions at their prevailing OATT rates.

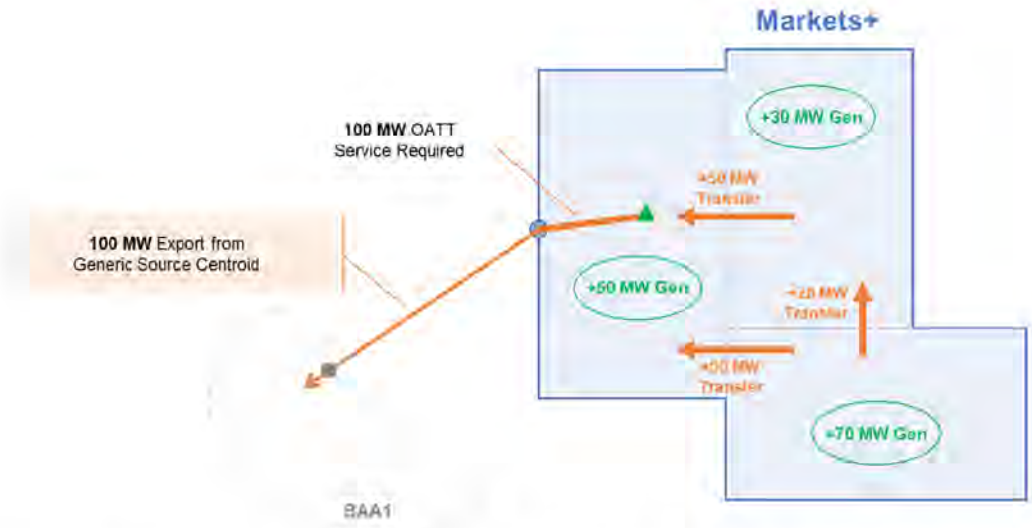
Application Of Markets+ Transmission Usage Charge For Schedules To Or From A Centroid

A centroid is a scheduling convenience that enables the scheduling and e-Tagging of imports and exports in Markets+. It is recognized that the incremental generation that supports an export will not necessarily be located in the service area of the TSP/BAA associated with the Generic Source Centroid on the e-Tag for that export. Similarly, the reduction of generation within Markets+ resulting from an import will not necessarily be located in the service area of the TSP/BAA associated with the Generic Load Centroid on the e-Tag for the import.

For example, a 100 MW export from Markets+ at Mead could be scheduled from NV Energy's Generic Source Centroid. But it is not necessarily the case that the additional generation dispatched by the Markets+ optimization will be located within the NV Energy BAA. If the incremental generation is located in APS's BAA, for example, then the export transaction, when viewed on a standalone basis, would result in:

- The exporter's e-Tag from the NV Energy Generic Source Centroid to Mead (and on to the sink BAA); *and*
- A 100 MW increase in the quantity shown on the dynamic e-Tags used by Markets+ from APS to NV Energy.

Requiring OATT transmission service between the NV Energy Generic Source Centroid and Mead only supports appropriate funding of NV Energy's transmission facilities. But this requirement does not support appropriate funding of the internal transmission facilities that enable the economic dispatch of generation elsewhere in Markets+ footprint (*i.e.,* the facilities that enable transfers from resources in the APS BAA to the NV Energy BAA).



Parking Lot Item: Stakeholders may consider whether to explore the application of a charge (such as the Markets+ Transmission Usage Charge, or an alternative appropriate charge) to ensure that imports and exports scheduling to or from a centroid contribute equitably to the other transmission facilities that enable those transactions.

Ensuring Reliability Of BAAs With Markets+ Boundary Interfaces

The participation of imports and exports at Markets+ boundary interfaces will necessarily impact the net interchange between the BAA associated with a boundary interface and adjacent BAAs outside of Markets+. To the extent that these external imports and exports are not fully offset by changes in transfers with other BAAs within the Markets+ footprint, the difference will reflect the change in net generation required from the BAA with the boundary interface.

The scheduling of imports and exports to or from a centroid is a form of intertie bidding, implemented in a different way than elsewhere in the west. This implementation approach must include protections to ensure the impacts of enabling intertie bidding do not fall disproportionately upon the BAAs where these interties are located.

At a minimum, the day-ahead and the real-time market solutions leave each BAA with a boundary interface in a reliable position. BAAs may require specific minimum or maximum levels of generation to meet reliability needs (*e.g.*, voltage stability), and BAAs may only be able to accommodate aggregate changes in generation output up to a certain level. These types of requirements cannot be represented in the market optimization solely through unit-specific constraints on minimum and maximum output or ramp rates.

It is proposed to enable each boundary BAA to specify BAA-level constraints that will be enforced in the market optimization. Specifically, each boundary BAA will be able to specify for each hour, and in both the day-ahead and real-time timeframes:

- Minimum BAA generation;

- Maximum BAA generation; and
- Maximum hour-to-hour change in BAA generation.

Similar types of BAA-level constraints are defined and enforced in the Western EIM, for similar reasons.

Given that these BAA-level constraints can impact the availability of supply in Markets+, these constraints must be determined and communicated by the Balancing Authority, based on the operational and reliability needs of the BAA, and not involve the merchant function in any way.

From: Marcie L Martin <Marcie.Martin@srpnet.com>
Sent: Thursday, July 25, 2024 4:19 PM
To: Walter, Kent C; Zahnow, Jessica Lynn; Hayes,Matthew C (BPA) - MTM-3; 'Spires, Jeff'; Ahmad, Omaya; Josh C Robertson; 'Hakala, Tuuli'; Mantifel,Russell (BPA) - MTM-3
Cc: Ching, Vincent; Haines, Philip - Marketing; 'Holman, Mark'; 'Aitken, Meredith'; Del Rincon, Yessica
Subject: RE: [EXTERNAL] Markets+ Issue Alerts
Attachments: Draft Issue Alert 2 - Reliability v3 SRP_Comments.docx

Kent,

Thank you for sharing the draft for the reliability issue alert. The attached file includes proposed edits from the SRP team. Please let me know if you have any questions.

Marcie

From: Walter, Kent C <Kent.Walter@aps.com>
Sent: Wednesday, July 24, 2024 11:01 AM
To: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; 'Hayes,Matthew C (BPA) - MTM-3' <mchayes@bpa.gov>; 'Spires, Jeff' <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Josh C Robertson <Josh.Robertson@srpnet.com>; 'Hakala, Tuuli' <Tuuli.Hakala@chelanpud.org>; 'Mantifel,Russell (BPA) - MTM-3' <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; 'Holman, Mark' <Mark.Holman@powerex.com>; 'Aitken, Meredith' <Meredith.Aitken@powerex.com>; Del Rincon, Yessica <Yessica.DelRincon@aps.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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A couple updates for this team:

-Attached Is the Draft Issue Alert incorporating comments received so far. I am looking for all final comments by 7/26 with final sign off by 8/2.

-Attached is a tentative timeline for future Issue Alerts – looking for your feedback

-My media team didn't think the current draft of Issue Alert 1 on governance had the voice for a utility dive and instead recommended Public Utilities Fortnightly or to adjust the voice in the letter. Public Utilities Fortnightly is a well-read publication by regulators but is behind a subscription service. I would like to get feedback on the direction you think. Clearing up (Matt, BPA) was on the table as is RTO insider (Jessica, PSE).

-**Matt**, do you have an update on your media inquiries for this group?

Kent

From: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>
Sent: Monday, July 22, 2024 10:08 AM
To: Walter, Kent C <Kent.Walter@aps.com>; 'Hayes,Matthew C (BPA) - MTM-3' <mchayes@bpa.gov>; 'Spires, Jeff' <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; 'Josh Robertson' <Josh.Robertson@srpnet.com>; 'Hakala, Tuuli' <Tuuli.Hakala@chelanpud.org>; 'Mantifel,Russell (BPA) - MTM-3' <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; 'Marcie L Martin'

<Marcie.Martin@srpnet.com>; 'Holman, Mark' <Mark.Holman@powerex.com>; 'Aitken, Meredith' <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Vincent has an additional suggestion for the "Increased reliability in real-time" section, attached in this redline. This comment is added on top of PSE's prior offered redlines.

Thank you!

Jessica Zahnow
State & Regional Policy – Regional Markets
Phone: (b)(6)

PUGET SOUND ENERGY

From: Zahnow, Jessica Lynn
Sent: Wednesday, July 17, 2024 9:45 PM
To: Walter, Kent C <Kent.Walter@aps.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

This is great, Kent and Omaya. You hit the key points and major elements of reliability. It's valuable to call out the function of the MORWG, to differentiate between capacity vs. energy must-offer, and to call out the potential associated with a flow-based methodology. All of these speak to the challenges we're seeing in the west. I wonder if we could soften the EDAM language a bit and focus on the M+ benefits. And are there a few key places we could provide examples or data that shore up our points?

PSE offers the attached comments and edits for the group's consideration. I attached a clean version also, in case that's easier to consume.

Thank you for keeping us moving quickly!

Jessica Zahnow
State & Regional Policy – Regional Markets
Phone: (b)(6)

PUGET SOUND ENERGY

From: Walter, Kent C <Kent.Walter@aps.com>
Sent: Tuesday, July 16, 2024 5:10 PM

To: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Thanks Matt and would still like your suggestions as we develop the drafts of these Issue Alerts.

I submit to the group a **draft** of Issue Alert #2 – Reliability for your comments. We elected to offer something quicker to align on substance rather than to delay and work on style. My short-hand for saying writing is not my strength. 😊

Kent

From: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>
Sent: Tuesday, July 16, 2024 4:09 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Thanks for all the hard work on reviewing and refining this. As always it is a pleasure working with you all.

We've chatted with our internal staff as well as our OGC, and BPA isn't able to sign on to this governance letter as it is currently written. It has a high risk of being viewed as pre-decisional given our ongoing public process. At this time, public statements that are associated with BPA need to remain focused on what is important to BPA in this process, and not directly focusing on any one entity or option. I understand that this does not necessarily align with the original goals of this group.

I am happy to chat about it more at our Monday meeting, but I wanted to give you all a heads up on where we landed with this internally.

Thanks,

Matt

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Tuesday, July 16, 2024 12:55 PM
To: Ahmad, Omaya <Omaya.Ahmad@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hayes,Matthew C

(BPA) - MTM-3 <mchayes@bpa.gov>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

Hi everyone,

Thanks for the edits and feedback. I've attached a new version in clean and redline that includes the change proposed below. You will see in the redline that I have proposed to make a few modifications to the additional language proposed by Omaya in the previous version in an effort to trim it back slightly (without losing the key points).

I am hopeful this version works for the group – if you can give a quick read and let me know if you have any concerns I'd appreciate it.

Jeff

From: Ahmad, Omaya <Omaya.Ahmad@aps.com>
Sent: Tuesday, July 16, 2024 12:27 PM
To: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: Re: [EXTERNAL] Markets+ Issue Alerts

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Agree with Jessica. I don't know if this is strong enough to illuminate fairness across participating states, but here's a redline for page 2.

The Markets+ Governance framework fully achieves this objective through these key features:

1. A ~~fully independent~~ board / panel independent of market participants and stakeholders with authority over all aspects of the market;

Contrast this with the first 2 EDAM points on page 3, which I think are strong:

1. The starting point for EDAM and EIM is a market design and tariff developed under the California ISO's existing governance framework. The Pathways Initiative does not propose to replace this initial market design with a stakeholder-driven design.
2. Both EDAM and EIM were built as extensions of a legacy institutional framework with embedded dependencies on, and obligations to, California state agencies, which the Pathways initiative does not propose to eliminate.

From: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>
Sent: Tuesday, July 16, 2024 10:39 AM
To: Ahmad, Omaya <Omaya.Ahmad@aps.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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PSE supports Omaya/APS's additions. Josh Jacobs had feedback asking for more detail on why Pathways timing won't provide a viable solution, and Omaya's edits address that well. One other thing Josh points out is that two things we hear out of our commission is, "we don't want to be governed out of Little Rock", and "interested parties don't have a strong voice in M+".

While we don't agree, does anyone have thoughts about an artful way to address these concerns?

Jessica Zahnow

State & Regional Policy – Regional Markets

Phone: (b)(6) [redacted]

PUGET SOUND ENERGY

From: Ahmad, Omaya <Omaya.Ahmad@aps.com>
Sent: Monday, July 15, 2024 5:00 PM
To: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith

<Meredith.Aitken@powerex.com>
Subject: Re: [EXTERNAL] Markets+ Issue Alerts

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I made a few additions that are almost entirely on page 3.

- Spelled-out the value of SPP's consensus approach to stakeholder engagement
- Going off Matt's suggestion: opened a spot for others to add examples of where CAISO's governance has left us frustrated
- Added more to the Pathways discussion

Feel free to cut down as needed.

Thanks,

Omaya

From: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>
Sent: Monday, July 15, 2024 4:53 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Thanks for a productive meeting this morning. Before moving forward BPA is going to need some more internal conversation on how this first paper and the overall strategy fits into our public process. We should be able to get something definitive tomorrow.

Apologizes for not flagging this today as it is something I should have known would be a required step.

Thanks,

Matt

-----Original Appointment-----
From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, July 12, 2024 12:15 PM
To: Spires, Jeff; Josh Robertson; Zahnow, Jessica Lynn; Hakala, Tuuli; Kent.Walter@aps.com; Mantifel,Russell (BPA) - MTM-3
Cc: Ching, Vincent; Haines, Philip - Marketing; Hayes,Matthew C (BPA) - MTM-3; Ahmad, Omaya; Marcie L Martin; Holman, Mark; Aitken, Meredith
Subject: [EXTERNAL] Markets+ Issue Alerts
When: Monday, July 22, 2024 9:00 AM-10:00 AM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

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Issue Alert 2:
Markets+ Maintains Structural Components ~~O~~of Reliability

Market design characteristics that support reliability, ensure customer benefits and promote transparency are essential elements to consider before committing to join a market as electric reliability is essential to the safety and well-being of the general public. As observed during ~~the~~ recent ~~winter event in the Northwest, as well as summer heat waves~~extreme weather events over~~in~~ the past several years across the country, reliability risk is elevated. Markets+ has ~~had the benefit of~~benefitted from a robust, stakeholder-driven governance framework which has led to ~~embedding reliability criteria into~~a strong focus on reliability in the market design.

Markets+ incorporates several critical ~~characteristics~~ elements to enhance reliability, including:

- Standard and transparent resource adequacy requirements for all participants using the Western Resource Adequacy Program (WRAP);
- A ~~capacity-based~~ must-offer requirement tied to reliable ~~resources~~ capacity secured well in advance of the operating timeframe;
- A flow-based model of dispatch to enhance deliverability;
- Extended a~~A~~ccess to resource adequacy resources ~~is extended~~ through real-time;
- An independent Market Operator that acts impartially on behalf of a diverse footprint; and
- A stakeholder-driven committee dedicated to assessing impacts to reliability (Markets+ Operations and Reliability Working Group [MORWG]).

Markets+ Leverages ~~The Western Resource Adequacy Program~~WRAP as a Common Resource Adequacy Standard

A common and rigorous resource adequacy structure is critical for and foundational to~~a critically important feature as a foundation for~~ reliability and ~~to ensure market fairness~~ intra-market equity. ~~Markets+ achieves this feature by making~~Therefore, WRAP participation is a requirement for entities with load in Markets+.

WRAP applies a common approach for ~~measuring~~ calculating resource capacity values and ~~for calculating~~ determining each participant's minimum obligation for resource adequacy, which prevents market participants from ~~an~~ being over-relian~~t~~ce on others' resources. ~~-~~WRAP also ensures that capacity obligations and the benefits of ~~the region~~regional diversity are shared equitably. ~~-~~For example, if a lower capacity requirement can be achieved among the footprint, all participants share in the benefit by lowering their planning ~~resource~~ reserve margin. WRAP ~~also~~ requires that participants procure the defined minimum amount of supply well in advance of the operating timeframe, ~~when there is the greatest ability~~while there is still time to take corrective action if necessary.

WRAP ~~also~~ provides ~~broader~~ visibility into how resources perform to meet the region's needs in a way, ~~which is a tool~~ that does not ~~otherwise~~ currently exist. WRAP also applies resource deliverability requirements that create~~s~~ incentives for long-term transmission development, supporting reliable service to customers and efficient integration of clean energy resources.

Capacity Must-Offer Requirement

Comment [AL1]: Given the great interest of Western State Utility Commissioners and our own beliefs in markets that protect the consumer, I think we may want to consider including that sentiment as well and not just stating that we are supporting reliability (it is merely one component, although the primary issue of this Issue Alert).

This sentiment could be echoed in each of the Issue Alerts to ensure the message gets through because it is a talking point by some that if you have 2 markets it is not in the best interest of the customer. Just food for thought.

Comment [JAC2]: ISO/RTO capacity markets with auctions 3 years forward arguably provide the "greatest" ability for corrective action.

Markets+ builds upon the WRAP forward resource procurement requirement and requires ~~this~~ capacity to be made available to the market, ~~ensuring the market it~~so that it has access to sufficient resources to meet energy and uncertainty needs through real-time. This is referred to as a must-offer requirement. In Markets+, the must-offer requirement can only be met with WRAP supply or other specified resources; it cannot be met with an unbacked energy purchases without an identified source. This approach enhances existing reliability in the West by addressing instances where energy commitments were not backed by reliable physical supply and ultimately did not deliver to load. The must-offer obligation in Markets+ centers on identified, resources and will lead to greater reliability outcomes for all participants.

Enhanced Deliverability

Markets+ utilizes a flow-based model of dispatch within the Markets+ footprint. This approach allows for real-time~~world~~ transmission conditions to be reflected in the market model, often achieving greater utilization of existing transmission infrastructure compared to a contract-path method of transmission constraint modeling. The Markets+ flow-based dispatch enhances deliverability of WRAP resources between Markets+ participants, expanding access to resources within the market, including across B~~b~~alancing ~~area~~ Aauthority Aarea (BAA) boundaries.

Comment [SMC3]: I don't think this impacts the end result, but I think M+ only uses the flow-based model in real-time. Day ahead is still contract path.

Increased Reliability in Real-Time

Markets+ extends the timeframe through which resources procured to meet WRAP requirements remain available through real-time, instead of solely relying on holdback decisions to be made in the pre-schedule timeframe. This means resources procured by participants remain available during ~~to meet~~ conditions that do not materialize until real-time, such as sudden fall-off of renewable output or higher-than-expected demand.

Furthermore, Markets+ also includes a ~~backstop~~ reliability backstop mechanism ~~that allows~~allowing the market operator to work with participating BAAs to commit resources ~~that were~~ not offered in the Day-ahead prescheduled timeframe if needed to maintain reliability during critical conditions~~, further increasing the supply available through real-time~~.

Markets+ Operations and Reliability Working Group (MORWG)

In an addition to the independent Market Operator that acts impartially on behalf of a diverse footprint, Markets+ maintains a specific committee with oversite responsibility for reliability—the ~~Markets+ Operations and Reliability Working Group (~~MORWG~~)~~. The MORWG's scope includes reviewing market design for its impact to reliability. This ~~is a~~ critical group ~~that draws on~~ addresses the unique and diverse reliability challenges faced by many ~~balancing areas~~BAAs in the Western Interconnection ~~(WECC)~~ and is designed to be responsive to potential benefits or threats to reliability.

Markets+ Avoids ~~Thethe~~ Challenges of ~~a~~A Resource Sufficiency Framework

Importantly, a common ~~RA~~ resource adequacy requirement for Markets+ addresses reliability well in advance, without relying on a resource sufficiency test applied each day in the operating timeframe.

Resource sufficiency is inherently challenging for several reasons. Historically there have been numerous examples of inaccurate outcomes associated with resource sufficiency evaluation in the Western Energy Imbalance Market (WEIM), particularly as it relates to the CAISO BAA. This experience has reduced some stakeholders' confidence that an accurate resource sufficiency test will be applied in the day-ahead timeframe for the Extended Day-Ahead Market (EDAM).

Even if a ~~r~~Resource ~~s~~Sufficiency test is applied accurately in EDAM/WEIM, it does not provide adequate time to resolve supply deficiencies that may be identified. ~~-~~Such a test necessarily relies on failure consequences to create incentives for participants to procure sufficient supply in advance ~~in the first place~~, and thus avoid failing. ~~-~~But it has proven challenging to balance the need for failure consequences that are sufficiently strict with the objective of supporting reliability. More specifically, the use of a short-term financial penalty creates the risk that some participants may choose not to be resource sufficient on critical days, and instead pay the fee and lean on the resources made available by others. ~~-~~Such an option makes it less likely that the market footprint will have the physical supply to support reliability than if every entity had procured sufficient supply in advance under a common ~~RA~~ resource adequacy program. This outcome may lead to market participants being less confident in the reliability of the market footprint and less willing to make additional supply available to the market (beyond their ~~r~~Resource ~~s~~Sufficiency ~~r~~Requirements) in order to manage unforeseen risks in their individual areas in real-time, further diminishing available resources, reliability, and overall efficiency of the market as a whole.

Lastly, a resource sufficiency framework may be more costly for some WRAP participants, that~~who~~ would need to meet the requirements of two different and un-linked requirements (both WRAP forward showing obligations and the daily resource sufficiency test). This could result in WRAP participants that have already met their forward showing requirements to incur costs to secure more supply to ~~be able~~ pass the resource sufficiency test on critical days when load is higher, or resource availability is lower. ~~-~~This is an added cost that is avoided in the Markets+ design.

Closing

Ensuring reliability is an essential priority that Markets+ and EDAM seek to address in fundamentally different ways, resulting in material differences in reliability risk between the market choices. ~~-~~Markets+ incorporates critical market design elements that enhance reliability across the entire market. These elements will also enhance the day-ahead liquidity of resources, lead to transparent and rational price formation, aid in creating signals for long-term transmission investment, and enhance the ability of the market to reliably serve customers amid an increasingly volatile electric grid.

Comment [DDP4]: Is it worth acknowledging that CAISO is actively engaged in addressing RA concerns? See, for example, discussion at link - https://www.caiso.com/about/news/an-energy-matters-conversation-on-resource-adequacy-and-our-2024-summer-loads-and-resources-assessment.

From: Gentry Crowson <gtcrowson@spp.org>
Sent: Friday, April 19, 2024 7:19 AM
To: Mantifel,Russell (BPA) - MTM-3; Carman Ruder; Kristen Darden; Detmer, Nick
Cc: Spires, Jeff
Subject: RE: [EXTERNAL] RE: MCRTF Vacant Seat

Update:
We actually have 2 vacant seats in the MCRTF that need to be filled. Mohammad Majidi was listed as a voting member for Pattern Energy and no longer works there. I'll be sending out another email to MCRTF and MDWG members to accept nominations for the Independent Power Producer seat.

Thanks,
Gentry

From: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Sent: Wednesday, April 17, 2024 1:08 PM
To: Carman Ruder <cruder@spp.org>; Kristen Darden <kdarden@spp.org>; Gentry Crowson <gtcrowson@spp.org>; Detmer, Nick <nick.detmer@xcelenergy.com>
Cc: Spires, Jeff <jeff.spires@powerex.com>
Subject: **External Email** RE: [EXTERNAL] RE: MCRTF Vacant Seat

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Got it TF approved by WG, WG approved by MPEC.

From: Carman Ruder <cruder@spp.org>
Sent: Wednesday, April 17, 2024 11:07 AM
To: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Kristen Darden <kdarden@spp.org>; Gentry Crowson <gtcrowson@spp.org>; Detmer, Nick <nick.detmer@xcelenergy.com>
Cc: Spires, Jeff <jeff.spires@powerex.com>
Subject: RE: [EXTERNAL] RE: MCRTF Vacant Seat

Hey Russ,

Task Forces seek approval from the Working Group they report to. Since MCRTF is a Task Force that reports to MDWG, MDWG will approve.

If a WG were seeking to fill a seat, it would go to MPEC for approval.

Never fear, this is going to be an agenda item at MPEC this month.

Thanks,

Carman

From: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Sent: Wednesday, April 17, 2024 12:02 PM
To: Kristen Darden <kdarden@spp.org>; Gentry Crowson <gtcrowson@spp.org>; Detmer, Nick <nick.detmer@xcelenergy.com>
Cc: Spires, Jeff <jeff.spires@powerex.com>; Carman Ruder <cruder@spp.org>
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OK. So we should be set to have it ratified in the upcoming MPEC?

From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, April 17, 2024 9:30 AM
To: Gentry Crowson <gtcrowson@spp.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>
Cc: Spires, Jeff <jeff.spires@powerex.com>; Carman Ruder <cruder@spp.org>
Subject: [EXTERNAL] RE: MCRTF Vacant Seat

Thanks, Gentry. I'll go ahead and add a placeholder on the 5/14 MDWG agenda.

From: Gentry Crowson <gtcrowson@spp.org>
Sent: Wednesday, April 17, 2024 10:17 AM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>; Kristen Darden <kdarden@spp.org>
Cc: Spires, Jeff <jeff.spires@powerex.com>; Carman Ruder <cruder@spp.org>
Subject: MCRTF Vacant Seat

Russ, Nick, and Kristen,

This email is to notify you of an open MCRTF seat for filling by a public power sector given the direction of AEPCO not moving forward with Markets+. I will send an email to MCRTF and MDWG voting members only soliciting nominations. I'm setting the deadline for nominations as April 26th, 2024. Once we get all of the nominations, me and Jeff Spires will use the grading scorecard to choose nominees from the applicants. Once our selection is made, Jeff Spires' approval is needed to finish the process. The new rostered individual will be on the consent agenda for approval at the next MDWG meeting.

Thanks,
Gentry Crowson
MCRTF Staff Secretary

From: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>
Sent: Wednesday, July 17, 2024 9:45 PM
To: Walter, Kent C; Hayes,Matthew C (BPA) - MTM-3; Spires, Jeff; Ahmad, Omaya; Josh Robertson; Hakala, Tuuli; Mantifel,Russell (BPA) - MTM-3
Cc: Ching, Vincent; Haines, Philip - Marketing; Marcie L Martin; Holman, Mark; Aitken, Meredith
Subject: RE: [EXTERNAL] Markets+ Issue Alerts
Attachments: Issue Alert 2 - Reliability+PSE Redline.docx; Issue Alert 2 - Reliability v1+PSE Clean.docx

This is great, Kent and Omaya. You hit the key points and major elements of reliability. It's valuable to call out the function of the MORWG, to differentiate between capacity vs. energy must-offer, and to call out the potential associated with a flow-based methodology. All of these speak to the challenges we're seeing in the west. I wonder if we could soften the EDAM language a bit and focus on the M+ benefits. And are there a few key places we could provide examples or data that shore up our points?

PSE offers the attached comments and edits for the group's consideration. I attached a clean version also, in case that's easier to consume.

Thank you for keeping us moving quickly!

Jessica Zahnow
State & Regional Policy – Regional Markets
Phone: (b)(6)

PUGET SOUND ENERGY

From: Walter, Kent C <Kent.Walter@aps.com>
Sent: Tuesday, July 16, 2024 5:10 PM
To: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Thanks Matt and would still like your suggestions as we develop the drafts of these Issue Alerts.

I submit to the group a **draft** of Issue Alert #2 – Reliability for your comments. We elected to offer something quicker to align on substance rather than to delay and work on style. My short-hand for saying writing is not my strength. 😉

Kent

From: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>
Sent: Tuesday, July 16, 2024 4:09 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Thanks for all the hard work on reviewing and refining this. As always it is a pleasure working with you all.

We've chatted with our internal staff as well as our OGC, and BPA isn't able to sign on to this governance letter as it is currently written. It has a high risk of being viewed as pre-decisional given our ongoing public process. At this time, public statements that are associated with BPA need to remain focused on what is important to BPA in this process, and not directly focusing on any one entity or option. I understand that this does not necessarily align with the original goals of this group.

I am happy to chat about it more at our Monday meeting, but I wanted to give you all a heads up on where we landed with this internally.

Thanks,

Matt

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Tuesday, July 16, 2024 12:55 PM
To: Ahmad, Omaya <Omaya.Ahmad@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

Hi everyone,

Thanks for the edits and feedback. I've attached a new version in clean and redline that includes the change proposed below. You will see in the redline that I have proposed to make a few modifications to the additional language proposed by Omaya in the previous version in an effort to trim it back slightly (without losing the key points).

I am hopeful this version works for the group – if you can give a quick read and let me know if you have any concerns I'd appreciate it.

Jeff

From: Ahmad, Omaya <Omaya.Ahmad@aps.com>
Sent: Tuesday, July 16, 2024 12:27 PM
To: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: Re: [EXTERNAL] Markets+ Issue Alerts

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Agree with Jessica. I don't know if this is strong enough to illuminate fairness across participating states, but here's a redline for page 2.

The Markets+ Governance framework fully achieves this objective through these key features:

1. A ~~fully independent~~ board / panel independent of market participants and stakeholders with authority over all aspects of the market;

Contrast this with the first 2 EDAM points on page 3, which I think are strong:

1. The starting point for EDAM and EIM is a market design and tariff developed under the California ISO's existing governance framework. The Pathways Initiative does not propose to replace this initial market design with a stakeholder-driven design.
2. Both EDAM and EIM were built as extensions of a legacy institutional framework with embedded dependencies on, and obligations to, California state agencies, which the Pathways initiative does not propose to eliminate.

From: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>
Sent: Tuesday, July 16, 2024 10:39 AM
To: Ahmad, Omaya <Omaya.Ahmad@aps.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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PSE supports Omaya/APS's additions. Josh Jacobs had feedback asking for more detail on why Pathways timing won't provide a viable solution, and Omaya's edits address that well. One other thing Josh points out is that two things we hear out of our commission is, "we don't want to be governed out of Little Rock", and "interested parties don't have a strong voice in M+".

While we don't agree, does anyone have thoughts about an artful way to address these concerns?

Jessica Zahnow

State & Regional Policy – Regional Markets

Phone: (b)(6)

PUGET SOUND ENERGY

From: Ahmad, Omaya <Omaya.Ahmad@aps.com>
Sent: Monday, July 15, 2024 5:00 PM
To: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: Re: [EXTERNAL] Markets+ Issue Alerts

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I made a few additions that are almost entirely on page 3.

- Spelled-out the value of SPP's consensus approach to stakeholder engagement
- Going off Matt's suggestion: opened a spot for others to add examples of where CAISO's governance has left us frustrated

- Added more to the Pathways discussion

Feel free to cut down as needed.

Thanks,

Omaya

From: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>
Sent: Monday, July 15, 2024 4:53 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Thanks for a productive meeting this morning. Before moving forward BPA is going to need some more internal conversation on how this first paper and the overall strategy fits into our public process. We should be able to get something definitive tomorrow.

Apologizes for not flagging this today as it is something I should have known would be a required step.

Thanks,

Matt

-----Original Appointment-----
From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, July 12, 2024 12:15 PM
To: Spires, Jeff; Josh Robertson; Zahnow, Jessica Lynn; Hakala, Tuuli; Kent.Walter@aps.com; Mantifel,Russell (BPA) - MTM-3
Cc: Ching, Vincent; Haines, Philip - Marketing; Hayes,Matthew C (BPA) - MTM-3; Ahmad, Omaya; Marcie L Martin; Holman, Mark; Aitken, Meredith
Subject: [EXTERNAL] Markets+ Issue Alerts
When: Monday, July 22, 2024 9:00 AM-10:00 AM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

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Issue Alert 2:
Markets+ Maintains Structural Components Of Reliability

Market design characteristics that support reliability are essential elements to consider before committing to join a market. As observed during Winter Storm Uri in Texas in early 2021, electric reliability can mean life or death for the general public. Accordingly, Markets+ has had the benefit of robust stakeholder governance that has led to embedding reliability criteria in the market design.

Markets+ incorporates critical characteristics to enhance reliability, which include:

- A stakeholder driven committee dedicated to assessing impacts to reliability (Markets+ Operations and Reliability Working Group)
- Standard and transparent resource adequacy requirements using the Western Resource Adequacy Program (WRAP)
- A capacity-based must-offer requirement tied to reliable resources secured far in advance of the operating timeframe
- A flow-based model of dispatch to enhance deliverability
- Additional access to rResource aAdequacy rResources through rReal-time
- An independent Market Operator that acts impartially on behalf of a diverse footprint

Comment [ZJL1]: Feel free to keep or drop this point. Do we have examples where the actions of an impartial MO (won't name names) led to less reliable outcomes for others?

Comment [ZJL2]: I don't have knowledge to say, but does the MORWG serve any kind of pseudo-reliability coordination function between BAAs? And could we say this is a unique benefit in a day-ahead construct where the BAA functions are retained?

Markets+ Operations and Reliability Working Group

Markets+ maintains a committee with oversite responsibility for reliability—the Markets+ Operations and Reliability Working Group (MORWG). The MORWG's scope ~~focuses on~~includes reviewing market design ~~and evolution in market design~~ for ~~their~~ its impact to reliability. This is a critical group that ~~is a strategic inclusion to governance for Markets+~~draws on the unique and diverse reliability challenges faced by many balancing areas in the WECC and ~~because it allows the market~~is designed to be responsive to potential benefits or threats to reliability. ~~Such a dedicated committee is also exclusive to Markets+.~~

The Western Resource Adequacy Program as a common ~~R~~resource ~~a~~Adequacy ~~Requirements~~standard

~~As a standalone, voluntary program,~~ WRAP participants share a number of benefits including a common (mostly) West-wide framework for measuring rResource aAdequacy and a resource sharing program from identified counterparties who have a capacity surplus during stressed conditions. WRAP provides broader visibility ~~to resource accreditation to meet~~into how resources perform to meet the region's needs, which is a ~~capacity~~ tool that does not otherwise exist. WRAP also ensures resource deliverability requirements that ~~support~~ create support for long-term transmission development ~~to meet customer demand needs~~ that enables reliable service to customers and integration of clean energy resources. These are ~~valuable~~ essential foundational elements, which Markets+ builds upon.

WRAP participation is a requirement for entities with load in Markets+ ~~.participants with load are required to also participate in WRAP.~~ Theis requirement ensures a common measurement of rResource Aadequacy and, a minimum obligation for rResource aAdequacy, ~~and it~~which

prevents market participants from ~~overly relying~~an over-reliance on others' resources. WRAP ensures that obligations and benefits of the region are shared equitably. For example, if a lower capacity requirement can be achieved among the footprint, all participants share in the benefit by lowering their planning resource margin.

EDAM does not have a common rResource aAdequacy requirement. Participants in the market will unilaterally determine how to incorporate market benefits (if any) into their capacity development positions. The CAISO, for example, includes an unspecified import assumption that reduces the amount of resources they develop for meeting their reliability standard. With EDAM, as the region develops, more resources in connection with WRAP, CAISO, or any other participant can unilaterally increase their assumption of unspecified imports and reduce their own requirements to develop resources. As a result, some market participants' capacity may accrue to and benefit another market participant and the market as a whole could become less reliable. Even though EDAM penalizes market participants for such behavior, daily penalties are not a substitute for physical resources in the market, and penalties can often be cheaper to pay than to develop sufficent resource. A common rResource aAdequacy structure is critically important to market fairness and serves as a foundation for reliability.

Capacity Must-Offer

~~Participants in markets often are~~Markets+ ~~requir~~requires participants ~~ed~~ to obtain a ~~offer a certain~~ minimum amount of resources well in advance of the operating timeframe – capacity - to ensure the market has sufficient resources to meet energy and uncertainty needs in real-time. This is ~~needs~~ known as a must-offer requirement. ~~Like existing full RTO/ISO markets,~~ In Markets+ ~~maintains a capacity-based must-offer requirement - meaning~~ the must-offer ~~is~~ can only met with WRAP or specified resources and cannot be met with an unbacked~~a~~ energy purchase without a source. This approach enhances existing reliability in the West by addressing instances where energy commitments ~~did not have~~were not backed by ~~a source~~ reliable physical supply and ultimately did not deliver to a load. The must-offer obligation in Markets ~~plus+~~ centers on reliable resources and will lead to greater reliability outcomes for all participants.

While EDAM also establishes a~~maintains a similar~~ must-offer requirement, its ~~must-offer~~ requirement is based on energy and not capacity resources. As a result, an entity can meet their obligation ~~from~~ with a purchase that does not have a specified physical source which can lead to shortages under extreme conditions. Energy resources, including firm energy resources, are susceptible to being withdrawn to serve another area or to ~~the seller never finding~~inability to locate physical supply ~~a source~~ to fulfill~~ill~~ the obligation in real-time, particularly during scarcity conditions.

Enhanced Deliverability

Markets+ ~~operates to~~utilizes a flow-based model of dispatch within the Markets+ footprint. This approach allows for real-world transmission conditions to be reflected in the market model to achieve greater ~~flows and counterflows of power to increase the~~ utilization of existing transmission infrastructure than can often be obtained in a contract-path method of transmission constraint modeling. ~~providing greater deliverability among market participants~~

Comment [ZJL3]: Could there be a way to focus on the benefits of M+ here? Such as generically saying a market that does not have a common RA standard could lead to greater volatility in the operating timeframe, out-of-market compensation to certain resources, etc.?

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Comment [ZJL4]: Solid ending to this section!

Comment [AO5]: This section could use more explaining without jargon to get the point across to our intended lay audience.

Comment [ZJL6]: Similar comment as above, it might seem less tit-for-tat if we softened this a bit and said, "A market with an energy must-offer model, such as EDAM, can result in entities meeting their obligations with less-reliable energy resources. Energy resources, including firm energy resources, are susceptible to [...]"

~~including when transmission is not available for sale on OASIS.~~ As a result, ~~the ability to~~ the capacity and options for shar~~e~~ing resources inside the market and across ~~participating resource seams~~balancing area boundaries is expanded through participation in Markets+. The flow-based dispatch enhances deliverability of WRAP resources between Markets+ participants.

EDAM does not use a flow-based approach between BAs and instead maintains existing bilateral transfer limits energy across BA seams.

~~**Access through real-time**~~**Increased reliability in real-time**

Markets+ builds on WRAP's allowance for participants to share (capacity?) in the Day-ahead by additionally allowing the market to work with BAs to commit resources that are contractually capable even if they were not offered in the Day-ahead prescheduled timeframe. While this feature is only available to the market during critical conditions, Markets+ maintains access to a WRAP level Resource Adequacy through Real-time.

EDAM participants are limited to making decisions in Day-ahead preschedule timeframe without additional enhancements.

Closing

Participants in EDAM, where such reliability features are not in place, are less likely to offer above their must-offer for fear of needing to managing unforeseen risks in Real-time. Withholding in this manner is rational for an entity responsible for reliability but is costly to the market as a whole.

Markets+ incorporates critical market design elements that enhance reliability across the entire market~~Markets+ is better positioned to provide assurances of a highly reliable market~~. ~~As a result, participants will be less likely to withhold offering resources in the Day-ahead to protect against Real-time conditions that may change. Ultimately, the combination of~~ These characteristics ~~discussed herein~~ will also enhance the d~~D~~ay-ahead liquidity of resources, lead to transparent and rational price formation, aid in creating signals for long-term transmission investment, and ~~lowering costs with a more efficient and more reliable market solution~~enhance the ability of the market to reliably serve customers amid an increasingly volatile electric grid.

Comment [AO7]: There's a missing explanation here explaining the why behind this claim before the example.

Comment [ZJL8]: Would our point still get across if we cut this last sentence and leave it focused on M+?

Comment [AO9]: Why is this? Does it not use flow-based?

Comment [ZJL10]: I'm not totally tracking this para. Could it be brought up a level and maybe an example?

Comment [ZJL11]: This point is strong, but feels like it belongs in the must offer section.

Comment [ZJL12]: Vs. a market with higher DA price signals and a RT market where prices fall out.

Issue Alert 2:

Markets+ Maintains Structural Components Of Reliability

Market design characteristics that support reliability are essential elements to consider before committing to join a market. As observed during Winter Storm Uri in Texas in early 2021, electric reliability can mean life or death for the general public. Accordingly, Markets+ has had the benefit of robust stakeholder governance that has led to embedding reliability criteria in the market design.

Markets+ incorporates critical characteristics to enhance reliability, which include:

- A stakeholder driven committee dedicated to assessing impacts to reliability (Markets+ Operations and Reliability Working Group)
- Standard and transparent resource adequacy requirements using the Western Resource Adequacy Program (WRAP)
- A capacity-based must-offer requirement tied to reliable resources secured far in advance of the operating timeframe
- A flow-based model of dispatch to enhance deliverability
- Additional access to resource adequacy resources through real-time
- An independent Market Operator that acts impartially on behalf of a diverse footprint

Comment [ZJL1]: Feel free to keep or drop this point. Do we have examples where the actions of an impartial MO (won't name names) led to less reliable outcomes for others?

Comment [ZJL2]: I don't have knowledge to say, but does the MORWG serve any kind of pseudo-reliability coordination function between BAAs? And could we say this is a unique benefit in a day-ahead construct where the BAA functions are retained?

Markets+ Operations and Reliability Working Group

Markets+ maintains a committee with oversite responsibility for reliability—the Markets+ Operations and Reliability Working Group (MORWG). The MORWG's scope includes reviewing market design for its impact to reliability. This is a critical group that draws on the unique and diverse reliability challenges faced by many balancing areas in the WECC and is designed to be responsive to potential benefits or threats to reliability.

The Western Resource Adequacy Program as a common resource adequacy standard

WRAP participants share a number of benefits including a common (mostly) West-wide framework for measuring resource adequacy and a resource sharing program from identified counterparties who have a capacity surplus during stressed conditions. WRAP provides broader visibility into how resources perform to meet the region's needs, which is a tool that does not otherwise exist. WRAP also ensures resource deliverability requirements that create support for long-term transmission development that enables reliable service to customers and integration of clean energy resources. These are essential foundational elements, which Markets+ builds upon.

WRAP participation is a requirement for entities with load in Markets+. This requirement ensures a common measurement of resource adequacy and a minimum obligation for resource adequacy, which prevents market participants from an over-reliance on others' resources. WRAP ensures that obligations and benefits of the region are shared equitably. For example, if a lower capacity requirement can be achieved among the footprint, all participants share in the benefit by lowering their planning resource margin.

EDAM does not have a common resource adequacy requirement. Participants in the market will unilaterally determine how to incorporate market benefits (if any) into their capacity development positions. The CAISO, for example, includes an unspecified import assumption that reduces the amount of resources they develop for meeting their reliability standard. With EDAM, as the region develops, more resources in connection with WRAP, CAISO, or any other participant can unilaterally increase their assumption of unspecified imports and reduce their own requirements to develop resources. As a result, some market participants' capacity may accrue to and benefit another market participant and the market as a whole could become less reliable. Even though EDAM penalizes market participants for such behavior, daily penalties are not a substitute for physical resources in the market, and penalties can often be cheaper to pay than to develop sufficent resource. A common resource adequacy structure is critically important to market fairness and serves as a foundation for reliability.

Comment [ZJL3]: Could there be a way to focus on the benefits of M+ here? Such as generically saying a market that does not have a common RA standard could lead to greater volatility in the operating timeframe, out-of-market compensation to certain resources, etc.?

Comment [ZJL4]: Solid ending to this section!

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Capacity Must-Offer

Markets+ requires participants to obtain a minimum amount of resources well in advance of the operating timeframe – capacity - to ensure the market has sufficient resources to meet energy and uncertainty needs in real-time. This is known as a must-offer requirement. In Markets+ the must-offer can only met with WRAP or specified resources and cannot be met with an unbacked energy purchase without a source. This approach enhances existing reliability in the West by addressing instances where energy commitments were not backed by reliable physical supply and ultimately did not deliver to a load. The must-offer obligation in Markets+ centers on reliable resources and will lead to greater reliability outcomes for all participants.

While EDAM also establishes a must-offer requirement, its requirement is based on energy and not capacity resources. As a result, an entity can meet their obligation with a purchase that does not have a specified physical source which can lead to shortages under extreme conditions. Energy resources, including firm energy resources, are susceptible to being withdrawn to serve another area or to inability to locate physical supply to fulfill the obligation in real-time, particularly during scarcity conditions.

Comment [ZJL6]: Similar comment as above, it might seem less tit-for-tat if we softened this a bit and said, "A market with an energy must-offer model, such as EDAM, can result in entities meeting their obligations with less-reliable energy resources. Energy resources, including firm energy resources, are susceptible to [...]"

Enhanced Deliverability

Markets+ utilizes a flow-based model of dispatch within the Markets+ footprint. This approach allows for real-world transmission conditions to be reflected in the market model to achieve greater utilization of existing transmission infrastructure than can often be obtained in a contract-path method of transmission constraint modeling. As a result, the capacity and options for sharing resources inside the market and across balancing area boundaries is expanded through participation in Markets+. The flow-based dispatch enhances deliverability of WRAP resources between Markets+ participants.

EDAM does not use a flow-based approach between BAs and instead maintains existing bilateral transfer limits energy across BA seams.

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Comment [ZJL9]: I'm not totally tracking this para. Could it be brought up a level and maybe an example?

capable even if they were not offered in the Day-ahead prescheduled timeframe. While this feature is only available to the market during critical conditions, Markets+ maintains access to a WRAP level Resource Adequacy through Real-time.

EDAM participants are limited to making decisions in Day-ahead preschedule timeframe without additional enhancements.

Closing

Participants in EDAM, where such reliability features are not in place, are less likely to offer above their must-offer for fear of needing to managing unforeseen risks in Real-time. Withholding in this manner is rational for an entity responsible for reliability but is costly to the market as a whole.

Markets+ incorporates critical market design elements that enhance reliability across the entire market. These characteristics will also enhance the day-ahead liquidity of resources, lead to transparent and rational price formation, aid in creating signals for long-term transmission investment, and enhance the ability of the market to reliably serve customers amid an increasingly volatile electric grid.

Comment [ZJL10]: This point is strong, but feels like it belongs in the must offer section.

Comment [ZJL11]: Vs. a market with higher DA price signals and a RT market where prices fall out.

From: Eaton,Sara L (BPA) - PTMA-5
Sent: Tuesday, August 29, 2023 9:55 AM
To: Spires, Jeff; Applegate, Rick
Cc: Mantifel,Russell (BPA) - PGL-5; Cornelius, Adam; Kochheiser,Todd W (BPA) - TOI-DITT-2; Siewert,Christopher W (BPA) - PGS-5
Subject: RE: [EXTERNAL] Re: Grouped Hydro Language

Hi All,

I think that makes sense to us. It would be good to hear a bit more about what sort of alternative language could accommodate the needs for aggregations across multiple river systems. I think if we take away item 1 –it makes it more akin to general resource aggregation, which might be fine as well -not dissimilar to CAISO's tariff language on resource aggregation.
BPA would also need to run to ground the comment on needing language about ownership – to make sure it works with the Corp/Bureau arrangements.

Best,
Sara

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Tuesday, August 29, 2023 9:48 AM
To: Applegate, Rick <rapplegate@cityoftacoma.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Cc: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Cornelius, Adam <accornelius@snopud.com>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: [EXTERNAL] Re: Grouped Hydro Language

Hi Rick,

After some further consideration we think that there may still need to be some element of bullet one that refers to "electrically similar" or some other mechanism to give more confidence that the aggregation approach is not completely open-ended, while still giving hydro resources adequate flexibility to aggregate in a way that allows them in participate in a manner that reflects how they operate their systems. We were comfortable with the language that BPA proposed earlier, so perhaps the best next step is to take SPP up on their offer to have a call on this topic and hear from them on what their concern with BPA's version is, and what alternatives are available to make it work for hydro systems. If that works for this group I am happy to reply to Kelli.

Jeff

Get Outlook for iOS

From: Spires, Jeff
Sent: Tuesday, August 29, 2023 7:26:17 AM
To: Applegate, Rick <rapplegate@cityoftacoma.org>; Eaton, Sara <sleaton@bpa.gov>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Cornelius, Adam <accornelius@snopud.com>; twkochheiser@bpa.gov <twkochheiser@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: RE: Grouped Hydro Language

Thanks Rick

Your proposal to remove bullet point 1 would be a significant improvement. The current proposed language in that bullet by SPP does not work for us. I have our internal team reviewing the remainder of the edits related to an attestation and hope to hear back soon. Once I do I can get back to you.

Jeff

From: Applegate, Rick <rapplegate@cityoftacoma.org>
Sent: Monday, August 28, 2023 5:32 PM
To: Eaton, Sara <sleaton@bpa.gov>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Cornelius, Adam <accornelius@snopud.com>; twkochheiser@bpa.gov; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: RE: Grouped Hydro Language



Friends and Neighbors,

I just wanted to check and see if anyone has a reaction to SPP's edits on hydro aggregation?

From my perspective, I would like to have the ability to aggregate resources across different river basins, so would propose to just get rid of bullet point number 1 at this point. However, before I send anything back to SPP I wanted to check with everyone first and make sure that there wasn't anything else to convey.

Best regards,

Rick

From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Monday, August 28, 2023 6:31 AM
To: Eaton, Sara <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Spires, Jeff <jeff.spires@powerex.com>; Cornelius, Adam <accornelius@snopud.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: RE: Grouped Hydro Language

Good morning!

We reviewed the comments provided last week, please see the attached response. It would be nice to discuss this as a smaller group before discussing in MDWG; we were thinking given the importance of this issue, we may wish to move approval to the 9/20 meeting to allow more time for consideration.

Please let me know if you all would like to touch base on these revisions.

Thank you for your engagement and thought on these issues.

Kelli Schermerhorn

Lead Analyst, Market Design West
Staff Secretary, M+ Resource Adequacy Task Force

From: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Sent: Friday, August 25, 2023 12:32 PM
To: Jim Gonzalez <jgonzalez@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Spires, Jeff <jeff.spires@powerex.com>; Kelli Schermerhorn <kschermerhorn@spp.org>; Cornelius, Adam <accornelius@snopud.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: **External Email** Grouped Hydro Language

CAUTION: This email originated from outside of the SPP network. Do not click links or open attachments unless you recognize or can verify the sender, or were expecting an email from the sender. The original sender of this email is sleaton@bpa.gov

Hi Jim,

Thanks for your patience on the hydro language.
BPA has worked with Powerex, Snohomish and Tacoma to come to some shared language that would work for all of us and how we participate with our resource aggregations.
We think this language would be a good starting point for discussions in the upcoming MDWG.

Please let us know if you have any questions on the draft language.
Best,

Sara Eaton (she/her)
Senior Markets Policy Analyst | Market Policy and Pricing | PTMP
Bonneville Power Administration
C: (b)(6) | W: 503-230-5222 | sleaton@bpa.gov

This email and any attachments are for the sole use of the intended recipient(s) and may contain confidential information. If you receive this email in error, please notify the sender, delete the original and all copies of the email and destroy any other hard copies of it.

This email may contain information that is confidential. If you are not the intended recipient you may not distribute or copy this email or any attachments. If you have received this email in error, please notify the sender and delete this email and attachments from your system immediately. Thank you.

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, October 5, 2023 4:31 PM
To: Mantifel,Russell (BPA) - BT-3
Cc: Trolese, Laura; Detmer, Nick
Subject: Re: **External Email** RE: [EXTERNAL] RE: Level setting - WRA position and engagement in M+ proposal

Thank you for relaying this information, Laura.

Russ - let me know if there's anything I can help with.

Kristen Darden
Real-Time Markets
Southwest Power Pool
(b)(6)

On Oct 5, 2023, at 6:03 PM, Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov> wrote:

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - rxmantifel@bpa.gov and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Thumbs up emoji on the recommendation.

From: Laura Trolese <ltrolese@teainc.org>
Sent: Thursday, October 5, 2023 3:00 PM
To: Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Cc: Kristen Darden <kdarden@spp.org>
Subject: RE: [EXTERNAL] RE: Level setting - WRA position and engagement in M+ proposal

(b)(6)

Laura Trolese
Director, Western Markets & Strategy

Mobile: (b)(6)
Email: ltrolese@teainc.org

The Energy Authority®

From: Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>
Sent: Thursday, October 5, 2023 2:53 PM
To: Detmer, Nicholas J <nick.detmer@xcelenergy.com>; Laura Trolese <ltrolese@teainc.org>
Cc: Kristen Darden <kdarden@spp.org>
Subject: RE: [EXTERNAL] RE: Level setting - WRA position and engagement in M+ proposal

Thanks Laura. I'd be happy to speak with Vijay if it would help. I don't feel like any of those issues have presented themselves in the MDWG itself, is that more in outside discussion or is it taking place there?

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Thursday, October 5, 2023 2:50 PM
To: Laura Trolese <ltrolese@teainc.org>; Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>
Cc: Kristen Darden <kdarden@spp.org>
Subject: [EXTERNAL] RE: Level setting - WRA position and engagement in M+ proposal

Thanks for the summary Laura. I agree they mostly want to be heard, as that was our experience here in Colorado. I think in the end WRA is able to offer edits changes and negotiate with others through the SPP process. If the vote doesn't go their way I suppose they can protest at FERC, but I hope WRA is willing to be an active participate in SPP's process.

From: Laura Trolese <ltrolese@teainc.org>
Sent: Thursday, October 5, 2023 3:39 PM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Cc: Kristen Darden <kdarden@spp.org>
Subject: FW: Level setting - WRA position and engagement in M+ proposal

EXTERNAL - STOP & THINK before opening links and attachments.

(b)(6)

Laura Trolese
Director, Western Markets & Strategy

Mobile: (b)(6)
Email: ltrolese@teainc.org

The Energy Authority®

From: Vijay Satyal, Ph.D. <vijay.satyal@westernresources.org>
Sent: Thursday, October 5, 2023 10:12 AM
To: Laura Trolese <ltrolese@teainc.org>; Brian.Cole@aps.com; mwiencke@publicgeneratingpool.com
Cc: Sydney Welter <sydney.welter@westernresources.org>; Alaine Ginocchio <agpolsol@outlook.com>; 'Nicole Hughes' <nicole@renewablenw.org>; Lauren McCloy <Lauren@nwenergy.org>; George Cavros <george.cavros@westernresources.org>; Ken Wilson <ken.wilson@transgridconsulting.com>
Subject: RE: Level setting - WRA position and engagement in M+ proposal

Laura et al.,

Yes, with the upcoming MDWG and MPEC meetings, we will focus on specifics and offer redline edits/comments as best. This was a more philosophical message to you all. We did opine at the last MPEC meeting, as part of our abstention, on a couple of voting items being vague.

I will set aside time early next week to review whatever will be up for voting on 10th.

Cheers

Vijay

Vijay Satyal, Ph.D.
Deputy Director of Regional Markets, Clean Energy

O:385-722-2551 | M:(b)(6) | WesternResourceAdvocates.org
vijay.satyal@westernresources.org
307 West 200 South, Suite 2000 | Salt Lake City, UT 84101

From: Laura Trolese <ltrolese@teainc.org>
Sent: Thursday, October 5, 2023 11:04 AM
To: Vijay Satyal, Ph.D. <vijay.satyal@westernresources.org>; Brian.Cole@aps.com; mwiencke@publicgeneratingpool.com
Cc: Sydney Welter <sydney.welter@westernresources.org>; Alaine Ginocchio <agpolsol@outlook.com>; 'Nicole Hughes' <nicole@renewablenw.org>; Lauren McCloy <Lauren@nwenergy.org>; George Cavros <george.cavros@westernresources.org>; Ken Wilson <ken.wilson@transgridconsulting.com>
Subject: RE: Level setting - WRA position and engagement in M+ proposal

Hi Vijay,

Thank you for sharing your concerns. And thank you to WRA for your participation in Markets +. I know it's a sacrifice and big time commitment and I believe WRA taking on the role of a voting member on the MPEC and working groups/task forces is a demonstration of your commitment to rolling up your sleeves with all of us to get the best market design that we can get for Markets +. I myself have opposed proposals and understand the concern about being viewed a certain way. I will also say that the best way through that is to constructively figure out how we can understand and address concerns, so again, I appreciate your willingness to do that and your patience with us in the process.

I'd be interested in better understanding your specific concerns and which sections of the tariff you believe need changes, if you would be so kind to share them. Would you be willing to send over specific redlines for tariff language on the sections you're concerned about?

Thanks Vijay, and nice to see you at CREPC!

Laura Trolese
Director, Western Markets & Strategy

Mobile: (b)(6)
Email: ltrolese@teainc.org

The Energy Authority®

From: Vijay Satyal, Ph.D. <vijay.satyal@westernresources.org>
Sent: Wednesday, October 4, 2023 2:37 PM
To: Laura Trolese <ltrolese@teainc.org>; Brian.Cole@aps.com; mwiencke@publicgeneratingpool.com
Cc: Sydney Welter <sydney.welter@westernresources.org>; Alaine Ginocchio <agpolsol@outlook.com>; 'Nicole Hughes' <nicole@renewablenw.org>; Lauren McCloy <Lauren@nwenergy.org>; George Cavros <george.cavros@westernresources.org>; Ken Wilson <ken.wilson@transgridconsulting.com>
Subject: Level setting - WRA position and engagement in M+ proposal
Importance: High

Hello Laura, Brian, Mary

This is a relatively important email and I've cc'd in addition to the WRA team that has been engaged in M+, our close allies/partners from the PIO sector.

Firstly, I want to commend ALL of you for your diligent efforts to facilitate, shape and lead the committee work products for M+. As we know well in the West from various stakeholder initiatives, we can often disagree but still maintain respectful engagement and collaboration and sustain relationships. I personally have appreciated each of you and value your commitment and expertise.

Second, I remain concerned about the perception/narrative that seems to exist generally about PIOs possibly keen to NOT want M+ to be a success. I've time and again, indicated that we (WRA) want ideally one large market in the West. Numero uno! We have never in media (as far as I can tell) or in public forums said, EDAM over M+. Carrie Simpson from SPP indicated that to me 3 weeks ago. I tried to clarify that notion. My WRA team has never said anything in public in this way. I'd like to just level set on this matter. I remain concerned if our actions/voting record is construed as opposition to M+ success. Good tariff language is standard good business practice! That's all. We want a good market that complies with any state mandates/clean energy goals. Is that an unfair request? We don't want to worry about the super details of design as we trust iteration to work that out. I have just shared all this with Laura as I did with Brian.

Third, with the upcoming MDWG and MPEC meetings coming up, WRA is trying hard to be constructive, learn the complexities of GHG proposal and giving our best on Seams and governance issues. We don't have ratepayer funds or investor money. These issues are hard and if we don't chime in but still vote, we are using our best understanding and/or relying on our allies or listening to others. If we still vote as "no" or "abstain" it will be for a reason – agree/not or need more information. Good tariff design should involve actionable language with decent level of details. If not the "how" but surely the "what, when, and what is the goal of that tariff statement." The last MPEC meeting had a few vague tariff language, and therefore we abstained. I will try to be more clear on our votes in Nov.

Lastly, WRA continues to request for a hybrid market monitoring role for M+ even if it's expensive. We don't feel comfortable with the internal IMM staff being assigned to look at M+ in the first 3 years. The early development and implementation phase deserves an external review of the 1st 2-3 years of the market operation and performance impacts. IF you wish to learn from the EIM, this is a lesson we learned and EIM GB then hired a market expert dedicated solely for EIM and hopefully EDAM. Is it unfair for us to ask the same here? 😊

Thank you for understanding our position and considering our request. A good tariff proposal can only help the market participants and foster trust with the NGOs and regulatory community. We want to partner and engage not obstruct or prevent.

Cheers

Vijay

Vijay Satyal, Ph.D.
Deputy Director of Regional Markets, Clean Energy

O:385-722-2551 | M:(b)(6) | WesternResourceAdvocates.org
vijay.satyal@westernresources.org
307 West 200 South, Suite 2000 | Salt Lake City, UT 84101

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From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, August 29, 2023 7:11 AM
To: Mantifel,Russell (BPA) - PGL-5; Detmer, Nick
Subject: [EXTERNAL] Proposed Additional MDWG Meeting - MMU Tariff Review

Hey there –

I was looking at the schedule for the remainder of the year and I think we need an extra net-conference to review MMU language. Are ya'll available **Friday, 9/15, 10:30 a.m. - 4:00 p.m., CPT**?

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, September 14, 2023 11:51 AM
To: Mantifel,Russell (BPA) - PGL-5; Schlekeway, Lindsey; Detmer, Nick
Cc: Rubin, David
Subject: RE: [EXTERNAL] MDWG

Thank you for letting us know, Lindsey. I did not realize that. We will work to reschedule.

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Thursday, September 14, 2023 12:16 PM
To: Schlekeway, Lindsey <lindsey.schlekeway@nvenergy.com>; Kristen Darden <kdarden@spp.org>; Detmer, Nick <nick.detmer@xcelenergy.com>
Cc: Rubin, David <David.rubin@nvenergy.com>
Subject: **External Email** RE: [EXTERNAL] MDWG

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Thanks for the heads-up, Lindsey. Adding Nick as well. That is a notable conflice. We'll take it into consideration.

From: Schlekeway, Lindsey (NV Energy) <Lindsey.Schlekeway@nvenergy.com>
Sent: Thursday, September 14, 2023 9:05 AM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Kristen Darden <kdarden@spp.org>
Cc: Rubin, David (NV Energy) <David.Rubin@nvenergy.com>
Subject: [EXTERNAL] MDWG

Hi Russ and Kristen.

It looks like there are new meetings for the market design work group. I just wanted to let you know that the October 4th meeting is during a CREPC meeting, which is a pretty large industry meeting. I will be unable to attend October 4th and 10th. David Rubin will be my proxy for the October 10th meeting.

Lindsey Schlekeway
Market Policy Manager
(702) 235-3566

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29331724

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From: Aaron Shipley <ashipley@spp.org>
Sent: Tuesday, May 7, 2024 9:11 AM
To: Mantifel,Russell (BPA) - MTM-3; Hakala, Tuuli
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2; Meghan D. Sever; Adriane Barnes
Subject: [EXTERNAL] RE: Resigning Seams Seat
Attachments: Solicitation of Nominees to fill a Public Power Sector Vacancy on the Markets+ Seams Working Group

Russ,

Attached is the solicitation email sent regarding officially submitting nominations. Can BPA be sure to submit Todd per this process today?

Thanks,
Aaron

From: Aaron Shipley
Sent: Wednesday, April 24, 2024 10:18 AM
To: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Hakala, Tuuli <tuuli.hakala@chelanpud.org>
Cc: twkochheiser@bpa.gov; Meghan D. Sever <msever@spp.org>; Adriane Barnes <abarnes@spp.org>
Subject: RE: Resigning Seams Seat

Russ,

Adding SPP Communications so they can help ensure we follow the process. I have provided a link below you may use to submit the nomination for Todd. Appreciate you completing that for us.

" If there are any members that would like to nominate a candidate for this vacancy, please complete the online nomination form here by (insert a date that allows for a two-week solicitation period if possible). "

Regards,
Aaron

From: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Sent: Tuesday, April 23, 2024 12:55 PM
To: Hakala, Tuuli <tuuli.hakala@chelanpud.org>; Aaron Shipley <ashipley@spp.org>
Cc: twkochheiser@bpa.gov
Subject: **External Email** Resigning Seams Seat

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Hi Tuuli and Aaron,

I'm sorry to inform you that I will be resigning my voting seat on the MSWG and I'd like to nominate Todd Kochheiser to take my place. Todd will be able to be more involved and he has loads of experience and expertise on Seams issues.

Best,

Russell Mantifel (he/him/his)
Director | Market Initiatives | Business Transformation Office
BONNEVILLE POWER ADMINISTRATION
rxmantifel@bpa.gov | O: 503-230-4317



From: Aaron Shipley

Sent: Fri Apr 26 09:49:02 2024

Subject: Solicitation of Nominees to fill a Public Power Sector Vacancy on the Markets+ Seams Working Group

Importance: Normal

Attachments: seams working group_mswg_scope.pdf

Greetings,

The Markets+ Seams Working Group is seeking nominations to fill one vacancy for voting representation in the Public Power Sector. If there are any members that would like to nominate a candidate for this vacancy, please complete the online nomination form here by May 7, 2024.

Please find the scope statement for the Markets+ Seams Working Group attached.

The following questions can help you determine who qualifies to fill the vacancy. When selecting representatives, the Markets+ Seams Working Group chair/vice-chair and secretary will consider these factors:

- Do they have the necessary expertise to represent their company in this group?
- Have they participated in the MSWG as an attendee? If not, how can they demonstrate their expertise and ability to be an effective MSWG member?
- Do you think their participation in MSWG has been viewed by others as productive?

- Do they have time to prepare for, attend, and actively engage in MSWG meetings?
- Will they be able to advocate for the region's needs in addition to their company's needs?
- Are they willing to collaborate with the MSWG to find solutions to identified issues?
- Will they positively contribute to the MSWG balance (sector representation, geographical diversity, underrepresented skillset, etc.)?

With questions, reach out to Aaron Shipley at ashipley@spp.org.

Aaron Shipley

Southwest Power Pool

Sr. Interregional Strategist, Interregional Strategy and Engagement

Email: ashipley@spp.org

Office: 501.482.2197

Southwest Power Pool, Inc.

MARKETS+ SEAMS WORKING GROUP

Organizational Group Scope Statement

4/18/2023

PURPOSE

The Markets+ Seams Working Group (MSWG) is responsible for providing direction, guidance, and advice to Southwest Power Pool (SPP) Markets+ working groups, task forces, and staff regarding issues impacting or being impacted by SPP's Markets+ seams agreements, joint market operating agreements, or other formal arrangements with neighboring transmission providers, market operators, transmission owners, reliability coordinators, or customers. The MSWG will also provide direction and recommendations to the Markets+ Participant Executive Committee (MPEC) and other Markets+ working groups and committees on inter-operability policies with the Western Resource Adequacy Program (WRAP).

SCOPE OF ACTIVITIES

In carrying out its purpose, the MSWG:

1. Identifies seams coordination issues between SPP Markets+ and adjacent transmission providers caused by different processes, procedures, tariffs, or business practices in the areas of tariff administration, market development/operations, and real-time operations.

2. Proposes improvements to seams agreements, business practices, processes, or tariffs, along with supporting rationale, implementation costs and any tariff changes or tariff revenue impacts to mitigate seams coordination issues.

3. Provides direction and guidance on SPP staff proposed improvements to new or existing seams agreements, joint market operating agreements, or similar agreements or arrangements that have been developed or are under development between SPP staff and parties to those agreements.

4. Provides direction and guidance for the implementation of the operational components of new or existing seams agreements, joint market operating

agreements, or similar agreements or arrangements.

5. Advises and directs SPP staff on matters related to interregional coordination through representation on various Markets+ working groups and task forces, along with other stakeholder representatives as prescribed in SPP's joint marketoperating agreements.

6. Identifies opportunities to coordinate with neighboring non-SPP stakeholders to address issues of common interest, such as market-to-market issues.

7. Provide direction and recommendations to other Markets+ working groups and committees on inter-operability policies with the WRAP.

8. Assist in policy development of timing coordination of market functions between the electric and gas markets.

The MSWG will record all voting and action taken during every meeting and post documented minutes publicly on SPP.org.

REPRESENTATION

The MSWG is comprised of at least 9 and no more than 24 Markets+ Market Participant and Markets+ Market Stakeholder representatives, including a chair and vice-chair. The MSWG shall maintain a balance of one-third investor-owned utilities, one-third public power entities, and one-third independent entities, unless otherwise approved by the MPEC. The MSWG shall also include one non-voting ex officio representative appointed by the Markets+ States Committee (MSC).

Representatives should have expertise in seams-related transmission service, regulatory, market, and system operations activities. MSWG representatives shall represent the diversity of the Markets+ stakeholders.

REPORTING

The MSWG reports to the MPEC for all activities. As necessary, the MSWG may appoint a representative of the MSWG as a liaison to other SPP Markets+ organizational groups and task forces for specific issues or action items being coordinated. The MSWG shall operate in accordance with Section 2.3.4 of the Markets+ Proposed

Service Offering.

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, November 30, 2023 7:07 PM
To: Fina, Giuseppe (Joe); Mantifel,Russell (BPA) - MTM-3
Cc: Rachel Kane; Christine Dillard; Chris Nolen; Emon Mahony
Subject: [EXTERNAL] RE: M+ Legal Group Update

Thank you, Joe, for the update.

I want to say 'thank you' to you and the M+ legal group for your hard work throughout the course of tariff development. It has carried great weight being able to say "*reviewed, modified, and endorsed by the M+ legal group*". ☺

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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From: Fina, Joe <GFina@SNOPUD.com>
Sent: Thursday, November 30, 2023 6:16 PM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Kristen Darden <kdarden@spp.org>
Cc: Rachel Kane <rkane@spp.org>; Christine Dillard <cdillard@spp.org>; Chris Nolen <cnolen@spp.org>; Emon Mahony <emahony@spp.org>
Subject: **External Email** M+ Legal Group Update

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Russ and Kristen,

The MLG endorsed the following items during our meeting this afternoon:

- Pro forma BA agreement
- Pro forma TSP agreement
- Sections 7.1 and 7.2 of the Special Rules provisions that deal with FERC non-jurisdictional entities besides BPA and WAPA.

SPP Legal is cleaning up those documents and will send them your way for MDWG review. The MLG's only task left is to review the BPA and WAPA special provisions, which we understand will be ready in the next week or so. After that, the MLG will continue to be available until the tariff is filed at FERC. I think most members would be interested in continuing in a similar role after that as the protocols are developed. We can figure that out later.

Thanks,

Joe

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From: Rachel Kane <rkane@spp.org>
Sent: Monday, December 4, 2023 11:04 AM
To: Doot,Erika A (BPA) - LP-7; Chris Nolen; Christine Dillard; Jim Gonzalez; Michael Riley
Cc: Mantifel,Russell (BPA) - MTM-3
Subject: RE: [EXTERNAL] BPA & Day-Ahead Market

Sure, Erika. Let me get together a few dates/times that work for us internally, and I will email you back shortly with some alternate proposed dates and times.

I will go ahead and cancel the meeting scheduled for today.

Rachel Hildebrand Kane | Attorney, Markets & Regulatory Policy
rkane@spp.org (b) (6)

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From: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Sent: Monday, December 4, 2023 12:50 PM
To: Rachel Kane <rkane@spp.org>; Chris Nolen <cnolen@spp.org>; Christine Dillard <cdillard@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Michael Riley <michael.b.riley@spp.org>
Subject: **External Email** RE: [EXTERNAL] BPA & Day-Ahead Market

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Hi Rachel,

Russ and I would like to move this meeting out a couple of weeks. Could you let me know some good times during the week of the 18th?

Thanks,
Erika

-----Original Appointment-----
From: Rachel Kane <rkane@spp.org>
Sent: Monday, November 27, 2023 3:01 PM
To: Rachel Kane; Doot,Erika A (BPA) - LP-7; Chris Nolen; Christine Dillard; Jim Gonzalez; Michael Riley
Subject: [EXTERNAL] BPA & Day-Ahead Market
When: Monday, December 4, 2023 4:00 PM-5:00 PM (UTC-06:00) Central Time (US & Canada).
Where: 1E Conference Room 116

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Join by phone
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Dial (b)(6)@mysppmeeting.webex.com
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From: Tyler.Moore@aps.com
Sent: Tuesday, October 31, 2023 9:39 AM
To: Truong,Mai N (BPA) - TSB-TPP-2; Mantifel,Russell (BPA) - MTM-3; kdarden@spp.org; kschermerhorn@spp.org
Cc: Miller,Todd E (BPA) - LP-7
Subject: RE: [EXTERNAL] RE: BPA edits to Draft Tariff Language Section 5.1 in Advance of MDWG Review/Approval

No, I haven't gone through and performed redlines for it. But could if that is helpful, I thought maybe just mentioning would spur some recollection from folks and we could have SPP move it up to the section if it was just not reflected in the updates after the meeting. If the case was that they were reflected accurately after the meeting, I'd probably have to go to the MDWG member on our side for edits for discussion when it gets to MDWG.

Tyler

From: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Sent: Monday, October 30, 2023 1:43 PM
To: Moore, Tyler <Tyler.Moore@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; kdarden@spp.org; kschermerhorn@spp.org
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>
Subject: RE: [EXTERNAL] RE: BPA edits to Draft Tariff Language Section 5.1 in Advance of MDWG Review/Approval

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I don't remember if the intro of 5.1.2 should have something similar to the intro of 5.1.1 for binding vs non-binding, yet that makes sense for consistency purposes. That said, if we do that, we may need additional tweaks to 5.1.2 (B) to avoid confusion. I have to admit – I had to read 5.1.2 several times to make sure we got the RT ceiling right for the binding and non-binding seasons.

Tyler – do you have proposed edits?

From: Tyler.Moore@aps.com <Tyler.Moore@aps.com>
Sent: Monday, October 30, 2023 1:09 PM
To: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; kdarden@spp.org; kschermerhorn@spp.org
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>
Subject: [EXTERNAL] RE: BPA edits to Draft Tariff Language Section 5.1 in Advance of MDWG Review/Approval

Thanks Mai. I also noted issue with that section in 5.1.2 about the binding/non-binding. I thought we had taken that language and put in the intro of 5.1.2, similarly to what was done in 5.1.1 for the impact of binding/non-binding. Do you recall that too? I was going to bring it up in the MDWG Tariff review/approval but that agenda item got kicked on Thursday. So that would be my feedback as well, to move that section up if you agree? Then maybe that helps with some of your comments/redlines.

Tyler

From: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Sent: Monday, October 30, 2023 12:21 PM
To: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Kristen Darden <kdarden@spp.org>; Moore, Tyler <Tyler.Moore@aps.com>; Kelli Schermerhorn <kschermerhorn@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>
Subject: BPA edits to Draft Tariff Language Section 5.1 in Advance of MDWG Review/Approval

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Good Morning Russ and Kristen,
BPA has edits in the attached document that provide clarification on the draft tariff section 5.1 (must offer) in advance of MDWG's review/approval of the must offer tariff language. A few items were missed during live editing during the last MRATF meeting (thanks to Todd for catching them). We wanted to send it advance of the MDWG but can talk through it at the upcoming meeting too. Including Tyler and Kelli for awareness.

Please let me know if you have any questions.

Thanks,
Mai

Mai Truong
Senior Markets Policy Analyst | Transmission Sales and Marketing | TSB
BONNEVILLE POWER ADMINISTRATION
C:(b)(6) | P: 503-230-3905 | mntruong@bpa.gov

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From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Monday, April 8, 2024 11:20 AM
To: Truong,Mai N (BPA) - TSB-TPP-2; Moore, Tyler; Russell, Derek
Cc: Mantifel,Russell (BPA) - MTM-3; Bellcoff,Steve (BPA) - PGPR-5; Carrie Simpson; Aaron Shipley
Subject: RE: [EXTERNAL] MRATF Draft Must Offer Protocols 03/15/24

Unmodified comments are posted as pdfs, thank you!

From: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Sent: Monday, April 8, 2024 9:51 AM
To: Kelli Schermerhorn <kschermerhorn@spp.org>; Moore, Tyler <Tyler.moore@aps.com>; Russell, Derek <derek.russell@powerex.com>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Bellcoff,Steve (BPA) - PGPR-5 <srbellcoff@bpa.gov>; Carrie Simpson <csimpson@spp.org>; Aaron Shipley <ashipley@spp.org>
Subject: **External Email** RE: [EXTERNAL] MRATF Draft Must Offer Protocols 03/15/24

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Thanks, Kelli. I think it would be helpful to post unmodified comments. I know I had challenges reconciling my own comments.

No need to repost – I'm expecting a lot of live editing on Thursday.

Thanks again.

From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Monday, April 8, 2024 6:16 AM
To: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Moore, Tyler <Tyler.moore@aps.com>; Russell, Derek <derek.russell@powerex.com>
Cc: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Bellcoff,Steve (BPA) - PGPR-5 <srbellcoff@bpa.gov>; Carrie Simpson <csimpson@spp.org>; Aaron Shipley <ashipley@spp.org>
Subject: RE: [EXTERNAL] MRATF Draft Must Offer Protocols 03/15/24

Good morning,

Thank you for looking this over carefully, Mai! You are totally correct that it was a challenge to reflect these comments and to respond within a word document. I look forward to a cleaner draft two!

When compiling comments for the draft, there were just a few instances of minor conflict, or where comments were resolved by the proposed redlines within the draft. Here this was in reference just to the struck language "Forward Showing" , I did not read this as an intent to delete the requirement! I understood that comment to be only regarding the language (wordsmithing), not the requirement, and I tried to point the comment to that struck two word portion only. I see there are three stacked comments, from three different parties, so I can understand where this could create confusion!

I had considered posting a pdf containing the unmodified comments from all parties – I am happy to do this if you would like. I am also happy to repost with a response on this comment as well.

Finally, please know this is draft one, and we will provide as much time to discuss these as we need! But in the meantime, please let me know what works best for you all.

Thanks,

Kelli Schermerhorn
Lead Analyst, Market Design West
Staff Secretary, M+ Resource Adequacy Task Force
(b) (6)

From: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Sent: Sunday, April 7, 2024 4:25 PM
To: Kelli Schermerhorn <kschermerhorn@spp.org>; Moore, Tyler <Tyler.moore@aps.com>; Russell, Derek <derek.russell@powerex.com>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Bellcoff,Steve (BPA) - PGPR-5 <srbellcoff@bpa.gov>
Subject: **External Email** FW: [EXTERNAL] MRATF Draft Must Offer Protocols 03/15/24

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Hi Kelli, Tyler and Derek,

Just wanted to start with a big thanks to Kelli for compiling all the stakeholder comments. I can tell it was a time consuming assignment.

I was reconciling BPA's feedback with the consolidated draft protocol and noticed there was a BPA comment that I did not make and wanted to flag it now to reduce confusion at Thursday's joint MSWG/MRAFT meeting. In the DA Must Offer Ceiling section (on page 3) - BPA did not suggest to delete the DA Must Offer Ceiling as the consolidated draft protocol reflects. I've attached BPA's feedback as a reference.

Please let me know if you have any follow up questions.

(SUM of 1 – 5) =	

B. ~~Forward ShowingDay Ahead Must Offer Ceiling: Day-Ahead Forward Showing Ceiling.~~ Each Market Participant is required to offer Resources ~~consistent~~ no greater than ~~with~~ the approved Forward Showing ~~Capacity Requirement value~~ ~~Program Requirements~~ as provided by~~nd~~ the Market Participant. ~~will provide the quantity of such; this value will be provided by the Market Participant~~. This value informs the ceiling for the Day Ahead Must Offer, and is used to determine the ceiling in ~~both~~ the binding ~~and non binding~~ seasons ~~as those seasons are~~ defined by the RA program. ~~The Binding Seasons are Summer (June 1st through September 15th) and Winter (November 1st through March 15th)~~. During the binding season, in the event that the calculation of (A) exceeds (B), the capacity amount determined under (B) will act as a ceiling on the Market Participant's must offer requirement, as (B) represents the maximum amount the Market Participant is required to offer to Markets+.

(1). A Market Participant's forward showing Ceapacity requirement is the quantity of capacity required to demonstrate adequacy for the Resource Adequacy Program for each ~~Operating Day~~Month during a binding season. The M~~M~~onthly value serves as the maximum quantity for the relevant Operating Day, within the corresponding Operating Month.

(2) WRAP Operations Program Hourly Holdback: the hourly quantity identified by the WRAP Operations program; adjusted for required hourly deployment required by the WRAP Ops Program; reflected by an e-tag in OATI.

Thanks,
Mai

From: Truong,Mai N (BPA) - TSB-TPP-2
Sent: Friday, March 29, 2024 10:41 AM
To: Kelli Schermerhorn <kschermerhorn@spp.org>
Cc: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Bellcoff,Steve (BPA) - PGPR-5 <srbellcoff@bpa.gov>
Subject: RE: [EXTERNAL] MRATF Draft Must Offer Protocols 03/15/24

Hi Kelli,
Attached is BPA's feedback on the MRATF protocol. I know it was due COB yesterday but we weren't able to tie up loose ends until this morning. Please let me know if you have any questions.

Have a great weekend!

Thanks,
Mai

From: SPP Markets+ <marketsplus@spp.org>
Sent: Monday, March 18, 2024 6:44 AM
To: Markets+ Resource Adequacy Task Force (Exploder) <mratf@spplist.spp.org>; Markets+ Resource Adequacy Task Force (Members Only) <MarketsPlusResourceAdequacyTaskForce@spp.org>
Subject: [EXTERNAL] MRATF Draft Must Offer Protocols 03/15/24

Hello,
Please review this posted protocol language and provide comments via email to kschermerhorn@spp.org no later than 03/28/2024. Thank you!

Draft Must Offer Protocols 03152024

Kelli Schermerhorn
Lead Analyst, Market Design West
Staff Secretary, M+ Resource Adequacy Task Force
(b) [redacted]

Please direct questions to Kelli Schermerhorn at kschermerhorn@spp.org.

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From: Walter, Dan <dan.walter@tristategt.org>
Sent: Thursday, July 25, 2024 10:03 AM
To: Walter, Kent C; (b)(6) Spires, Jeff; Holman, Mark; Josh Robertson; Martin Marcie L; Zahnow, Jessica Lynn; Phil Haines; Mantifel,Russell (BPA) - MTM-3; Dibble,Rachel L (BPA) - PT-5; Hayes,Matthew C (BPA) - MTM-3; Cole, Brian; Hakala, Tuuli; Jaspers, Janet; Egge, Eric; Robinson, Chris; Ray Johnson; Zyskowski, Jason; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan; Joe Taylor; (b)(6) (b)(6)
Cc: Aitken, Meredith
Subject: RE: [EXTERNAL] RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

Tri-State would like to sign on.

Thanks,

Dan Walter

From: Walter, Kent C <Kent.Walter@aps.com>
Sent: Monday, July 22, 2024 11:40 AM
To: (b)(6) @tep.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Cole, Brian <Brian.Cole@aps.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; Walter, Dan <dan.walter@tristategt.org>; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) @tep.com>
Cc: Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: [EXTERNAL] RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

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Thanks for the comments. Attached are clean and redline versions with the proposed language incorporated.

Kent

From: (b)(6) @Tep.com>
Sent: Monday, July 22, 2024 8:56 AM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Cole, Brian <Brian.Cole@aps.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>;

Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) @tep.com>
Cc: Walter, Kent C <Kent.Walter@aps.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

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(b)(4)

From: (b)(6) @tep.com>
Sent: Friday, July 19, 2024 4:03 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Brian.Cole@aps.com; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) @tep.com>

Cc: Kent.Walter@aps.com; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

(b)(4)

[redacted]

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, July 19, 2024 6:10 AM
To: Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Brian.Cole@aps.com; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) [redacted] (b)(6) [redacted] @tep.com>; (b)(6) [redacted] @tep.com>
Cc: Kent.Walter@aps.com; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

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***** REPORT ANYTHING SUSPICIOUS *****

Good morning all,

Last week during the Monday Markets+ funding party executive call there was discussion followed by general consensus on the call for developing a series of "Issue Alerts" that could be shared publicly by Markets+ funding entities, with one Issue Alert released every two weeks or so, to provide some balance to the recent industry dialogue that has been narrowly focused on seams issues and the Pathways initiative. The objective is to publicly issue (to Clearing Up and possibly elsewhere) these short summaries (one on governance and then 5-6 on specific market design topics) that details the benefits of Markets+ relative EDAM/EIM in each of these areas to better explain the continued support for Markets+.

A smaller group (PWX, CHPD, BPA, PSE, APS, and SRP) have worked together on the first paper on governance (see attached). We expect each of those entities will sign on except for BPA based on certain limitations they have related to their ongoing public process.

Please keep this letter **confidential** for now. We request that each of you confirm whether you will sign on by the ***end of the day on Monday.***

This effort is being coordinated by Kent Walter (APS) and myself so please feel free to reach out to us with any questions. Please note I am on vacation starting next week; Meredith Aitken will be the Powerex point of contact on this while I am away.

Regards,
Jeff

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From: Carman Ruder <cruder@spp.org>
Sent: Monday, July 29, 2024 1:58 PM
To: Geiselman, Sibyl; Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] RE: MDWG project plan?

Hey Sibyl,

An updated version of the Protocol Tracker was added to the MDWG Reference Materials last week.
https://spp.org/Documents/72040/Markets%20Plus%20Protocol%20Tracker%2020240725.xlsx

We also plan to update this again before the next MPEC meeting.

I think you may also be asking for a planned review outline for MDWG. I will try to put something together for that similar to what Kristen provided, but it has been such a moving target, and I don't know how accurate it will be. Stay tuned for that at an upcoming MDWG.

Let me know if I can help with anything else!

Carman Ruder | Lead Market Design Analyst, Western Services Development | cruder@spp.org | (b) (6) -
(b) (6)
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Sibyl Geiselman <sgeiselman@publicgeneratingpool.com>
Sent: Monday, July 29, 2024 2:06 PM
To: Carman Ruder <cruder@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** MDWG project plan?

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Hi Carmen,
I am putting together a bit of a status report for our members for where we are at on all of the WGs and Task Forces working through the protocols. I know some of the groups have a sort of roadmap/project plan that gets shared regularly with the materials. I thought we had one as well for the MDWG. Would you be able to pass that along so I can accurately relay our overall progress and next steps on the protocols?

If there is like a master version that has all of the group progress that you could share that would be even better ☺

Thanks and talk to you Thursday,
Sibyl

Sibyl Geiselman

Market Policy Advisor

PUBLIC GENERATING POOL

Phone: 503-730-1046

Email: sgeiselman@publicgeneratingpool.com

From: Truong,Mai N (BPA) - TSB-TPP-2
Sent: Thursday, February 8, 2024 12:25 PM
To: Kristen Darden; Kelli Schermerhorn; Tyler Moore (APS); Mantifel,Russell (BPA) - MTM-3
Cc: Miller,Todd E (BPA) - LP-7; Doot,Erika A (BPA) - LP-7
Subject: 5.1.2 change at the 11/28 MDWG
Attachments: mdwg minutes 20231128.pdf; 04d2-Attachment A_Special Rules and Provisions_Must Offer Obligation_112823 live edits.docx

Hi All,
So I couldn't find the email from Kristen (sorry for calling you out) but attached the must offer tariff language with the live edit (couldn't find this on SPP website) at the 11/28 MDWG and the meeting minutes documenting the motion on 5.1.2.

I hope this helps jog some memories.

Mai Truong
Senior Markets Policy Analyst | Transmission Sales and Marketing | TSB
BONNEVILLE POWER ADMINISTRATION
C (b)(6) P: 503-230-3905 I mntruong@bpa.gov

29331848

SPP Southwest Power Pool

MARKETS+

SOUTHWEST POWER POOL, INC.
MARKETS+ DESIGN WORKING GROUP MEETING
11/28/2023
Net-Conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

1. **Agenda Item 3a – 11/17/2023 MDWG Minutes**

   Motion: Scott Miller (WPTF) motioned to approve the consent agenda as presented. Adam Cornelius (SCPUD) provided the second. Motion carried unanimously.

2. **Agenda Item 4a – Attachment A: Partial Year Market Transmission Use Rate Update**

   Motion: Sibyl Geiselman (PGP) motioned to approve Attachment A, Appendix 2, Section 3 (Annual Formula Rate Implementation Protocols: Intra-Rate Year Update). Scott Miller (WPTF) provided the second. Motion carried unanimously.

3. **Agenda Item 4c – Attachment A, Sec. 6.2, 6.8, 6.9: Real Offer Parameters**

   Motion: Adam Cornelius (SCPUD) motioned to approve Attachment A, Sections 6.2 (Asset Registration), 6.8 (Outage Scheduling and Reporting), and 6.9 (Registration Information, Resource Offers, and Outages) as presented. Dan Williams (TEA) provided the second. Motion carried unanimously.

4. **Agenda Item 4d – Attachment A: Resource Adequacy – Must Offer Obligation**

   Motion: Dan Williams (TEA) motioned to approve the Must-Offer Obligation market design as outlined in Attachment A, Sections 5-5.1.2 (Must-Offer Requirement) as modified during the meeting, recognizing that the MORWG's approval is dependent on approval of an acceptable reliability backstop solution. Paul Dietz (GCPUD) provided the second.

   Motion: Sibyl Geiselman (PGP) motioned to table the previous motion to approve the Must-Offer Obligation market design as outlined in Attachment A, Sections 5-5.1.2 (Must-Offer Requirement) as modified during the meeting, until Agenda Item 4e (Attachment A: Scarcity Pricing, Market Award Priority, and Reliability Back-Stop Solution) has been discussed. Rick Applegate (TAC) provided the second. Motion carried with two abstentions (BPA and TEA).

   Motion: Dan Williams (TEA) motioned to approve the Must-Offer Obligation market design as outlined in Attachment A, Sections 5-5.1.2 (Must-Offer Requirement) as modified during the meeting, recognizing that the MORWG's approval is dependent on approval of an acceptable reliability backstop solution. Paul Dietz (GCPUD) provided the second. Motion carried with one abstention (NVE).

5. **Agenda Item 4e – Attachment A: Scarcity Pricing, Market Award Priority, and Reliability Back-Stop Solution**

   Motion: Dan Williams (TEA) motioned to approve Attachment A, Sections 2.1.2.1, 2.1.2.2, 2.2.2, 2.3.1.2, 3.6, and 3.6.1 as modified during the meeting, except for the four interchange transactions definitions: 1) High-Priority Export Interchange Transaction, 2) Uncommitted Export Interchange Transaction, 3) High-Priority Import Interchange Transaction, and 4) Uncommitted Import Interchange Transaction. Paul Dietz (GCPUD) provided the second. Motion carried with two oppositions (BPA and NVE) and one abstention (PGP).

6. **Agenda Item 4I – Section I: Common Service Provisions**

   Motion: Russ Mantifel (BPA) motioned to approve Section I (Common Service Provisions). Paul Dietz (GCPUD) provided the second. Motion carried unanimously.

7. **Agenda Item 4J – Attachment A, Addendum 1: Load Responsible Entity Attestation**

   Motion: Russ Mantifel (BPA) motioned to approve Attachment A, Addendum 1 (Load Responsible Entity Attestation). Nick Detmer (Xcel) provided the second. Motion carried unanimously.

8. **Agenda Items 5b, 5c, and 5f – Attachments E (Market Participant Agreement), G (Meter Agent Agreement), and J (Allocation of Costs Associated with Penalties):**

   Motion: Russ Mantifel (BPA) motioned to approve Attachments E (Market Participant Agreement), G (Meter Agent Agreement), and J (Allocation of Costs Associated with Penalties). Adam Cornelius (SCPUD) provided the second. Motion carried with one abstention (NVE).

9. **Agenda Item 5d – Attachment H (Credit Policy)**

   Motion: Tuuli Hakala (CCPUD) motioned to approve Attachment H (Credit Policy) as modified during the meeting. Paul Dietz (GCPUD) provided the second. Motion carried unanimously.

ACTION ITEM:

Action Item: SPP staff will include in the Markets+ Protocols how Resource participation types Outage and Not Available will be defined in consideration with tariff language regarding outage accuracy, discretionary operations of Resources, and Western Resource Adequacy Program (WRAP) Unforced Capacity (UCAP).

SPP Southwest Power Pool

MARKETS+

SOUTHWEST POWER POOL
MARKETS+ DESIGN WORKING GROUP MEETING
November 28th, 2023 | 8:30 a.m. – 3:00 p.m., PT | 9:30 a.m. – 4:00 p.m., MT | 10:30 a.m. – 5:00 p.m., CPT
Net-Conference
WebEx Recording: MDWG 112823 | Recording Password: 5DmKhBw7

MINUTES

AGENDA ITEM 1 – ADMINISTRATIVE ITEMS: CALL TO ORDER, STATEMENTS, ATTENDANCE, AND AGENDA REVIEW

The Markets+ Design Working Group (MDWG) Chair, Russ Mantifel (BPA) called the meeting to order at 8:30 a.m., PT/9:30 a.m., MT/10:30 a.m., CPT and reviewed the agenda. Kristen Darden (SPP) read the recording notice and SPP anti-trust statements.

The following members attended or were represented by proxy*:

- Russ Mantifel (Chair), BPA
- Nick Detmer (Vice-Chair), Xcel/PSCo
- Adam Cornelius, SNPD
- Alycia Kramer, BPEC
- Andy Butcher, BHE
- Barbara Cenalmor, SRP
- Blake Pederson, TEP
- Chris Green, EDE
- Dave Zvareck, ACES/AEPCO
- Diane Brandt, RNW
- Jeff Spires, Powerex
- Kent Walter, APS
- Laura Trolese, TEA*
- Lindsey Schlekeway, NVE
- Mike Linn, PPC
- Paul Dietz, GCPUD
- Rick Applegate, TPU
- Scott Miller, WPTF
- Sibyl Geiselman, PGP
- Tuuli Hakala, CCPUD
- Vijay Satyal, WRA
- Vincent Ching, PSE

AGENDA ITEM 2 – REVIEW OF PAST ACTION ITEMS

Kristen provided an update on four MDWG action items, recommending closure of AI18:

- AI18: SPP Staff Follow-up with NWEC on MPEC AI10
- AI19: Flexibility Reserve Settlements Alignment with Must-Offer Obligation
- AI21: Self-Schedule Examples
- AI22: Attachments B and C Updates

AGENDA ITEM 3 – CONSENT AGENDA: 11/17/2023 MDWG MINUTES

Kristen introduced the consent agenda item for approval: 11/27/2023 MDWG Minutes.

Motion: Scott Miller (WPTF) motioned to approve the consent agenda as presented. Adam Cornelius (SCPUD) provided the second. Motion carried unanimously.

AGENDA ITEMS 4, 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, 4I, 4J, 4K, AND 4L – TARIFF REVIEW

4a - MPEC AI10 – Attachment A: Partial Year

Steve White (SPP) reviewed proposed changes in Attachment A, Section 3 (Intra-Rate Year Updates), outlining the process that occurs when a Markets+ Transmission Service Provider (MTSP) joins the Markets+ Footprint during a current Market Transmission Use (MTU) Rate Year. The language was developed and approved by the Markets+ Transmission Working Group (MTWG). The group discussed and approved the language as presented.

Motion: Sibyl Geiselman (PGP) motioned to approve Attachment A, Appendix 2, Section 3 (Annual Formula Rate Implementation Protocols: Intra-Rate Year Update). Scott Miller (WPTF) provided the second. Motion carried unanimously.

4b - Attachment A: Markets+ Settlements

This agenda item was not covered during the meeting.

4c - Attachment A, Sec. 4.1(9), 6.8, 6.9: Real Offer Parameters

Chris Nolen (SPP) presented an overview of Attachment A, Sections 6.8 (Outage Scheduling and Reporting) and 6.9 (Registration Information, Resource Offers, and Outages), noting the removal of 4.1(9) (General Resource Participation: Real Parameters) from the language due to that portion not being applicable anymore given the Markets+ Legal sub-group's review and modifications. Chris reviewed language thoroughly reviewed and endorsed by the Markets+ Legal sub-group. The group discussed and approved the endorsed language.

Motion: Adam Cornelius (SCPUD) motioned to approve Attachment A, Sections 6.2 (Asset Registration), 6.8 (Outage Scheduling and Reporting), and 6.9 (Registration Information,

Resource Offers, and Outages) as presented. Dan Williams (TEA) provided the second. Motion carried unanimously.

4d – Attachment A: Resource Adequacy – Must Offer Obligation

Tyler Moore (APS) presented the Must-Offer Obligation market design, providing examples of how the design will work. Tyler stated the design was created by the Markets+ Resource Adequacy Task Force (MRATF) per their designated scope. The Markets+ Seams Working Group (MSWG) approved the Must Offer Obligation design as well. The group discussed and approved with the contingency of the Markets+ Operations and Reliability Working Group's (MORWG) approving an acceptable reliability backstop solution.

Motion: Dan Williams (TEA) motioned to approve the Must-Offer Obligation market design as outlined in Attachment A, Sections 5-5.1.2 (Must-Offer Requirement) as modified during the meeting, recognizing that the MORWG's approval is dependent on approval of an acceptable reliability backstop solution. Paul Dietz (GCPUD) provided the second.

Motion: Sibyl Geiselman (PGP) motioned to table the previous motion to approve the Must-Offer Obligation market design as outlined in Attachment A, Sections 5-5.1.2 (Must-Offer Requirement) as modified during the meeting, until Agenda Item 4e (Attachment A: Scarcity Pricing, Market Award Priority, and Reliability Back-Stop Solution) has been discussed. Rick Applegate (TAC) provided the second. Motion carried with two abstentions (BPA and TEA).

Motion: Dan Williams (TEA) motioned to approve the Must-Offer Obligation market design as outlined in Attachment A, Sections 5-5.1.2 (Must-Offer Requirement) as modified during the meeting, recognizing that the MORWG's approval is dependent on approval of an acceptable reliability backstop solution. Paul Dietz (GCPUD) provided the second. Motion carried with one abstention (NVE).

4e - Attachment A: Scarcity Pricing, Market Award Priority, and Reliability Back-Stop Solution

Motion: Dan Williams (TEA) motioned to approve Attachment A, Sections 2.1.2.1, 2.1.2.2, 2.2.2, 2.3.1.2, 3.6, and 3.6.1 as modified during the meeting, except for the four interchange transactions definitions: 1) High-Priority Export Interchange Transaction, 2) Uncommitted Export Interchange Transaction, 3) High-Priority Import Interchange Transaction, and 4) Uncommitted Import Interchange Transaction. Paul Dietz (GCPUD) provided the second. Motion carried with two oppositions (BPA and NVE) and one abstention (PGP).

BPA – Wants additional time to review backstop language.

NVE – Wants additional time to review backstop language and concerns that where the backstop is applied, may potentially incentivize resources to mark themselves as unavailable.

4f/4g - Attachment B and C: Market Monitoring Plan & Market Power Mitigation Plan

This agenda item was not covered during the meeting.

4h – Attachment A: Outs-Ins/Internals

This agenda item was not covered during the meeting.

4i – Section I: Common Service Provisions

Chris Nolen reviewed the Common Service Provisions of the Markets+ Tariff, stating the Markets+ Legal sub-group thoroughly reviewed and endorsed the proposed language. The group discussed and approved the language.

Motion: Russ Mantifel (BPA) motioned to approve Section I (Common Service Provisions). Paul Dietz (GCPUD) provided the second. Motion carried unanimously.

4j – Attachment A, Addendum 1: Load Responsible Entity Attestation

Chris Nolen reviewed Addendum 1 to Attachment A of the Markets+ Tariff, stating the Markets+ Legal sub-group thoroughly reviewed and endorsed the proposed language. The group discussed and approved the language.

Motion: Russ Mantifel (BPA) motioned to approve Attachment A, Addendum 1 (Load Responsible Entity Attestation). Nick Detmer (Xcel) provided the second. Motion carried unanimously.

4k – Attachment A: Uncommitted Supply

This agenda item was not covered during the meeting.

4l – Attachment A: Congestion Rent

This agenda item was not covered during the meeting.

AGENDA ITEMS 5, 5A, 5B, 5C, 5D, 5E, 5F, AND 5G – MARKETS+ LEGAL GROUP TARIFF LANGUAGE

5a – Section II: Special Rules on Use of Tariff

This agenda item was not covered during the meeting.

5bcf – Attachment E: Market Participant Agreement, Attachment G: Meter Agent Service Agreement, and Attachment J: Allocation of Costs Associated with Penalties

Chris Nolen reviewed Attachment E (Market Participant Agreement), Attachment G (Meter Agent Service Agreement) and Attachment J (Allocation of Costs Associated with Penalties), stating the Markets+ Legal sub-group thoroughly reviewed and endorsed all proposed language. The group discussed and approved all referenced attachments.

Motion: Russ Mantifel (BPA) motioned to approve Attachments E (Market Participant Agreement), G (Meter Agent Agreement), and J (Allocation of Costs Associated with Penalties). Adam Cornelius (SCPUD) provided the second. Motion carried with one abstention (NVE).

5d – Attachment H: Credit Policy/Sec. 4.1.1 Unsecured Credit Allowance

Chris Nolen reviewed Attachment H (Credit Policy), including Attachment I (Distribution of Other Revenues) of the Markets+ Tariff, stating the Markets+ Legal sub-group thoroughly reviewed and endorsed the proposed language. The MDWG reviewed Section 4.1.1 (Unsecured Credit Allowance) and approved removing the referenced sub-section.

Motion: Tuuli Hakala (CCPUD) motioned to approve Attachment H (Credit Policy) as modified during the meeting. Paul Dietz (GCPUD) provided the second. Motion carried unanimously.

5e – Balancing Authority Agreement

This agenda item was not covered during the meeting.

5g – Transmission Service Provider Agreement

This agenda item was not covered during the meeting.

AGENDA ITEM 6 – MARKETS+ TARIFF TIMELINE MPEC RECOMMENDATION

This agenda item was not covered during the meeting.

AGENDA ITEM 7 – SUMMARY OF MOTIONS AND ACTION ITEMS

Motions are listed above and new action items are below.

Action Item: SPP staff will include in the Markets+ Protocols how Resource participation types Outage and Not Available will be defined in consideration with tariff language regarding outage accuracy, discretionary operations of Resources, and Western Resource Adequacy Program (WRAP) Unforced Capacity (UCAP).

AGENDA ITEM 8 – FUTURE MEETINGS

December 1st MDWG Registration
Date: December 1st, 2023
Location: Net-Conference
Time: 10:30 a.m. – 4:00 p.m., CPT (8:30 a.m. – 2:00 p.m., PT/9:30 a.m. – 3:00 p.m., MT)

January 11th MDWG Registration
Date: January 11th, 2024
Location: Net-conference

Time: 11:00 a.m. – 1:00 p.m., CPT (9:00 a.m. – 11:00 a.m., PT/10:00 – 12:00 p.m., MT)

AGENDA ITEM 9 – OPEN DISCUSSION

Russ allowed opportunity for open discussion.

AGENDA ITEM 10 – ADJOURNMENT

Russ adjourned the meeting at 5:00 p.m., CPT, Tuesday, November 28th.

Respectfully Submitted,

Kristen Darden
MDWG Secretary

Attachments:

- *L Trolese_Proxy_112823*

		Markets+ Design Working Group (MDWG) November 28, 2023 Attendance	
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*	By Proxy		
	Full Name	**Company**	**E-mail**
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Kristen Darden

From: Laura Trolese <ltrolese@teainc.org>
Sent: Tuesday, November 21, 2023 10:38 AM
To: Kristen Darden; Mantifel, Russ; Detmer, Nick
Cc: Williams, Dan
Subject: **External Email** 11/28 Dan Williams as proxy for Laura Trolese

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - ltrolese@teainc.org and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Hello,
I will be out of town on November 28 and am designating Dan Williams as my proxy for MDWG that day.

Laura Trolese
Director, Western Markets & Strategy

Mobile: (b)(6)
Email: ltrolese@teainc.org

TEA
THE EnergyAuthority

29331852

SPP Southwest Power Pool

MARKETS+

SOUTHWEST POWER POOL, INC.
MARKETS+ DESIGN WORKING GROUP MEETING
11/28/2023
Net-Conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

1. **Agenda Item 3a – 11/17/2023 MDWG Minutes**

   Motion: Scott Miller (WPTF) motioned to approve the consent agenda as presented. Adam Cornelius (SCPUD) provided the second. Motion carried unanimously.

2. **Agenda Item 4a – Attachment A: Partial Year Market Transmission Use Rate Update**

   Motion: Sibyl Geiselman (PGP) motioned to approve Attachment A, Appendix 2, Section 3 (Annual Formula Rate Implementation Protocols: Intra-Rate Year Update). Scott Miller (WPTF) provided the second. Motion carried unanimously.

3. **Agenda Item 4c – Attachment A, Sec. 6.2, 6.8, 6.9: Real Offer Parameters**

   Motion: Adam Cornelius (SCPUD) motioned to approve Attachment A, Sections 6.2 (Asset Registration), 6.8 (Outage Scheduling and Reporting), and 6.9 (Registration Information, Resource Offers, and Outages) as presented. Dan Williams (TEA) provided the second. Motion carried unanimously.

4. **Agenda Item 4d – Attachment A: Resource Adequacy – Must Offer Obligation**

   Motion: Dan Williams (TEA) motioned to approve the Must-Offer Obligation market design as outlined in Attachment A, Sections 5-5.1.2 (Must-Offer Requirement) as modified during the meeting, recognizing that the MORWG's approval is dependent on approval of an acceptable reliability backstop solution. Paul Dietz (GCPUD) provided the second.

   Motion: Sibyl Geiselman (PGP) motioned to table the previous motion to approve the Must-Offer Obligation market design as outlined in Attachment A, Sections 5-5.1.2 (Must-Offer Requirement) as modified during the meeting, until Agenda Item 4e (Attachment A: Scarcity Pricing, Market Award Priority, and Reliability Back-Stop Solution) has been discussed. Rick Applegate (TAC) provided the second. Motion carried with two abstentions (BPA and TEA).

   Motion: Dan Williams (TEA) motioned to approve the Must-Offer Obligation market design as outlined in Attachment A, Sections 5-5.1.2 (Must-Offer Requirement) as modified during the meeting, recognizing that the MORWG's approval is dependent on approval of an acceptable reliability backstop solution. Paul Dietz (GCPUD) provided the second. Motion carried with one abstention (NVE).

5. **Agenda Item 4e – Attachment A: Scarcity Pricing, Market Award Priority, and Reliability Back-Stop Solution**

   Motion: Dan Williams (TEA) motioned to approve Attachment A, Sections 2.1.2.1, 2.1.2.2, 2.2.2, 2.3.1.2, 3.6, and 3.6.1 as modified during the meeting, except for the four interchange transactions definitions: 1) High-Priority Export Interchange Transaction, 2) Uncommitted Export Interchange Transaction, 3) High-Priority Import Interchange Transaction, and 4) Uncommitted Import Interchange Transaction. Paul Dietz (GCPUD) provided the second. Motion carried with two oppositions (BPA and NVE) and one abstention (PGP).

6. **Agenda Item 4I – Section I: Common Service Provisions**

   Motion: Russ Mantifel (BPA) motioned to approve Section I (Common Service Provisions). Paul Dietz (GCPUD) provided the second. Motion carried unanimously.

7. **Agenda Item 4J – Attachment A, Addendum 1: Load Responsible Entity Attestation**

   Motion: Russ Mantifel (BPA) motioned to approve Attachment A, Addendum 1 (Load Responsible Entity Attestation). Nick Detmer (Xcel) provided the second. Motion carried unanimously.

8. **Agenda Items 5b, 5c, and 5f – Attachments E (Market Participant Agreement), G (Meter Agent Agreement), and J (Allocation of Costs Associated with Penalties):**

   Motion: Russ Mantifel (BPA) motioned to approve Attachments E (Market Participant Agreement), G (Meter Agent Agreement), and J (Allocation of Costs Associated with Penalties). Adam Cornelius (SCPUD) provided the second. Motion carried with one abstention (NVE).

9. **Agenda Item 5d – Attachment H (Credit Policy)**

   Motion: Tuuli Hakala (CCPUD) motioned to approve Attachment H (Credit Policy) as modified during the meeting. Paul Dietz (GCPUD) provided the second. Motion carried unanimously.

ACTION ITEM:

Action Item: SPP staff will include in the Markets+ Protocols how Resource participation types Outage and Not Available will be defined in consideration with tariff language regarding outage accuracy, discretionary operations of Resources, and Western Resource Adequacy Program (WRAP) Unforced Capacity (UCAP).

FUTURE MEETINGS:

Meeting: December 1st MDWG Meeting
Date: December 1st, 2023
Location: Net-conference

Time: 11:00 a.m. – 4:00 p.m., CPT / 9:00 a.m. – 2:00 p.m., PDT / 10:00 a.m. – 3:00 p.m., MT

Meeting: January 11th MDWG Meeting
Date: January 11th, 2024
Location: Net-conference
Time: 11:00 a.m. – 1:00 p.m., CPT (9:00 a.m. – 11:00 a.m., PT/10:00 – 12:00 p.m., MT)

E – Definitions

Energy Schedule

A set of hourly energy injection and withdrawal values, in megawatts per hour, submitted by Market Participants.

L – Definitions

Load Responsible Entity (LRE)

A Market Participant with registered load in Markets+.

R – Definitions

Resource Adequacy Program

The Western Resource Adequacy Program.

5. Special Rules and Provisions

5.1 Must-Offer Requirement

5.1.1 Day-Ahead Market and Reliability Unit Commitment

Market Participants are required to offer a minimum amount of resource capacity to the Day-Ahead Market. Day-Ahead offers are used for the Day-Ahead market clearing process and also serve as the starting point for the RUC process. A Market Participant's resource capacity is the sum of the offered capacities of Resources with a commitment status of Market, Self, or Reliability Must Run as described in Section 4.1 of this Attachment A. After satisfying the must offer obligation, a Market Participant may offer any remaining energy or capacity to the market at its discretion. Market Participants satisfy this Day-Ahead must offer requirement by meeting the criteria set forth in 5.1.1(A) during non-binding seasons, and the lesser of 5.1.1 (A) or 5.1.1 (B) in binding seasons, as defined in the Resource Adequacy Program. During the binding season, in the event that the calculation of (A) exceeds (B), the capacity amount determined under (B) will act as a ceiling on the Market Participant's must offer requirement, as (B) represents the maximum amount the Market Participant is required to offer to Markets+.

A. Each Market Participant will satisfy the must offer obligation by offering resource capacity greater than or equal to the sum of that Market Participant's (1) load and (2) Flexibility Reserve Products obligations, adjusted by (3) obligations to supply to or rights to receive from the Resource Adequacy Program and adjusted by (4) net position for each Operating Hour based on the following criteria:

   (1) A Market Participant's load for purposes of this section shall be equal to the Market Participant's hourly load forecast as described in Section 7.6 of this Attachment A.

   (2) A Market Participant's hourly Flexibility Reserve Products obligation shall be equal to the sum of that Asset Owner's Short-Term Flex Up and Mid-Term Flex Up obligations as estimated by the Market Operator in accordance with Section 7.5 of this Attachment A.

   (3) A Market Participant's obligation to supply to or right to receive energy from the Resource Adequacy Program is described in the Protocols.

(4) A Market Participant's net position is described in the Protocols.

(5) The Resource capacity for a Market Participant is reduced by the total Self-Charging MWs of all MSRs registered to that Market Participant for the Operating Hour.

B. Each Market Participant will satisfy the maximum must offer obligation by offering Resource capacity greater than or equal to the Market Participant's (1) Resource Adequacy Program forward showing requirement during a binding season as defined by the Resource Adequacy Program, adjusted by (2) any obligations to further supply to or rights to receive energy from the Resource Adequacy Program, adjusted by (3) net position, and adjusted for (4) day-ahead forecasted fleet performance based on the following criteria:

(1) A Market Participant's forward showing requirement is the quantity of capacity required to demonstrate adequacy for the Resource Adequacy Program for each Operating Day during a binding season.

(2) A Market Participant's obligation to supply or rights to receive energy from the Resource Adequacy Program, is described in the Protocols.

(3) A Market Participant's net position is described in the Protocols.

(4) A Market Participant's adjustment for forecasted day ahead fleet performance is the sum of any forced outages, unplanned unavailability and unplanned change of capacity of Resources registered to the Market Participant for the Operating Hour, and further described in the Protocols.

C. To the extent that a Market Participant does not meet the conditions described in Sections 5.1.1(A) or (B), the Market Participant shall be deemed noncompliant with the must offer obligation for that hour. The Market Operator will assess a penalty amount equal to the product of the shortfall capacity and the associated Day-Ahead Market LMP as described below.

(1) A Market Participant's shortfall capacity for an Operating Hour is equal to the lesser of the difference between the resource capacity and Day-Ahead

Market must offer obligation, as described above in Section 5.1.1(A) and (B).

(2) The Must-Offer Penalty LMP is calculated as the average of the Day-Ahead LMP for the Market Participant's Resources in the Operating Hour with the shortfall. If a Market Participant has no registered Resources, then the Markets+ Marginal Energy Component will be used. In no case shall the penalty be less than $0.00.

(3) The Market Operator will distribute any collected penalties for an Operating Hour to Market Participants that are compliant with the Day-Ahead must offer obligation for that Operating Hour, weighted by Resource capacity in excess of the must offer obligation for the Operating Hour.

(a) The Market Operator will distribute any collected penalty revenue for an Operating Hour to Revenue Neutrality Uplift, as described under Section of this Attachment A, for any Operating Hour in which no Market Participant with a Resource capacity, as described above in Section 5.1.1(A) and 5.1.1(B), exceeds the must offer obligation for the Operating Hour.

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5.1.2 Real-Time Balancing Market

Market Participants are required to offer resource capacity to the RTBM as described below. A Market Participant's resource capacity is the sum of Resources offered with a commitment status of Market, Self, or Reliability Must Run as described in Section 4.1 of this Attachment A. After satisfying the must offer obligation, a Market Participant may offer any remaining energy or capacity to the market at its discretion. Market Participants satisfy this requirement by meeting the lesser of the criteria set forth in 5.1.2(A) or (B) below:

(A) Each Market Participant will satisfy the must offer obligation in an Operating Hour by offering Resource capacity greater than or equal to the sum of (1) cleared Day-Ahead Market Energy, (2) cleared Flexibility Reserve Products, and (3) incremental Market Commitments from the RUC process, adjusted by (4) obligations to supply to or rights to receive from the Resource Adequacy Program and adjusted by (5) deviation in net position.

(1) A Market Participant's cleared Day-Ahead Market Energy is the sum of Energy cleared in the Day-Ahead Market for all Resources registered to the Market Participant for the Operating Hour.

(2) A Market Participant's cleared Day-Ahead Market Flexibility Reserve Products is the sum of Short-Term Flex Up and Mid-Term Flex Up cleared in the Day-Ahead Market for all Resources registered to the Market Participant for the Operating Hour.

(3) A Market Participant's incremental commitments from the RUC process is the sum of energy dispatch associated with incremental commitments from the initial RUC process for all Resources registered to the Market Participant for the Operating Hour, further described in the Protocols.

(4) A Market Participant's obligation to supply energy to or right to receive energy from the Resource Adequacy Program is described in the Protocols.

(5) A Market Participant's deviation in net position is determined by comparing the final net position to the net position that cleared in the Day-

Ahead Market for the Operating Hour and further described in the Protocols.

(6) The resource capacity of a Market Participant is reduced by the total Self-Charging MWs of all MSRs registered to that Market Participant for the Operating Hour.

(B) During the binding season each Market Participant will satisfy the must offer obligation by offering Resources greater than or equal to the higher of the Day-Ahead compliance amount described in Section 5.1.1(B) and the Real-Time must offer amount described in Section 5.1.2(A) (1, 2 & 3), adjusted by (1) further obligation to supply energy to or receive energy from the Resource Adequacy Program not accounted for in the Day-Ahead Market, adjusted by (2) net position not accounted for in the Day-Ahead Market and adjusted by (3) fleet performance changes not accounted for in the Day-Ahead Market.

During a non-binding season each Market Participant will satisfy the must offer obligation by offering Resources during the non-binding season greater than or equal to the Real-Time must offer amount described in Section 5.1.2(A) (1, 2 & 3), adjusted by (2) net position not accounted for in the Day-Ahead Market and adjusted by three (3) fleet performance changes not accounted for in the Day-Ahead Market.

(1) A Market Participant's obligation to supply energy to or receive energy from the Resource Adequacy is described in the Protocols.

(2) A Market Participant's net position not accounted for in the Day-Ahead Market are further described in the Protocols.

(3) A Market Participant's adjustment for fleet performance changes not accounted for in the Day-Ahead Market is the sum of unplanned unavailability or reduction of capacity of Resources registered to the Market Participant for the Operating Hour compared to the unplanned unavailability or reduction of capacity of the Market Participant for the Operating Hour offered into the Day-Ahead Market and further described in the Protocols.

C. A Market Participant not meeting the conditions described in Sections 5.1.2(A) or (B) , the Market Participant shall be deemed noncompliant with the must offer obligation for that Operating Hour. The Market Operator will assess a penalty amount equal to the product of the shortfall capacity and the associated RTBM LMP as described below.

(1) A Market Participant's shortfall capacity for the Operating Hour is equal to the lesser of the difference between the resource capacity and Real Time Balancing Market must offer obligation, as described above in Section 5.1.2 (A) and (B).

(2) The Must-Offer Penalty LMP is calculated as the average of the RTBM LMP for the Market Participant's Resources in the Operating Hour with the shortfall. . If a Market Participant has no registered Resources, then the Markets+ Marginal Energy Component will be used. In no case shall the penalty be less than $0.00

(3) The Market Operator will distribute any collected penalties for an Operating Hour in the RTBM to Market Participants deemed compliant with the must offer obligation for that Operating Hour, weighted by resource capacity in excess of the must offer obligation for the Operating Hour.

(a) The Market Operator will distribute any collected penalty revenue for an Operating Hour to Revenue Neutrality Uplift, as described under Section of this Attachment A, for any Operating Hour in which no Market Participant with a Resource capacity, as described above in Section 5.1.2(A) and 5.1.2(B), exceeds the must offer obligation for the Operating Hour.

Formatted: Font color: Black

From: Chris Nolen <cnolen@spp.org>
Sent: Wednesday, May 1, 2024 6:59 AM
To: Mantifel,Russell (BPA) - MTM-3
Cc: Emon Mahony; Christine Dillard
Subject: [EXTERNAL] M+ Transmission Contributor Issues

Hey Russ-

I've heard that you have thoughts as to how we can explain that M+ is basically the same as EIM/EDAM relative to PAC and Idaho Power's protests/comments.

Shoot us what you've got and we'll get in our response.

Thank you!

cmn

Christopher M. Nolen
Managing Attorney
Southwest Power Pool, Inc.
cnolen@spp.org
(b) (6) [redacted]

From: Tuuli Hakala <Tuuli.Hakala@chelanpud.org>
Sent: Monday, July 29, 2024 8:09 AM
To: Marcie L Martin
Cc: Walter, Kent C; Zahnow, Jessica Lynn; Hayes,Matthew C (BPA) - MTM-3; Jeff Spires; Ahmad, Omaya; Josh C Robertson; Mantifel,Russell (BPA) - MTM-3; Vincent Ching (PSE); Haines, Philip - Marketing; 'Holman, Mark'; 'Aitken, Meredith'; Del Rincon, Yessica
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

Good morning. We won't be able to join the call this morning but are still committed to coordinating on the Issue Alerts.

On Jul 26, 2024 1:11 PM, Marcie L Martin <Marcie.Martin@srpnet.com> wrote:

PAUSE TO CONSIDER: The actual sender address for this email is prvs=6937f0db81=marcie.martin@srpnet.com.
Do you trust this message and any contents within?
If not, please forward it to our Phishing Hole for analysis. Thank You!

Good afternoon,

I apologize for the multiple versions. Our team provided a few additional edits today.

Marcie

From: Marcie L Martin
Sent: Thursday, July 25, 2024 4:19 PM
To: 'Walter, Kent C' <Kent.Walter@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; 'Hayes,Matthew C (BPA) - MTM-3' <mchayes@bpa.gov>; 'Spires, Jeff' <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Josh C Robertson <Josh.Robertson@srpnet.com>; 'Hakala, Tuuli' <Tuuli.Hakala@chelanpud.org>; 'Mantifel,Russell (BPA) - MTM-3' <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; 'Holman, Mark' <Mark.Holman@powerex.com>; 'Aitken, Meredith' <Meredith.Aitken@powerex.com>; Del Rincon, Yessica <Yessica.DelRincon@aps.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

Kent,

Thank you for sharing the draft for the reliability issue alert. The attached file includes proposed edits from the SRP team. Please let me know if you have any questions.

Marcie

From: Walter, Kent C <Kent.Walter@aps.com>
Sent: Wednesday, July 24, 2024 11:01 AM
To: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; 'Hayes,Matthew C (BPA) - MTM-3' <mchayes@bpa.gov>; 'Spires, Jeff' <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Josh C Robertson <Josh.Robertson@srpnet.com>; 'Hakala, Tuuli' <Tuuli.Hakala@chelanpud.org>; 'Mantifel,Russell (BPA) - MTM-3' <rxmantifel@bpa.gov>

Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; 'Holman, Mark' <Mark.Holman@powerex.com>; 'Aitken, Meredith' <Meredith.Aitken@powerex.com>; Del Rincon, Yessica <Yessica.DelRincon@aps.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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A couple updates for this team:

-Attached Is the Draft Issue Alert incorporating comments received so far. I am looking for all final comments by 7/26 with final sign off by 8/2.

-Attached is a tentative timeline for future Issue Alerts – looking for your feedback

-My media team didn't think the current draft of Issue Alert 1 on governance had the voice for a utility dive and instead recommended Public Utilities Fortnightly or to adjust the voice in the letter. Public Utilities Fortnightly is a well-read publication by regulators but is behind a subscription service. I would like to get feedback on the direction you think. Clearing up (Matt, BPA) was on the table as is RTO insider (Jessica, PSE).

-**Matt**, do you have an update on your media inquiries for this group?

Kent

From: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>
Sent: Monday, July 22, 2024 10:08 AM
To: Walter, Kent C <Kent.Walter@aps.com>; 'Hayes,Matthew C (BPA) - MTM-3' <mchayes@bpa.gov>; 'Spires, Jeff' <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; 'Josh Robertson' <Josh.Robertson@srpnet.com>; 'Hakala, Tuuli' <Tuuli.Hakala@chelanpud.org>; 'Mantifel,Russell (BPA) - MTM-3' <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; 'Marcie L Martin' <Marcie.Martin@srpnet.com>; 'Holman, Mark' <Mark.Holman@powerex.com>; 'Aitken, Meredith' <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Vincent has an additional suggestion for the "Increased reliability in real-time" section, attached in this redline. This comment is added on top of PSE's prior offered redlines.

Thank you!

Jessica Zahnow
State & Regional Policy – Regional Markets
Phone: (b)(6)

PUGET SOUND ENERGY

From: Zahnow, Jessica Lynn
Sent: Wednesday, July 17, 2024 9:45 PM
To: Walter, Kent C <Kent.Walter@aps.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Mantifel,Russell (BPA) - MTM-3

<rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

This is great, Kent and Omaya. You hit the key points and major elements of reliability. It's valuable to call out the function of the MORWG, to differentiate between capacity vs. energy must-offer, and to call out the potential associated with a flow-based methodology. All of these speak to the challenges we're seeing in the west. I wonder if we could soften the EDAM language a bit and focus on the M+ benefits. And are there a few key places we could provide examples or data that shore up our points?

PSE offers the attached comments and edits for the group's consideration. I attached a clean version also, in case that's easier to consume.

Thank you for keeping us moving quickly!

Jessica Zahnow
State & Regional Policy – Regional Markets
Phone: (b)(6)

PUGET SOUND ENERGY

From: Walter, Kent C <Kent.Walter@aps.com>
Sent: Tuesday, July 16, 2024 5:10 PM
To: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Thanks Matt and would still like your suggestions as we develop the drafts of these Issue Alerts.

I submit to the group a **draft** of Issue Alert #2 – Reliability for your comments. We elected to offer something quicker to align on substance rather than to delay and work on style. My short-hand for saying writing is not my strength. 😊

Kent

From: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>
Sent: Tuesday, July 16, 2024 4:09 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
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<Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Thanks for all the hard work on reviewing and refining this. As always it is a pleasure working with you all.

We've chatted with our internal staff as well as our OGC, and BPA isn't able to sign on to this governance letter as it is currently written. It has a high risk of being viewed as pre-decisional given our ongoing public process. At this time, public statements that are associated with BPA need to remain focused on what is important to BPA in this process, and not directly focusing on any one entity or option. I understand that this does not necessarily align with the original goals of this group.

I am happy to chat about it more at our Monday meeting, but I wanted to give you all a heads up on where we landed with this internally.

Thanks,

Matt

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Tuesday, July 16, 2024 12:55 PM
To: Ahmad, Omaya <Omaya.Ahmad@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

Hi everyone,

Thanks for the edits and feedback. I've attached a new version in clean and redline that includes the change proposed below. You will see in the redline that I have proposed to make a few modifications to the additional language proposed by Omaya in the previous version in an effort to trim it back slightly (without losing the key points).

I am hopeful this version works for the group – if you can give a quick read and let me know if you have any concerns I'd appreciate it.

Jeff

From: Ahmad, Omaya <Omaya.Ahmad@aps.com>
Sent: Tuesday, July 16, 2024 12:27 PM
To: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>

Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: Re: [EXTERNAL] Markets+ Issue Alerts

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Agree with Jessica. I don't know if this is strong enough to illuminate fairness across participating states, but here's a redline for page 2.

The Markets+ Governance framework fully achieves this objective through these key features:

1. A ~~fully independent~~ board / panel independent of market participants and stakeholders with authority over all aspects of the market;

Contrast this with the first 2 EDAM points on page 3, which I think are strong:

1. The starting point for EDAM and EIM is a market design and tariff developed under the California ISO's existing governance framework. The Pathways Initiative does not propose to replace this initial market design with a stakeholder-driven design.
2. Both EDAM and EIM were built as extensions of a legacy institutional framework with embedded dependencies on, and obligations to, California state agencies, which the Pathways initiative does not propose to eliminate.

From: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>
Sent: Tuesday, July 16, 2024 10:39 AM
To: Ahmad, Omaya <Omaya.Ahmad@aps.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
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Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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PSE supports Omaya/APS's additions. Josh Jacobs had feedback asking for more detail on why Pathways timing won't provide a viable solution, and Omaya's edits address that well. One other thing Josh points out is that two things we hear out of our commission is, "we don't want to be governed out of Little Rock", and "interested parties don't have a strong voice in M+".

While we don't agree, does anyone have thoughts about an artful way to address these concerns?

Jessica Zahnow

State & Regional Policy – Regional Markets

Phone: (b)(6) [redacted]

PUGET SOUND ENERGY

From: Ahmad, Omaya <Omaya.Ahmad@aps.com>
Sent: Monday, July 15, 2024 5:00 PM
To: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
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Subject: Re: [EXTERNAL] Markets+ Issue Alerts

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I made a few additions that are almost entirely on page 3.

- Spelled-out the value of SPP's consensus approach to stakeholder engagement
- Going off Matt's suggestion: opened a spot for others to add examples of where CAISO's governance has left us frustrated
- Added more to the Pathways discussion

Feel free to cut down as needed.

Thanks,

Omaya

From: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>
Sent: Monday, July 15, 2024 4:53 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
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Thanks for a productive meeting this morning. Before moving forward BPA is going to need some more internal conversation on how this first paper and the overall strategy fits into our public process. We should be able to get something definitive tomorrow.

Apologizes for not flagging this today as it is something I should have known would be a required step.

Thanks,

Matt

-----Original Appointment-----
From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, July 12, 2024 12:15 PM
To: Spires, Jeff; Josh Robertson; Zahnow, Jessica Lynn; Hakala, Tuuli; Kent.Walter@aps.com; Mantifel,Russell (BPA) - MTM-3
Cc: Ching, Vincent; Haines, Philip - Marketing; Hayes,Matthew C (BPA) - MTM-3; Ahmad, Omaya; Marcie L Martin; Holman, Mark; Aitken, Meredith
Subject: [EXTERNAL] Markets+ Issue Alerts
When: Monday, July 22, 2024 9:00 AM-10:00 AM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

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Sent: Friday, July 26, 2024 1:10 PM
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Cc: Ching, Vincent; Haines, Philip - Marketing; 'Holman, Mark'; 'Aitken, Meredith'; Del Rincon, Yessica
Subject: RE: [EXTERNAL] Markets+ Issue Alerts
Attachments: Draft Issue Alert 2 - Reliability v3 SRP_Comments2.docx

Good afternoon,

I apologize for the multiple versions. Our team provided a few additional edits today.

Marcie

From: Marcie L Martin
Sent: Thursday, July 25, 2024 4:19 PM
To: 'Walter, Kent C' <Kent.Walter@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; 'Hayes,Matthew C (BPA) - MTM-3' <mchayes@bpa.gov>; 'Spires, Jeff' <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Josh C Robertson <Josh.Robertson@srpnet.com>; 'Hakala, Tuuli' <Tuuli.Hakala@chelanpud.org>; 'Mantifel,Russell (BPA) - MTM-3' <rxmantifel@bpa.gov>
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Marcie

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-**Matt**, do you have an update on your media inquiries for this group?

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Sent: Monday, July 22, 2024 10:08 AM
To: Walter, Kent C <Kent.Walter@aps.com>; 'Hayes,Matthew C (BPA) - MTM-3' <mchayes@bpa.gov>; 'Spires, Jeff' <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; 'Josh Robertson' <Josh.Robertson@srpnet.com>; 'Hakala, Tuuli' <Tuuli.Hakala@chelanpud.org>; 'Mantifel,Russell (BPA) - MTM-3' <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; 'Marcie L Martin' <Marcie.Martin@srpnet.com>; 'Holman, Mark' <Mark.Holman@powerex.com>; 'Aitken, Meredith' <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Vincent has an additional suggestion for the "Increased reliability in real-time" section, attached in this redline. This comment is added on top of PSE's prior offered redlines.

Thank you!

Jessica Zahnow
State & Regional Policy – Regional Markets
Phone: (b)(6)

PUGET SOUND ENERGY

From: Zahnow, Jessica Lynn
Sent: Wednesday, July 17, 2024 9:45 PM
To: Walter, Kent C <Kent.Walter@aps.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

This is great, Kent and Omaya. You hit the key points and major elements of reliability. It's valuable to call out the function of the MORWG, to differentiate between capacity vs. energy must-offer, and to call out the potential

associated with a flow-based methodology. All of these speak to the challenges we're seeing in the west. I wonder if we could soften the EDAM language a bit and focus on the M+ benefits. And are there a few key places we could provide examples or data that shore up our points?

PSE offers the attached comments and edits for the group's consideration. I attached a clean version also, in case that's easier to consume.

Thank you for keeping us moving quickly!

Jessica Zahnow
State & Regional Policy – Regional Markets
Phone: (b)(6)

PUGET SOUND ENERGY

From: Walter, Kent C <Kent.Walter@aps.com>
Sent: Tuesday, July 16, 2024 5:10 PM
To: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Thanks Matt and would still like your suggestions as we develop the drafts of these Issue Alerts.

I submit to the group a **draft** of Issue Alert #2 – Reliability for your comments. We elected to offer something quicker to align on substance rather than to delay and work on style. My short-hand for saying writing is not my strength. 😊

Kent

From: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>
Sent: Tuesday, July 16, 2024 4:09 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Thanks for all the hard work on reviewing and refining this. As always it is a pleasure working with you all.

We've chatted with our internal staff as well as our OGC, and BPA isn't able to sign on to this governance letter as it is currently written. It has a high risk of being viewed as pre-decisional given our ongoing public process. At this time, public statements that are associated with BPA need to remain focused on what is important to BPA in this process, and not directly focusing on any one entity or option. I understand that this does not necessarily align with the original goals of this group.

I am happy to chat about it more at our Monday meeting, but I wanted to give you all a heads up on where we landed with this internally.

Thanks,

Matt

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Tuesday, July 16, 2024 12:55 PM
To: Ahmad, Omaya <Omaya.Ahmad@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

Hi everyone,

Thanks for the edits and feedback. I've attached a new version in clean and redline that includes the change proposed below. You will see in the redline that I have proposed to make a few modifications to the additional language proposed by Omaya in the previous version in an effort to trim it back slightly (without losing the key points).

I am hopeful this version works for the group – if you can give a quick read and let me know if you have any concerns I'd appreciate it.

Jeff

From: Ahmad, Omaya <Omaya.Ahmad@aps.com>
Sent: Tuesday, July 16, 2024 12:27 PM
To: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: Re: [EXTERNAL] Markets+ Issue Alerts

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Agree with Jessica. I don't know if this is strong enough to illuminate fairness across participating states, but here's a redline for page 2.

The Markets+ Governance framework fully achieves this objective through these key features:

1. A ~~fully independent~~ board / panel independent of market participants and stakeholders with authority over all aspects of the market;

Contrast this with the first 2 EDAM points on page 3, which I think are strong:

1. The starting point for EDAM and EIM is a market design and tariff developed under the California ISO's existing governance framework. The Pathways Initiative does not propose to replace this initial market design with a stakeholder-driven design.
2. Both EDAM and EIM were built as extensions of a legacy institutional framework with embedded dependencies on, and obligations to, California state agencies, which the Pathways initiative does not propose to eliminate.

From: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>
Sent: Tuesday, July 16, 2024 10:39 AM
To: Ahmad, Omaya <Omaya.Ahmad@aps.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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PSE supports Omaya/APS's additions. Josh Jacobs had feedback asking for more detail on why Pathways timing won't provide a viable solution, and Omaya's edits address that well. One other thing Josh points out is that two things we hear out of our commission is, "we don't want to be governed out of Little Rock", and "interested parties don't have a strong voice in M+".

While we don't agree, does anyone have thoughts about an artful way to address these concerns?

Jessica Zahnow

State & Regional Policy – Regional Markets

Phone: (b)(6)

PUGET SOUND ENERGY

From: Ahmad, Omaya <Omaya.Ahmad@aps.com>
Sent: Monday, July 15, 2024 5:00 PM
To: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: Re: [EXTERNAL] Markets+ Issue Alerts

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I made a few additions that are almost entirely on page 3.

- Spelled-out the value of SPP's consensus approach to stakeholder engagement
- Going off Matt's suggestion: opened a spot for others to add examples of where CAISO's governance has left us frustrated
- Added more to the Pathways discussion

Feel free to cut down as needed.

Thanks,

Omaya

From: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>
Sent: Monday, July 15, 2024 4:53 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark

<Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Thanks for a productive meeting this morning. Before moving forward BPA is going to need some more internal conversation on how this first paper and the overall strategy fits into our public process. We should be able to get something definitive tomorrow.

Apologizes for not flagging this today as it is something I should have known would be a required step.

Thanks,

Matt

-----Original Appointment-----
From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, July 12, 2024 12:15 PM
To: Spires, Jeff; Josh Robertson; Zahnow, Jessica Lynn; Hakala, Tuuli; Kent.Walter@aps.com; Mantifel,Russell (BPA) - MTM-3
Cc: Ching, Vincent; Haines, Philip - Marketing; Hayes,Matthew C (BPA) - MTM-3; Ahmad, Omaya; Marcie L Martin; Holman, Mark; Aitken, Meredith
Subject: [EXTERNAL] Markets+ Issue Alerts
When: Monday, July 22, 2024 9:00 AM-10:00 AM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

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Issue Alert 2:
Markets+ Maintains Structural Components ~~Of~~of Reliability

Market design characteristics that support reliability, ensure customer benefits and promote transparency are essential elements to consider before committing to join a market as electric system reliability is essential to the safety and well-being of the general public. As observed during ~~the~~ recent ~~winter event in the Northwest, as well as summer heat waves~~extreme weather events over~~in~~ the past several years across the country, reliability risk is elevated. Markets+ has ~~had the benefit of~~benefitted from a robust, stakeholder-driven governance framework which has led to ~~embedding reliability criteria into~~a strong focus on reliability in the market design.

Markets+ incorporates several critical ~~characteristics~~ elements to enhance reliability, including:

- Standard and transparent resource adequacy (RA)-requirements for all participants using the Western Resource Adequacy Program (WRAP);
- A ~~capacity-based~~ must-offer requirement tied to reliable ~~resources~~ capacity secured well in advance of the operating timeframe;
- A flow-based model of dispatch to enhance deliverability;
- Extended a~~A~~ccess to resource adequacy resources ~~is extended~~ through real-time;
- An independent Market Operator that acts impartially on behalf of a diverse footprint; and
- A stakeholder-driven committee dedicated to assessing and addressing impacts to reliability (Markets+ Operations and Reliability Working Group (([MORWG)~~)~~.]~~)~~.]).

Markets+ Leverages ~~The Western Resource Adequacy Program~~WRAP as a Common Resource Adequacy Standard

A common and rigorous resource adequacy structure is critical for and foundational to~~a critically important feature as a foundation for~~ reliability and ~~to ensure market fairness~~ intra-market equity. ~~Markets+ achieves this feature by making~~Therefore, WRAP participation is a requirement for entities with load in Markets+.

WRAP applies a common approach for ~~measuring~~ calculating resource capacity values and ~~for calculating~~ determining each participant's minimum obligation for resource adequacy, which prevents market participants from ~~an~~ being over-reliant~~ce~~ on others' resources. WRAP also ensures that capacity obligations and the benefits of ~~the region~~regional diversity are shared equitably. For example, if a lower capacity requirement can be achieved among the footprint, all participants share in the benefit by lowering their planning ~~resource~~ reserve margin. WRAP ~~also~~ requires that participants procure the defined minimum amount of supply well in advance of the operating timeframe, ~~when there is the greatest ability~~while there is still time to take corrective action if necessary.

WRAP ~~also~~ provides ~~broader~~ visibility into how resources perform to meet the region's needs in a way~~, which is a tool~~ that does not ~~otherwise~~ currently exist. WRAP also applies resource deliverability requirements that create~~s~~ incentives for long-term transmission development, supporting reliable service to customers and efficient integration of clean energy resources.

Comment [AL1]: Given the great interest of Western State Utility Commissioners and our own beliefs in markets that protect the consumer, I think we may want to consider including that sentiment as well and not just stating that we are supporting reliability (it is merely one component, although the primary issue of this Issue Alert).

This sentiment could be echoed in each of the Issue Alerts to ensure the message gets through because it is a talking point by some that if you have 2 markets it is not in the best interest of the customer. Just food for thought.

Comment [JAC2]: ISO/RTO capacity markets with auctions 3 years forward arguably provide the "greatest" ability for corrective action.

Comment [DDP3]: Is it worth stating how WRAP works for folks who happen to be short?

Capacity Must-Offer Requirement

Markets+ builds upon the WRAP forward resource procurement requirement and requires ~~this~~ capacity to be made available to the market, ~~ensuring the market~~it~~s~~o that it has access to sufficient resources to meet energy and uncertainty needs through real-time. This is referred to as a must-offer requirement. In Markets+~~,~~ the must-offer requirement can only be met with WRAP supply or other specified resources; it cannot be met with ~~an unbacked~~ uncommitted energy purchases without an identified source. ~~-~~This approach enhances existing reliability in the West by addressing instances where energy commitments were not backed by reliable physical supply and ultimately did not deliver to load. The must-offer obligation in Markets+ centers on identified~~,~~ resources and will lead to greater reliability outcomes for all participants.

Comment [PLS4]: To be consistent with protocol language

Enhanced Deliverability

Markets+ utilizes a flow-based model of dispatch within the Markets+ footprint. ~~-~~This approach allows for real-time~~world~~ transmission conditions to be reflected in the market model, often achieving greater utilization of existing transmission infrastructure compared to a contract-path method of transmission constraint modeling. ~~-Thise~~Therefore, thise~~The Markets+ flow-based dispatch~~model approach enhances the benefits of regional diversity ~~through deliverability of WRAP resources between Markets+ participants,~~by expanding access to resources ~~within~~ across the market footprint, ~~including across B~~balancing ~~area A~~authority A~~area (BAA) boundaries~~ ensuring greater reliability.

Comment [SMC5]: I don't think this impacts the end result, but I think M+ only uses the flow-based model in real-time. Day ahead is still contract path.

Increased Reliability in Real-Time

Markets+ extends the timeframe through which resources procured to meet WRAP requirements remain available through real-time, instead of solely relying on holdback decisions to be made in the pre-schedule timeframe. This means resources procured by participants remain available during ~~to meet~~ conditions that ~~do not~~ materialize ~~until~~ in real-time, such as sudden fall-off of renewable output or higher-than-expected demand.

Furthermore, Markets+ ~~also~~ includes a ~~backstop~~ reliability backstop mechanism ~~that allows~~allowing the market operator to work with participating Balancing Authority Areas (BAAs) to commit resources ~~that were~~ not offered in the Day-ahead prescheduled timeframe if needed to maintain reliability during critical conditions~~, further increasing the supply available through real-time~~.

Markets+ Operations and Reliability Working Group (MORWG)

In an addition to the independent Market Operator that acts impartially on behalf of a diverse footprint, Markets+ maintains a specific committee with oversight~~egheoversite~~ responsibility for reliability—the ~~Markets+ Operations and Reliability Working Group (~~MORWG~~)~~. ~~-~~The MORWG's scope includes reviewing market design for its impact ~~to~~ on reliability. ~~-This is a~~ critical group ~~that draws on~~ addresses the unique and diverse reliability challenges faced by many ~~balancing areas~~BAAs in the Western ~~Electricity Coordinating Council~~Interconnection ~~(WECC)~~ and is designed to be responsive to potential benefits or threats to reliability.

Markets+ Avoids ~~Thethe~~ Challenges of aA Resource Sufficiency Framework

Importantly, a common ~~RA~~ resource adequacy requirement for Markets+ addresses reliability well in advance, without relying on a resource sufficiency test applied each day in the operating timeframe.

Resource sufficiency is inherently challenging for several reasons. Historically there have been numerous examples of inaccurate outcomes associated with resource sufficiency evaluation in the Western Energy Imbalance Market (WEIM), particularly as it relates to the CAISO BAA. This experience has reduced some stakeholders' confidence that an accurate resource sufficiency test will be applied in the day-ahead timeframe for the Extended Day-Ahead Market (EDAM).

Even if a rResource sSufficiency test is applied accurately in EDAM/WEIM, it does not provide adequate time to resolve supply deficiencies that may be identified. Such a test necessarily relies on failure consequences to create incentives for participants to procure sufficient supply in advance ~~in the first place, and thus~~ to avoid failing. But it has proven challenging to balance the need for failure consequences that are sufficiently strict with the objective of supporting reliability. More specifically, the use of a short-term financial penalty creates the risk that some participants may choose not to be resource sufficient on critical days, and instead pay the fee and lean on the resources made available by others. Such an option makes it less likely that the market footprint will have the physical supply to support reliability than if every entity had procured sufficient supply in advance under a common ~~RA~~ resource adequacy program. This outcome may lead to market participants being less confident in the reliability of the market footprint and less willing to make additional supply available to the market (beyond their rResource sSufficiency rRequirements) in order to manage unforeseen risks in their individual areas in real-time, further diminishing available resources, reliability, and overall efficiency of the market as a whole.

Lastly, a resource sufficiency framework may ~~be more costly~~increase costs for some WRAP participants, thatwho would need to meet the requirements of two different and un-linked requirements (both WRAP forward showing obligations and the daily resource sufficiency test). This could result in WRAP participants that have already met their forward showing requirements ~~to~~ incurring costs to secure more supply ~~to be able~~ to pass the resource sufficiency test on critical days when load is higher, or resource availability is lower. This is an added cost that is avoided in the Markets+ design.

Closing

Ensuring reliability is an essential priority that Markets+ and EDAM seek to address in fundamentally different ways, resulting in material differences in reliability risk between the market choices. Markets+ incorporates critical market design elements that enhance reliability across the entire market. These elements will also enhance the day-ahead liquidity of resources, lead to transparent and rational price formation, aid in creating signals for long-term transmission investment, and enhance the ability of the market to reliably serve customers amid an increasingly volatile electric grid.

Comment [DDP6]: Is it worth acknowledging that CAISO is actively engaged in addressing RA concerns? See, for example, discussion at link - https://www.caiso.com/about/news/an-energy-matters-conversation-on-resource-adequacy-and-our-2024-summer-loads-and-resources-assessment.

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, October 30, 2023 6:23 PM
To: Wiencke, Mary; Mantifel,Russell (BPA) - MTM-3
Cc: Kim O'Guinn; Drew McGilvray; Carrie Simpson
Subject: [EXTERNAL] RE: October 26th Joint MDWG & MTWG Summary of Motions, Action Items, and Future Meetings

We will make that work. Thanks!

From: Mary Wiencke <mwiencke@publicgeneratingpool.com>
Sent: Monday, October 30, 2023 6:13 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Kim O'Guinn <koguinn@spp.org>; Drew McGilvray <dmcgilvray@spp.org>; Carrie Simpson <csimpson@spp.org>
Subject: **External Email** RE: October 26th Joint MDWG & MTWG Summary of Motions, Action Items, and Future Meetings

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Yes, anytime after noon PT would be great. Thank you!

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, October 30, 2023 2:45 PM
To: Mary Wiencke <mwiencke@publicgeneratingpool.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Kim O'Guinn <koguinn@spp.org>; Drew McGilvray <dmcgilvray@spp.org>; Carrie Simpson <csimpson@spp.org>
Subject: RE: October 26th Joint MDWG & MTWG Summary of Motions, Action Items, and Future Meetings

Hey Mary –

Yes we are planning on having GHG on the agenda 11/3, so that the MDWG can hopefully provide some guidance from the failed motion during the previous MGHGTF meeting, for moving forward to the 11/7-8 MPEC meeting. You would be available after 12PT (2CPT)?

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Mary Wiencke <mwiencke@publicgeneratingpool.com>
Sent: Monday, October 30, 2023 1:54 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Kim O'Guinn <koguinn@spp.org>

Subject: **External Email** RE: October 26th Joint MDWG & MTWG Summary of Motions, Action Items, and Future Meetings

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Hi Kristen/Russ –

Do you know as to whether GHG will be on the MDWG meeting agenda this Friday and if so do you have a sense of what time? I have some things scheduled that I will need to juggle if I will need to be available. If there is flexibility anything after noon would be better – though don't want to be late in the agenda to risk getting pushed again if we need to discuss before next week's MPEC.

Thanks,
Mary

From: Kristen Darden <kdarden@spp.org>
Sent: Sunday, October 29, 2023 7:38 PM
To: Mary Wiencke <mwiencke@publicgeneratingpool.com>
Subject: October 26th Joint MDWG & MTWG Summary of Motions, Action Items, and Future Meetings

Good evening MDWG and MTWG stakeholders and participants –

Let me just say "**THANK YOU**" for a great, successful meeting. We accomplished a lot during our meeting, and I am extremely proud of the progress we made. I look forward to seeing a lot of you again next week during the 11/7-8 MPEC meeting (*If you have not registered for that meeting, here is the link. In-person registration closes tomorrow, Monday 10/30, by 8:00 a.m., CPT).

Attached is the draft summary of the 10/26 joint MTWG and MDWG meeting motions, action items, and future meetings. Please review and let me know if you have any edits.

Thank you again and have a wonderful evening!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, August 8, 2023 4:43 PM
To: Breidenich, Clare; Wiencke, Mary; Drew McGilvray; Kim O'Guinn
Cc: Russell Carey; Mantifel,Russell (BPA) - PGL-5; Detmer, Nick; Jim Gonzalez; Chris Nolen
Subject: [EXTERNAL] Potential 10/11 MDWG Meeting - GHG Language

Hey GHG team –

My chairs and I are looking to schedule an MDWG net-conference **Wednesday, 10/11/2023** to review your GHG language for approval. Would you have any heartburn with this, given the update during the MPEC that you were looking at 10/3 MGHGTF approval? The MDWG starts to run out of space and time in October/November, so wanted to get an extra meeting booked for your items.

Thanks!

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From: Antoine Lucas <alucas@spp.org>
Sent: Friday, June 14, 2024 7:25 PM
To: Spires, Jeff; Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] FW: Markets+ Status Update
Attachments: Markets+ Status Update.pdf

Fyi,

Antoine Lucas
Phone: *501-614-3382*
Email: *alucas@spp.org*

From: Antoine Lucas
Sent: Friday, June 14, 2024 9:24 PM
Subject: Markets+ Status Update

Markets+ Leaders,

Please see the attached communication including SPP's perspective on the status of Markets+ amid recent happenings. I hope you find this information useful. Don't hesitate to each out with any questions you may have.

Thank you for your continued support!
Antoine Lucas
Vice President, Markets
Southwest Power Pool
Phone: *501-614-3382*
Email: *alucas@spp.org*

To: Markets+ Funding Parties

From: Antoine Lucas, SPP VP of Markets

Date: June 14, 2024

Re: Markets+ Status Update

Markets+ Participants –

Thank you for your continued support of Markets+. While our work to refine market protocols and prepare for phase two of the market's development continues on schedule, there are a few items to address before we meet again in August.

First, SPP appreciates NV Energy's contributions to Markets+ tariff development and other Markets+ Phase 1 efforts. Having evaluated the impact of NV Energy's recent announcement of intent to pursue participation in California ISO's Extended Day Ahead Market (EDAM), SPP can confidently state that our proposed day-ahead market remains viable and poised to provide robust benefits and value for participants.

Sufficient scale and depth of both generation and transmission resources remain in and among the Pacific Northwest, Desert Southwest, and neighboring areas expressing interest in Markets+. Connecting the Northwest and Southwest in Markets+ increases benefits to both regions using firm point-to-point transmission under the Markets+ Transmission Contributor framework. Analysis of firm point-to-point transmission rights anticipated to be contributed to connect the regions do not change with NV Energy's potential participation in EDAM. These rights are estimated to facilitate in excess of 1,000MW of transfers at Markets+ go live. In addition to contributed transmission rights, more transfers will occur between Markets+ and neighboring markets as a result of price transparency and incentives for parties to trade through interchange and other market mechanisms that will be developed between market operators. Also, as stakeholders steer market evolution, we anticipate transmission expansion decisions that will increase transfer capability between CAISO's EDAM, Markets+, and SPP's RTO, enhancing reliability and production cost savings for all.

Next, SPP is aware of the spread of misinformation regarding the impact to economic benefits resulting from multiple markets in the West. Holistic coordination among western utilities to develop and choose the market that is best for them will lead to dependable consumer benefits and should be encouraged. Limiting options to a single market may, at first glance, resolve and reduce some seams issues in the west; however, in actuality it defers discussion and resolution of critical issues such as the need for a truly independent regional governance construct and a market operator that prioritizes equitable outcomes for all market participants and their customers.

A single market configured without independence or equitable governance for all participants does not result in enduring equity to end-use customers. Instead, it introduces unquantifiable risk of unexpected and inequitable cost shifts between customer classes within the market. Further, it eliminates competition and resulting incentives for the market operator to address poorly configured designs that exacerbate these concerns.

Moreover, establishing a new governance model on top of a market design developed without independence will require years of experience and introduce the potential for increased risk, undermining participants' efforts to achieve a truly equitable market design. SPP has demonstrated its ability, honed over years as a multi-state RTO with a tried and true independent governance structure, to launch its proven governance model that will bring balanced market design to the west.

Third, a single market construct does not eliminate seams or address the existing seams friction between multiple BAs and TSPs in the west. The introduction of another market operator does not exacerbate existing seams friction, but rather will reduce seams friction and create opportunities for more transparent market trading and efficiency. Further, the establishment of multiple markets will not prevent trade between market footprints, nor erode the value of that trade. Instead, the terms governing those neighboring market trades will evolve based on peer-to-peer negotiations between market operators, more appropriately reflecting the value of those market transfers, resulting in greater benefits and equity to end-use customers. Effective seams agreements not only support sustainability and economic benefits, but also bolster reliability in times of generation or transmission scarcity without unfairly benefiting any one region. The clear benefits of these agreements have historically brought market operators together and they will continue to do so.

Finally, transparency is and always will be something you can expect from SPP. Market design matters and open and transparent governance and robust stakeholder processes are the most effective methods for developing fair and efficient market designs. SPP will represent Markets+ entities as an impartial and independent market operator with years of experience facilitating stakeholder processes that produce win-win solutions.

We thank you for your continued engagement as we work together to build a market by and for the west!

Regards,

(b)(6)

Antoine Lucas

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, October 30, 2023 11:21 AM
To: Mantifel,Russell (BPA) - MTM-3; Detmer, Nick
Subject: RE: [EXTERNAL] November MDWG Meetings

Hey guys –

I think I'm going to move forward with 11/27. Seams still needs 11/16. If we are worried about post-thanksgiving meetings, let's look at making it a short one, later in the day. Say – 2:00 – 5:00 pm, CPT?

From: Kristen Darden
Sent: Monday, October 23, 2023 12:30 PM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: RE: [EXTERNAL] November MDWG Meetings

Hey there –

I know Nick is out on vacation, but Russ did you have any thoughts on one of the proposed times for the additional MDWG meeting:

- **Thursday, 11/9 – 1:00-5:00 CPT**
- **Thursday, 11/16, 12:00-5:00** *(Seams meet at this time. Checking with Aaron Shipley if they're still going to meet.)*
- **Monday, 11/27 – 10:30-5:00 CPT**

Figured I could go ahead, work to get it booked and on the calendar for everyone.

From: Kristen Darden
Sent: Tuesday, October 17, 2023 2:16 PM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: RE: [EXTERNAL] November MDWG Meetings

Hydro shouldn't impact the 10/26 meeting too much, I don't think. We aren't bringing back MMU stuff til 11/1. Within the 11/1 bundle, will include all language that's been pulled back over the past handful of meetings (Resource Aggregation, Attachment B, Attachment C, MP Obligations).

On the 11/27 meeting – The only other time that would work is **Thursday, 11/9 – 1:00-5:00 CPT**, without scheduling over other M+ meetings. We could potentially look at **Thursday, 11/16, 12:00-5:00**? The MSWG meets at that time, but I'm wondering if they'll still meet then, since they've made a lot of progress lately.

From: Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>
Sent: Monday, October 16, 2023 5:07 PM
To: Kristen Darden <kdarden@spp.org>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: **External Email** RE: [EXTERNAL] November MDWG Meetings

STOP! This is **NOT** an SPP email.

Be very cautious of any links or attachments unless you recognize this sender - rxmantifel@bpa.gov and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Thanks Kristin.

1) I think 11/27 will be tough since it's the day after Thanksgiving weekend. Are there any other options?
2) I agree that the meeting should move forward
3) I'll look at the agenda. I think we will also need to see where our meeting with hydro folks go this Friday to see how that impacts the agenda.

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, October 16, 2023 2:06 PM
To: Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: [EXTERNAL] November MDWG Meetings

Hey there –

Following up on a couple of things:

1) We need to reschedule the 11/13 MDWG meeting due to NARUC being held in CA at this time. Thoughts on **Monday, 11/27 – 10:30-5:00 CPT?** We will have another meeting the following day, 11/28, as well.
2) 11/1 – we have a meeting 12-5 CPT. Jeff Spires mentioned there's an M+ leadership meeting at that exact same time. I talked with Carrie andshe thinks there shouldn't be that much overlap and we should be good to keep it, but we want to check with you to make sure you are good with keeping the 11/1.
3) Draft 10/26 Joint MDWG/MTWG agenda attached, to be posted by COB Thursday, 10/19. It's a big meeting. Transmission and associated MTU language, GHG, RA, Seams... We need to remind people during the meeting that the language coming from other WGs/TFs that do not fall under the MDWG (such as MSWG, MTWG, MRATF), should not require a lot of discussion. We are just reviewing to make sure it doesn't break the overall market design. The internal M+ Tariff Team has been reviewing this stuff behind the scenes as well, so it will not be the first time we see it.

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Friday, October 20, 2023 12:32 PM
To: Jared Greenwalt; Ian Wren; Keith N. Collins; Trolese, Laura; Mantifel,Russell (BPA) - BT-3; Detmer, Nick; Ching, Vincent; Applegate, Rick; Spires, Jeff
Cc: Alan Isemonger; Jim Gonzalez; Lam, Jessica; Alan Isemonger; Jodi Woods; Raleigh Mohr; Szablya, Steve; Carrie Simpson; Cornelius, Adam; Satyal, Vijay; Szablya, Steve; Hakala, Tuuli; Jaspers, Janet; Spear,Daniel J (BPA) - PGB-5; Kristen Darden; Linn, Michael
Subject: [EXTERNAL] HOLD FOR EXTERNAL MEETING on SHOC
Attachments: HYDRO 102023.pdf

Hello!

Thanks again for the time and honest engagement today. Attached find the presentation we reviewed. I have also included the link to the MRATF where Ian presented the OCC; this was towards the end of the recording. More to come next week in observance of a 11/1 deadline. Please let me know if you have questions in the meantime.

https://mysppmeeting.webex.com/mysppmeeting/ldr.php?RCID=(b)(6)

password:(b)(6)

Kelli Schermerhorn
Lead Analyst, Market Design West
Staff Secretary, M+ Resource Adequacy Task Force

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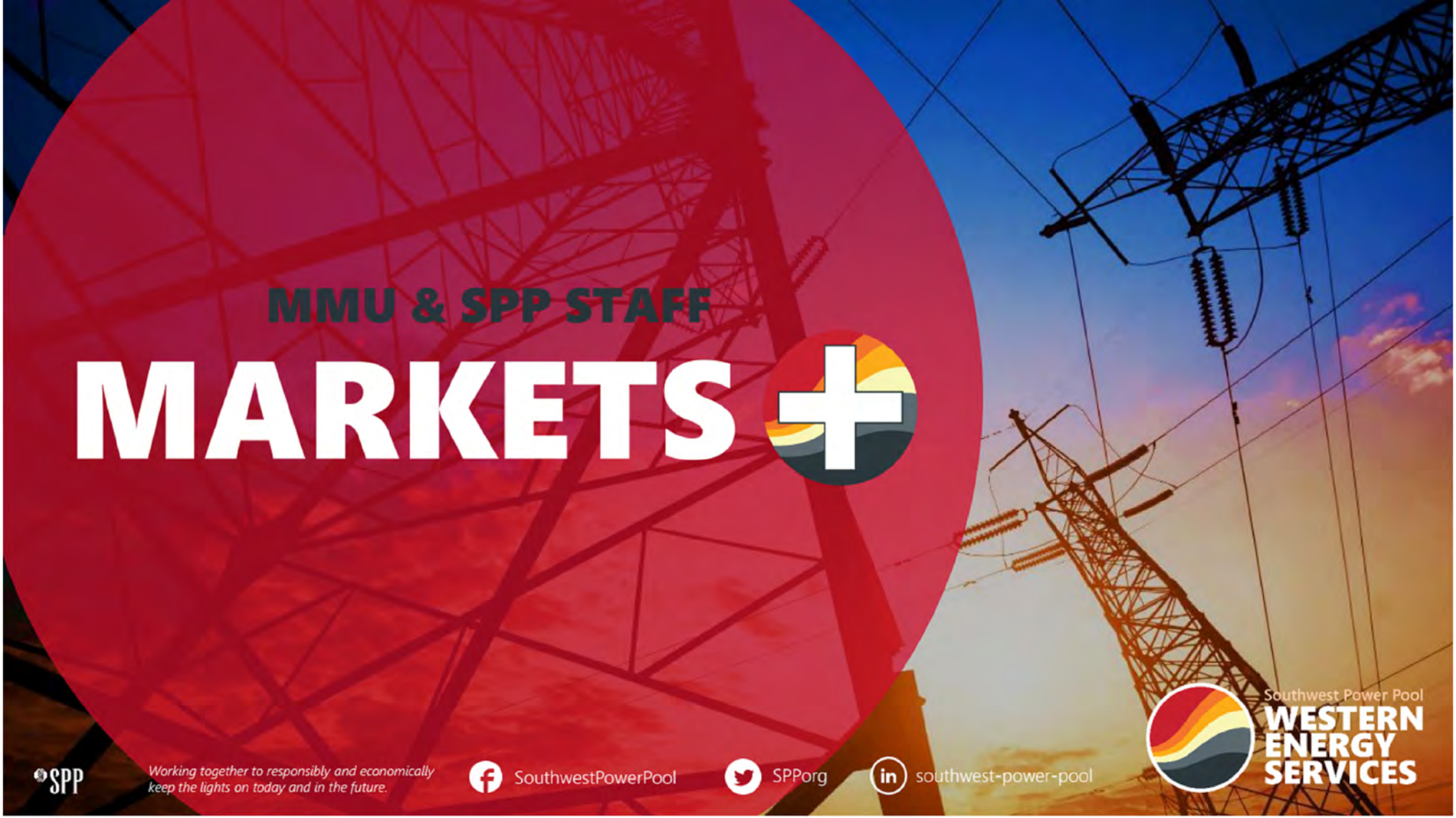
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PURPOSE

Facilitated deep dive on MMU and hydro mitigation to build the BEST TARIFF EVER.

ESSENTIAL POINTS

- Discuss new developments in recognition of stakeholder feedback (THANK YOU)

WIND AND SOLAR IN THE SPP REGION



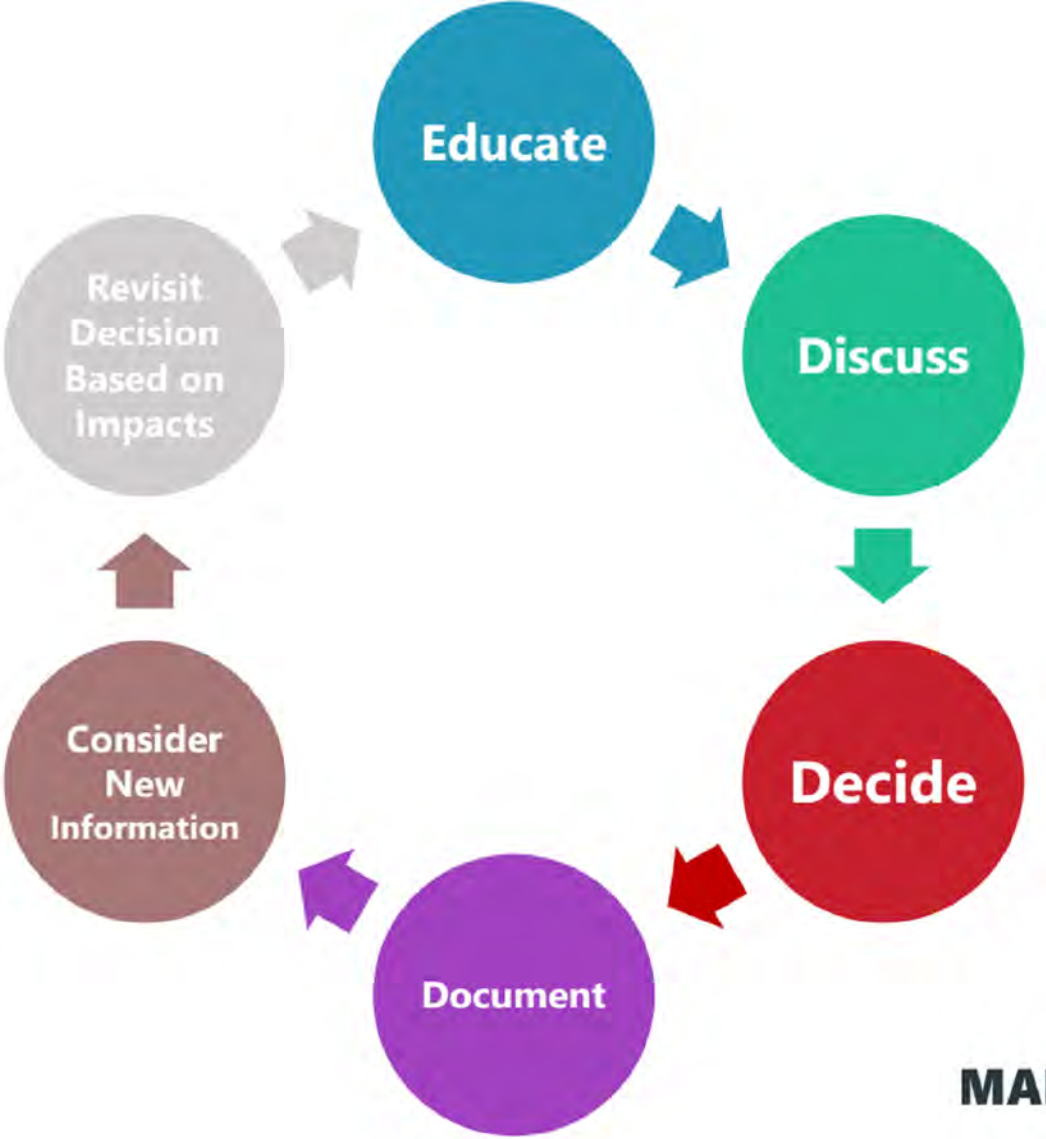
MUTUAL PLANES OF UNDERSTANDING

- Rules people, working towards a common, feasible, DURABLE solution
- Bilateral obligation MP to MO
- Create productive, transparent relationships going forward
- Share enough information to validate decisions

WE HEARD YOU!

- Aggregation approved by MDWG →
- 10% Adder
- Express limitation to financial penalties in must offer

STAKEHOLDER PROCESS



NEW DEVELOPMENTS!

MMU

- MMU – Use of Opportunity Cost Calc for Short term storage resources, and in Q2
- 3.8
- Impact test to include gas volatility measure
- Inclusion of MDWG "NA" status
- CAISO Boilerplate on unecon production (§4.6.1)
- IMIP review included where appropriate
- No continuous data sharing

SPP STAFF

- SPP- data sharing limitations based on Participant Agmt
- Exclusion of all non-tariff, editorial text for subsequent versions
- Satisfaction of Must-offer and operational restrictions based on water management directives made pursuant to legal authority 4.6.4 (2) d - e
- Express limitation to financial penalties in must offer
- Addition of 3.4 + adoption of DEB as emergency off ramps

MARKETS+

ISSUES OUTSTANDING

MMU

- MMU – Use of Opportunity Cost Calc for Short term storage resources, and in Q2
- Regulatory obligations in §4.1.9, etc; regarding resource offer parameters & operating status

SPP STAFF

- Addition of 3.4 + adoption of DEB as emergency off ramps

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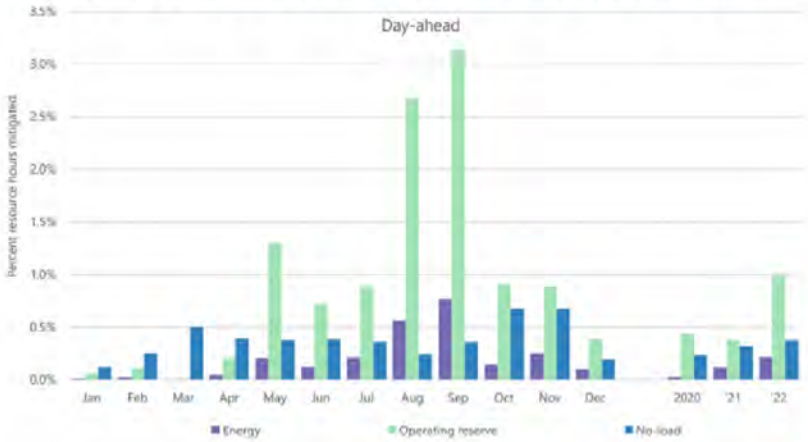
IT'S TRUE THE MODEL IS DIFFERENT!

SPP EAST IM

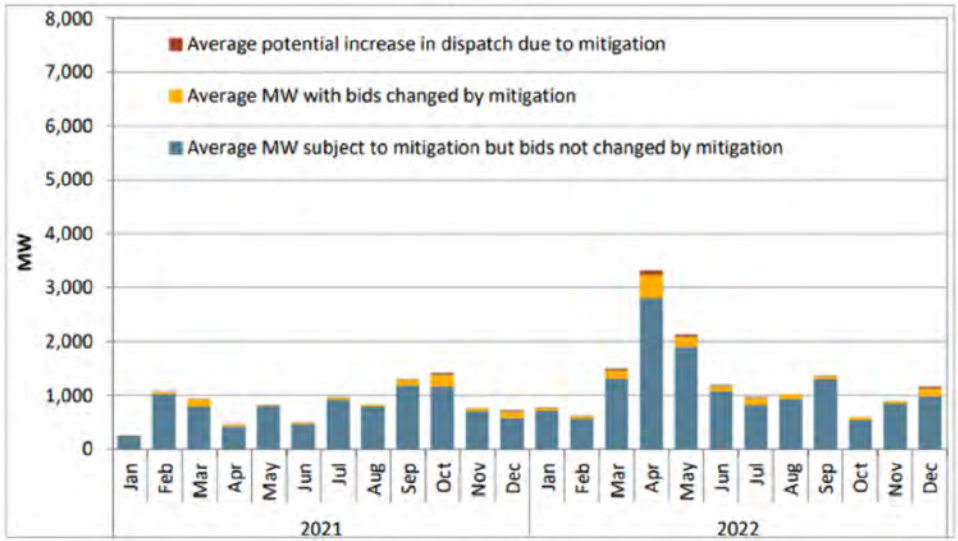
FREQUENCY OF MITIGATION REMAINED LOW



SPP MMU 57

CAISO

Figure 5.8 Average incremental energy mitigated in 5-minute real-time market (WEIM)



- As shown by blue bars in the figures, in the 15-minute market, bids for an average of 1,300 MW were subject to mitigation but not lowered in 2022 compared to 853 MW in 2021. In the 5-minute

SPP

MARKETS+ 9

SPRINGTIME!

ANNUAL



SNOW MELT



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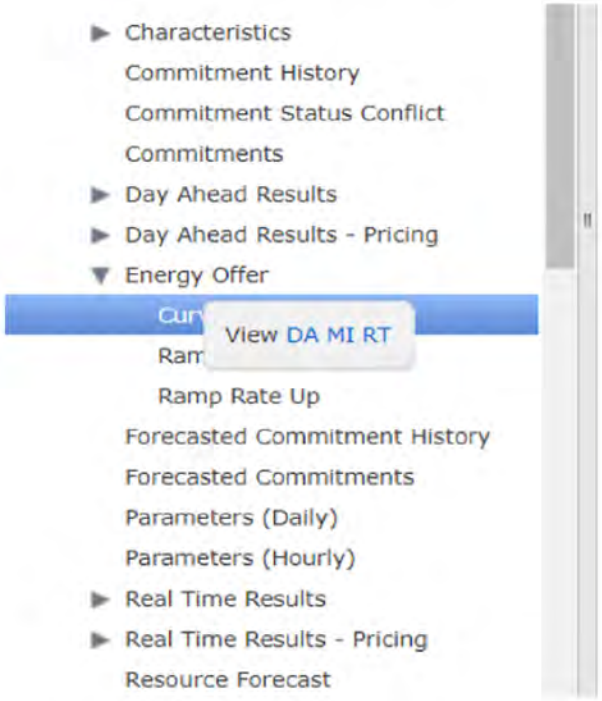
APPENDIX

REFRESHER ON RESOURCE OFFER SCREENS/ PROCESS

RESOURCE OFFER



Hour	Use Slope					Price Curve
01	No	Price MW	$2.6700 10.000	$2.6800 30.000		
02	No	Price MW	$2.6700 10.000	$2.6800 30.000		
03	No	Price MW	$2.6700 10.000	$2.6800 30.000		
04	No	Price MW	$2.6700 10.000	$2.6800 30.000		
05	No	Price MW	$2.6700 10.000	$2.6800 30.000		
06	No	Price MW	$2.6700 10.000	$2.6800 30.000		
07	No	Price MW	$2.6700 10.000	$2.6800 30.000		
08	No	Price MW	$2.6700 10.000	$2.6800 30.000		
09	No	Price MW	$2.6700 10.000	$2.6800 30.000		
10	No	Price MW	$2.6700 10.000	$2.6800 30.000		
11	No	Price MW	$2.6700 10.000	$2.6800 30.000		
12	No	Price MW	$2.6700 10.000	$2.6800 30.000		
13	No	Price MW	$2.6700 10.000	$2.6800 30.000		
Total		**MW**	**240.000**	**720.000**		

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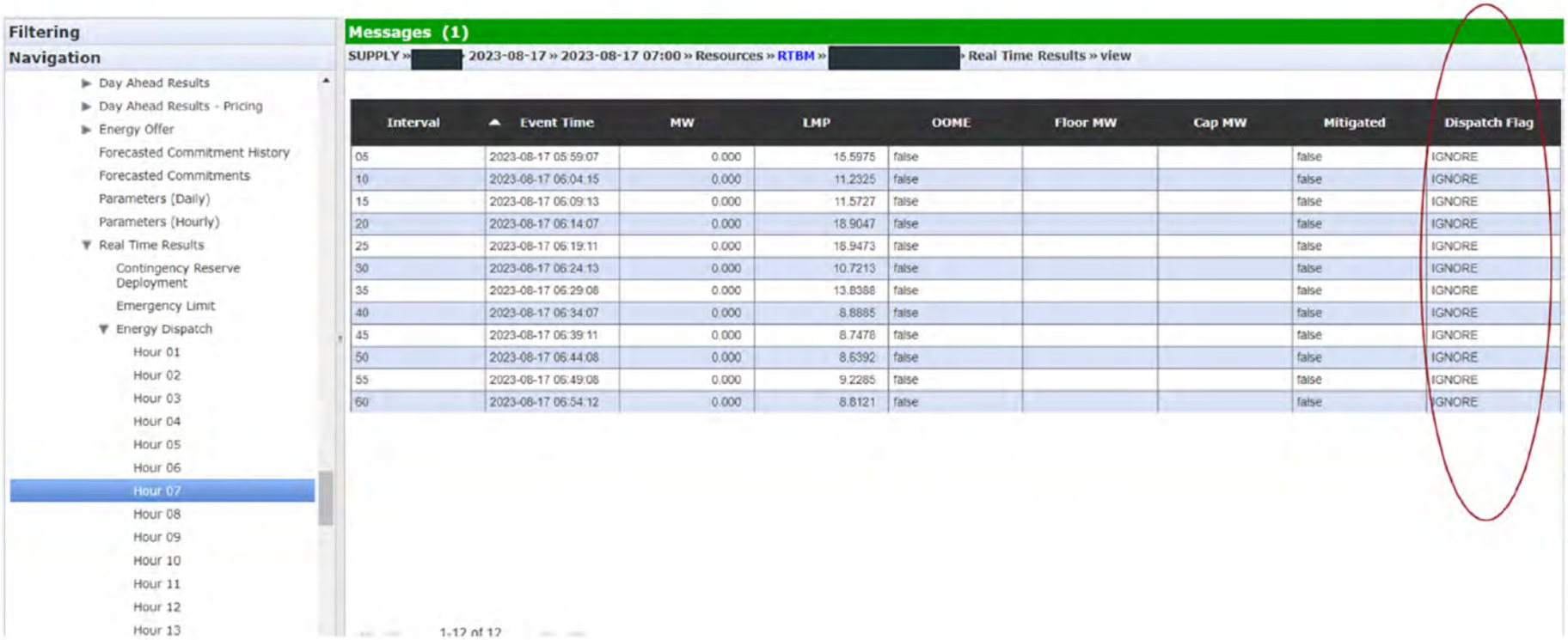

Filtering
Navigation
Day Ahead Results
Day Ahead Results - Pricing
Energy Offer
Forecasted Commitment History
Forecasted Commitments
Parameters (Daily)
Parameters (Hourly)
Real Time Results
Contingency Reserve Deployment
Emergency Limit
Energy Dispatch
Hour 01
Hour 02
Hour 03
Hour 04
Hour 05
Hour 06
Hour 07
Hour 08
Hour 09
Hour 10
Hour 11
Hour 12
Hour 13
Messages (1)
SUPPLY » [redacted] » 2023-08-17 » 2023-08-17 07:00 » Resources » RTBM » [redacted] » Real Time Results » view
Interval | Event Time | MW | LMP | OOME | Floor MW | Cap MW | Mitigated | Dispatch Flag
05 | 2023-08-17 05:59:07 | 0.000 | 15.5975 | false | | | false | IGNORE
10 | 2023-08-17 06:04:15 | 0.000 | 11.2325 | false | | | false | IGNORE
15 | 2023-08-17 06:09:13 | 0.000 | 11.5727 | false | | | false | IGNORE
20 | 2023-08-17 06:14:07 | 0.000 | 18.9047 | false | | | false | IGNORE
25 | 2023-08-17 06:19:11 | 0.000 | 18.9473 | false | | | false | IGNORE
30 | 2023-08-17 06:24:13 | 0.000 | 10.7213 | false | | | false | IGNORE
35 | 2023-08-17 06:29:08 | 0.000 | 13.8388 | false | | | false | IGNORE
40 | 2023-08-17 06:34:07 | 0.000 | 8.8885 | false | | | false | IGNORE
45 | 2023-08-17 06:39:11 | 0.000 | 8.7478 | false | | | false | IGNORE
50 | 2023-08-17 06:44:08 | 0.000 | 8.6392 | false | | | false | IGNORE
55 | 2023-08-17 06:49:08 | 0.000 | 9.2285 | false | | | false | IGNORE
60 | 2023-08-17 06:54:12 | 0.000 | 8.8121 | false | | | false | IGNORE
1-12 of 12

29331963

Filtering

Navigation

- Energy Offer
  - Forecasted Commitment History
  - Forecasted Commitments
  - Parameters (Daily)
  - Parameters (Hourly)
- Real Time Results
  - Contingency Reserve Deployment
  - Emergency Limit
  - Energy Dispatch
  - Ramp Down
  - Ramp Up
  - UNCUP
- Real Time Results - Pricing
- UNCUP Offer

[redacted]

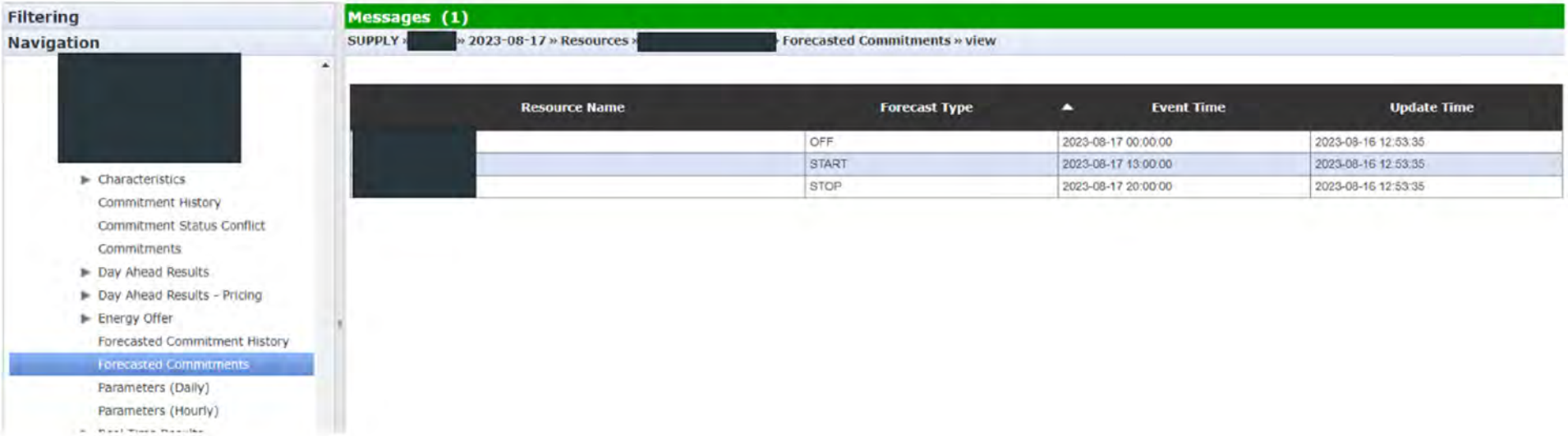
Messages (1)

SUPPLY » [redacted] » 2023-08-17 » Resources » RTBM » [redacted] Parameters (Hourly) » view

Hour	Cold Startup Cost	Intermediate Startup Cost	Hot Startup Cost	Cold Startup Time	Intermediate Startup Time	Hot Startup Time	No Load Cost	Min Emer Limit	Min Eco Limit	Min Normal Limit
01	$367.54	$367.54	$367.54	3:00	3:00	3:00	$61.25	55.0	55.0	55.0
02	$367.54	$367.54	$367.54	3:00	3:00	3:00	$61.25	55.0	55.0	55.0
03	$367.54	$367.54	$367.54	3:00	3:00	3:00	$61.25	55.0	55.0	55.0
04	$367.54	$367.54	$367.54	3:00	3:00	3:00	$61.25	55.0	55.0	55.0
05	$367.54	$367.54	$367.54	3:00	3:00	3:00	$61.25	55.0	55.0	55.0
06	$367.54	$367.54	$367.54	3:00	3:00	3:00	$61.25	55.0	55.0	55.0
07	$367.54	$367.54	$367.54	3:00	3:00	3:00	$61.25	55.0	55.0	55.0
08	$367.54	$367.54	$367.54	0:20	0:20	0:20	$0.00	55.0	55.0	55.0
09	$367.54	$367.54	$367.54	0:20	0:20	0:20	$0.00	55.0	55.0	55.0
10	$367.54	$367.54	$367.54	0:20	0:20	0:20	$0.00	55.0	55.0	55.0
11	$367.54	$367.54	$367.54	0:20	0:20	0:20	$0.00	55.0	55.0	55.0
12	$367.54	$367.54	$367.54	0:20	0:20	0:20	$0.00	55.0	55.0	55.0
13	$367.54	$367.54	$367.54	0:20	0:20	0:20	$0.00	55.0	55.0	55.0
14	$367.54	$367.54	$367.54	0:20	0:20	0:20	$0.00	55.0	55.0	55.0
15	$367.54	$367.54	$367.54	0:20	0:20	0:20	$0.00	55.0	55.0	55.0
16	$367.54	$367.54	$367.54	0:20	0:20	0:20	$0.00	55.0	55.0	55.0
17	$367.54	$367.54	$367.54	0:20	0:20	0:20	$0.00	55.0	55.0	55.0
18	$367.54	$367.54	$367.54	0:20	0:20	0:20	$0.00	55.0	55.0	55.0

Min Reg Limit	Max Emer Limit	Max Eco Limit	Max Normal Limit	Max Reg Limit	Min Emer Runtime	Max Emer Runtime	Offline Supp Max	Offline UNCUP Max	Turn-Around Limit	Energy Dis Statu
	55.0	55.0	55.0		1:00	24:00		0.0	1.00	Market
	55.0	55.0	55.0		1:00	24:00		0.0	1.00	Market
	55.0	55.0	55.0		1:00	24:00		0.0	1.00	Market
	55.0	55.0	55.0		1:00	24:00		0.0	1.00	Market
	55.0	55.0	55.0		1:00	24:00		0.0	1.00	Market
	55.0	55.0	55.0		1:00	24:00		0.0	1.00	Market
	55.0	55.0	55.0		1:00	24:00		0.0	1.00	Market
	55.0	55.0	55.0		1:00	24:00		0.0	1.00	Market
	55.0	55.0	55.0		1:00	24:00		0.0	1.00	Market
	55.0	55.0	55.0		1:00	24:00		0.0	1.00	Market
	55.0	55.0	55.0		1:00	24:00		0.0	1.00	Market
	55.0	55.0	55.0		1:00	24:00		0.0	1.00	Market
	55.0	55.0	55.0		1:00	24:00		0.0	1.00	Market
	55.0	55.0	55.0		1:00	24:00		0.0	1.00	Market
	55.0	55.0	55.0		1:00	24:00		0.0	1.00	Market
	55.0	55.0	55.0		1:00	24:00		0.0	1.00	Market
	55.0	55.0	55.0		1:00	24:00		0.0	1.00	Market
	55.0	55.0	55.0		1:00	24:00		0.0	1.00	Market
	55.0	55.0	55.0		1:00	24:00		0.0	1.00	Market
	55.0	55.0	55.0		1:00	24:00		0.0	1.00	Market

FORECAST COMMITMENT



29331963


SPP Southwest Power Pool
MARKET MONITORING UNIT
OPPORTUNITY COST EDUCATION SESSION
IAN WREN
ENERGY ECONOMIST II, SPP MMU
Helping our members work together to keep the lights on... today and in the future.
SouthwestPowerPool
SPPorg
southwest-power-pool

OPPORTUNITY COST (OC) - INTRO

- Energy-limited resources constitute a fundamental component of the projected Markets+ resource mix
- These limitations can be reflected in two ways:
  - Manually determining when, where, & how much to make (Q)
  - Using offer adders to allow market to dispatch that same quantity as efficiently and profitably as possible (P)
- The MMU has experience dealing with, thinking about, and implementing solutions surrounding OC in the Integrated Marketplace, and in the WEIS

29331963

WHAT IS OPPORTUNITY COST?

Foregone benefit from choosing a certain option – *i.e.* ***"what you give up" when you choose to do something***

If you are limited by run hours, emissions, fuel, starts, water levels, etc. and run **now**, opportunity cost reflects lost profits from your inability to run **later**.

$$OC = Profit_{Foregone} - Profit_{Chosen}$$

29331963

EXAMPLE – CHOOSE ONE INTERVAL TO RUN

A

	Now	Later
Simple Cost	$0	$0
Revenue	$20	$100
Profit	$20	$100

- One resource, one run interval
- Two interval horizon
- Two MCPs, constant costs

Scenario A

Choosing to run now forecloses opportunity to run later, but later would be more profitable. In order to be indifferent between the two intervals, you would have to capture the lost opportunity cost of not running later.

Opportunity Cost = $100 (Foregone) - $20 (Chosen) = **$80**

SCENARIO A EXAMINED

A

	Now	Later
Cost to MCE	$0	$0
Revenue	$20	$100
Profit	$20	$100
Dispatched?	Yes	N/A

Assume that this resource has zero marginal cost and that revenues reflect the Market Clearing Price ("MCP") for an incremental unit of energy.

With a cost of $0 (to the Market Clearing Engine or "MCE"), without a cost adder, any positive MCP solution dispatches the resource, using up its limited fuel supply.

The lost opportunity from that decision is again quantified as $100 - $20 = $80

29331963

SCENARIO A EXAMINED – WITH ADDER

A

	Now	Later
Cost to MCE	$0 + $80	$0 + $80
Revenue	$20	$100
Profit	$20/-$60	$100/$20
Dispatched?	No	Yes

Now we examine how the MCE would dispatch this resource under scenario A, if the unit is allowed to include its opportunity cost.

With a cost of $80, the resource is dispatched when the MCP is $100, and not dispatched when $20. Thus, the inclusion of the opportunity cost adder calculated earlier leads to a profit-maximizing dispatch.

29331963

QUALIFYING CIRCUMSTANCES

SPP Tariff, Attachment AF 3.2(E)

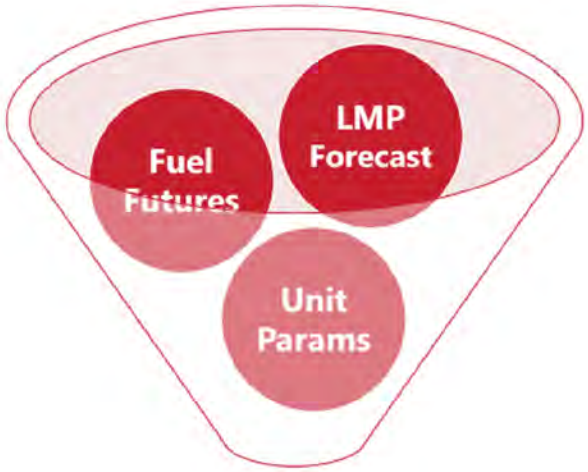
- Externally-imposed environmental run-hour restrictions
- Physical equipment limitations (run hour, fuel burn, starts, MWh, etc.)
- Fuel supply limitations

WEIS Tariff, Attachment B 3.2(D)

- As proposed by Market Participant

29331963

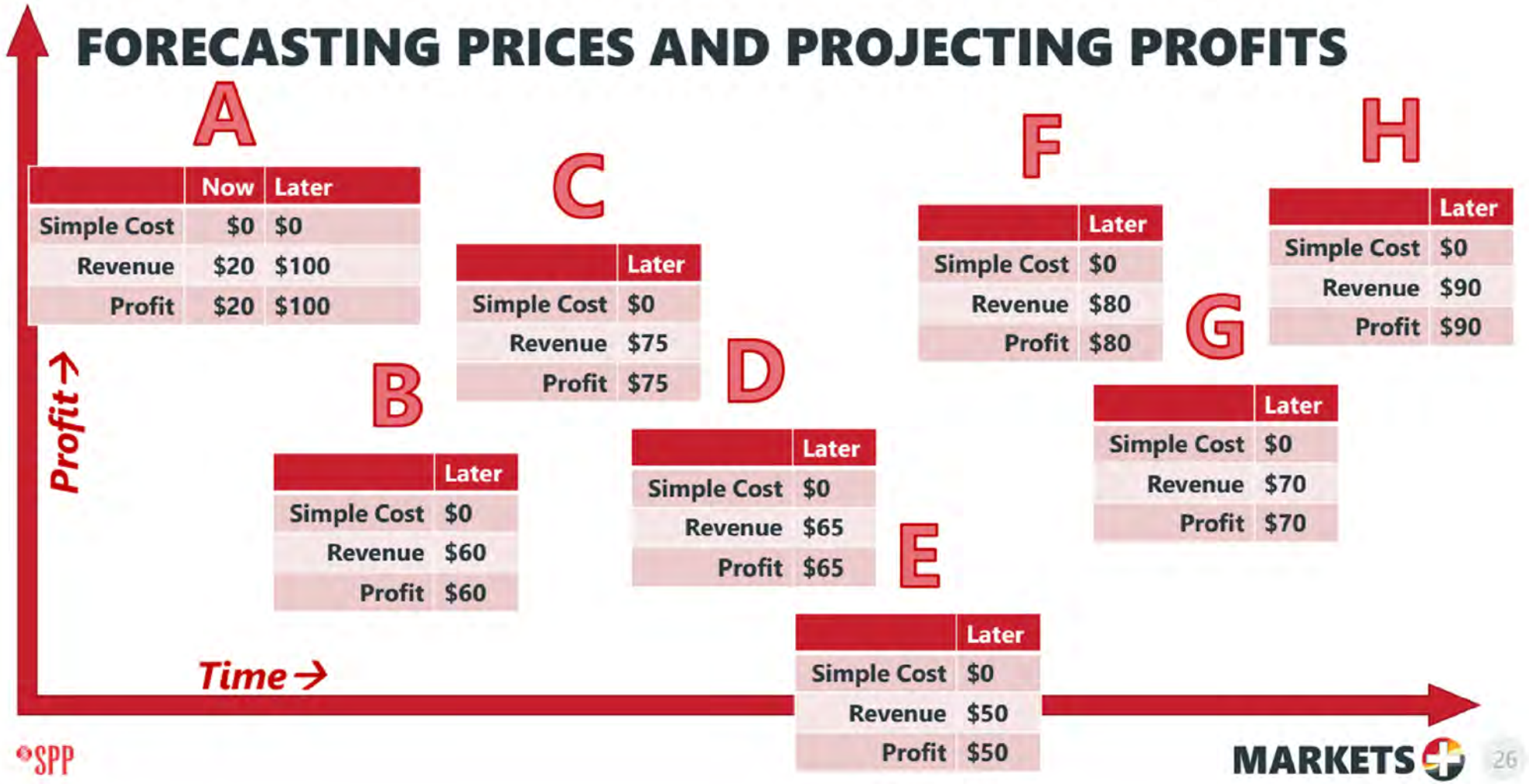
OC CALCULATOR PROCESS – MMU PROVIDED





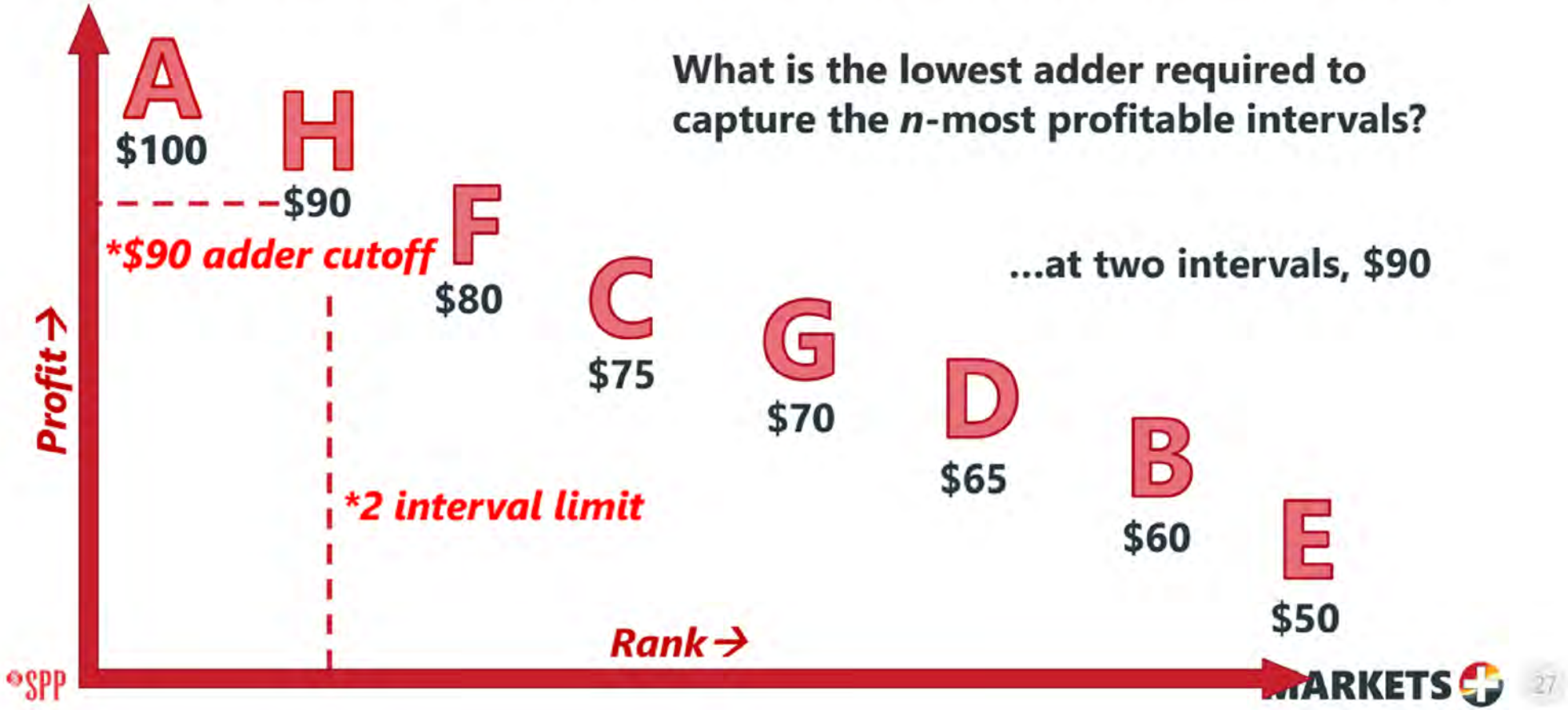
SPP Tariff, Attachment AF 3.2
SPP IM Protocols, Appendix G
SPP WEIS Protocols, Appendix D

FORECASTING PRICES AND PROJECTING PROFITS



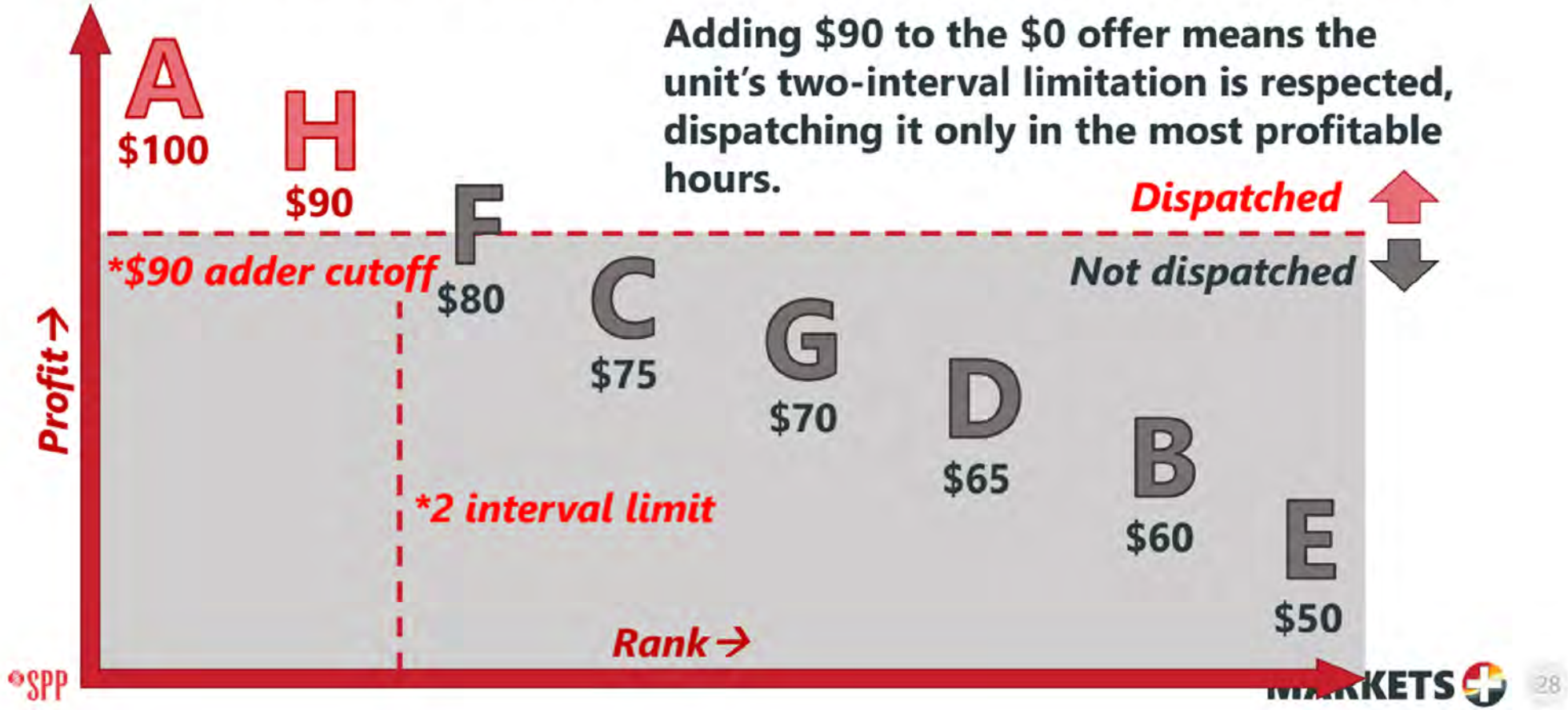
29331963

RANKING BY PROFITABILITY, MEASURING CUTOFF



29331963

RANKING BY PROFITABILITY, MEASURING CUTOFF



MMU SUPPORTS SIMILAR FRAMEWORK IN MARKETS+

- Providing out of the box calculated OC adders still allows for MP-specific methodologies
- Ready to go solution available to all, leveraging existing resources and expertise
- Approachable model using data from reputable providers and at liquid Western hubs
- Foundation to expand upon – new features, improved assumptions, additional resource types, etc



QUESTIONS?

Ian Wren
Energy Economist II
SPP Market Monitoring Unit
iwren@spp.org

SPP Southwest Power Pool WESTERN ENERGY SERVICES



SPP 82 YEARS OF MILESTONES

1941	Formed to support war effort
1968	NERC Regional Council
1980	Telecommunications network
1991	Reserve sharing
1994	Nonprofit status
1997	Reliability coordination
1998	Tariff administration
2004	RTO status
2007	EIS market
2009	Nebraska joins
2010	Regional cost allocation
2010	Integrated Transmission Planning
2013	Regional Balancing Authority
2014	Integrated Marketplace
2015	Integrated System joins
2019	Western Reliability coordination
2020	Resource adequacy-NW Power Pool
2021	Western EIS market

SPP Southwest Power Pool

WELCOME

Please be advised:

- This meeting is being recorded.
- This is a public meeting. Notice of this meeting was posted on the SPP website and publicly announced.
- In addition to industry stakeholders, attendees of today's meeting may include members of the press, representatives of various governmental authorities, or members of the public.

SPP Southwest Power Pool

ANTI-TRUST NOTICE

SPP strictly prohibits use of participation in SPP activities as a forum for engaging in practices or communications that violate the antitrust laws. Please avoid discussion of topics or behavior that would result in anti-competitive behavior, including but not limited to, agreements between or among competitors regarding prices, bid and offer practices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that might unreasonably restrain competition.

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Wednesday, September 27, 2023 11:48 AM
To: Eaton,Sara L (BPA) - PTMA-5; Kochheiser,Todd W (BPA) - TOI-DITT-2; Mantifel,Russell (BPA) - PGL-5
Cc: Holman, Mark
Subject: [EXTERNAL] Powerex Draft Comments on Attachment B & C (Market Power Mitigation and Market Monitoring)
Attachments: PWX Confidential Draft Comments on ATT B & C 9.27.pdf

Hi Russ, Sara and Todd,

As Mark mentioned, we wanted to share our draft comments on the current Attachment B and C (which includes MMU proposed tariff language for Market Power Mitigation Plan and Market Monitoring Plan).

These are due Thursday so we think it is a good opportunity to outline areas of concern while we work on developing key principles and potential tariff language to facilitate hydro participation in Markets+.

Please note that these are not finalized and we may refine them before submission.

Regards,
Jeff

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Powerex Comments on Attachment B (Market Power Mitigation Plan) and Attachment C (Market Monitoring Plan)

Powerex appreciates the opportunity to provide comments on the draft tariff language for Attachment B and C.

Powerex does not support the draft tariff language for Attachment B and C as written. Based on Powerex's initial review, it does not appear that these attachments reflect "boiler-plate" language from SPP's existing markets, and instead the drafts appear to include numerous additional requirements and concepts that do not appear in either the WEIS or RTO tariffs. If these provisions are from the WEIS or RTO, a blackline or table of concordance would be very helpful to assist in our further review and consideration.

In addition, Powerex believes it is important that the tariff provisions of Markets+ be fully compatible with the participation requirements of storage hydro resources, given their prevalence in the region and unique characteristics. More specifically, participation in an organized wholesale electricity market with storage hydroelectric generation resources requires a workable framework that recognizes and preserves the hydro participant's and hydro operator's decision-making autonomy over all aspects of operating the respective hydro system.

Fortunately, participants with storage hydro systems in the western region have already established workable FERC-approved frameworks (working collaboratively with CAISO, WPP and stakeholders) for participating in the Western EIM and the WRAP using supply from these resources. The key elements of these two frameworks are set forth in the Western EIM tariff, the WRAP tariff, as well as multiple participant agreements with CAISO and WPP.

Powerex believes the appropriate starting point for Attachment B and C are provisions drawn from those existing western programs. It is essential that Markets+ contain similar tariff provisions (and similar elements in each participant's agreement) that make participation fully workable for storage hydro resources, and that a gap is not created in the expectations of how storage hydro will participate in Markets+.

During the 9/15 MDWG call, some stakeholders requested a better understanding of Powerex's specific concerns with the draft language. In response to this request, Powerex is providing a summary of some key concerns by reference to particular sections of Attachment B and C.

Attachment B

3.1 Market Participant Communication

- Powerex notes that this language was already brought forward and rejected by the MDWG when proposed to be included as Section 6.9 of Attachment A. Powerex does not support these requirements and notes that this language does not appear to be "boiler plate language" as it is not included in SPP's existing tariff language for either SPP's WEIS or SPP's RTO.

3.2 Market Power Test

- Powerex supports appropriate market design elements to protect against the exercise of market power. To achieve this, Powerex generally supports a Conduct and Impact framework for market power mitigation.
- However, Powerex believes that more conceptual discussion is needed regarding the specific triggers in 3.2 that would determine when the Conduct and Impact tests will be applied. Powerex also is concerned that the provision could be misinterpreted to imply a *per se* finding that a resource "is determined to have market power," absent additional information.
- For example, Powerex would a better understanding of the necessity of applying a BAA-level pivotal supplier test for Markets+. It is not clear to Powerex whether such a BAA-level approach has been applied in the WEIS or other multi-BAA markets or if there are specific characteristics of the Markets+ footprint that warrant this approach. To the extent a BAA-level approach is ultimately supported by stakeholders (and the MIP and the Board) for Markets+, Powerex believes it would require a design that does not result in automatic or frequent mitigation in BAAs with vertically integrated utilities with both supply and demand in the market (as such demand and supply is typically largely offsetting) and/or where there is no wholesale market purchasers within that BAA exposed to the exercise of market power.
- Powerex believes the specific conditions under which the Conduct and Impact tests will be triggered should also be evaluated in combination with a discussion of the proposed conduct and impact thresholds to allow participants to understand the potential frequency and magnitude of market power mitigation.

3.3 Mitigated Offer Calculation Methodology

- Powerex generally supports a Conduct and Impact framework for market power mitigation.
- However, Powerex does not support the language in Section 3.3 (that does not appear to be part of SPP's existing tariff language for WEIS or SPP's RTO) describing the requirement that all participants provide a mitigated cost offer calculation methodology that includes "accurate cost data" and "verifiable supporting documentation". This language is inconsistent with the Hydro DEB approach from the Western EIM that has been successfully applied to storage hydro resources in the West and should be the "boiler plate" starting point for Markets+.
- Importantly, this Western EIM Hydro DEB approach recognizes that no formula or model can accurately produce a hydro participant's estimate of the marginal opportunity cost of its limited supply, which may change from day to day and hour to hour. Recognizing this, the WEIM's Hydro DEB approach is considered a workable method to estimate what the opportunity cost for a storage hydro resource (or aggregate resource) *might be* in most cases under normal conditions. This helps ensure that offer prices (reflecting the hydro participant's dynamic estimates of their opportunity costs) are less likely to be above this reference level on a frequent basis, thereby reducing the occurrence of inaccurate mitigation that results in the release of water uneconomically and/or frequently (which can be highly problematic).

- Powerex notes that this Hydro DEB approach in the WEIM was the result of an extensive stakeholder process that was focused on finding a workable solution for the large storage hydro resources in the West, and that it has already been approved by FERC and in use for over four years.

3.4 Mitigation Measures for Energy Offer Curves

- While Powerex generally supports Conduct and Impact as a framework, discussion of an appropriate conduct threshold is necessary before selecting a value.
- As described above, Section 3.4 should include a dedicated approach for storage hydro using the Hydro DEB approach from WEIM.
- Section 3.4D requires a Resource's mitigated Energy Offer Curve to be the short-run marginal costs of producing energy using "the unit's heat rate or similar production efficiency ratio" and other inputs that are not relevant for hydro resources. To the extent this language is used, it should more specifically refer to the relevant resource types for which it would apply.
- Powerex does not understand the intent of Section 3.4E. The section refers to opportunity costs for "resources that are not ESRs" and includes lengthy explanation of a pricing forecast model using forecast and historical LMPs, heat rates, etc. Powerex does not support this section, as applied to hydro resources.
- Similarly, Section 3.4F is not applicable to hydro resources. To the extent this language is used, it should more specifically refer to the relevant resource types for which it would apply.
- Powerex is aware that some entities with thermal resources have had significant challenges with intra-day fuel cost volatility. Stakeholders should ensure that Section 3.4J provides adequate confidence that such resources will be able to reflect their costs in mitigated energy bids.

3.6 Mitigation Measures for Flexibility Reserve Product Offers

- Powerex believes it is premature to determine whether mitigation of flexible reserve products is necessary in Markets+. Prior to making such a determination, discussion is necessary to define the underlying bidding functionality and requirements for flexible reserves in Markets+ (including the flexibility to communicate the quantity of flexible reserves a participant is willing to make available, the application of bid price caps, etc.).

3.7 Validation of Mitigated Resource Offer

- Powerex does not support this section as currently presented, and specifically the wording that could be interpreted as allowing the MMU to potentially decide, on an ex-post basis, that a particular mitigated offer price is "unacceptable" and subject to a claw back of revenues.
- Powerex does not believe it is appropriate for the MMU to have unilateral ability to require Market Participants to submit an MMU-determined mitigated offer values indefinitely until the dispute is resolved.

- Similar to other areas, this language appears to have been significantly modified relative to what currently appears in the WEIS and SPP RTO (i.e., it is not "boiler plate language" from either market) and Powerex is concerned that it appears to suggest that a previously approved methodology for determining mitigated offer prices could be later rescinded on a retroactive basis.

3.8 Additional Mitigation Measures for Resource Offer Parameters

- Powerex does not understand the need to mitigate non-priced values and would appreciate further information about the purpose of this section, particularly for Markets+.

3.9 Market Impact Test

- While Powerex generally supports Conduct and Impact as a framework, discussion of an appropriate market impact threshold (and appropriate conduct threshold, as discussed above) is necessary before selecting a value.
- Discussion of appropriate thresholds must be consistent with developing an appropriate mitigated offer framework for hydro resources (*i.e.,* similar to WEIM Hydro DEB).

Attachment C

3.1 Staffing Resources

- Should market monitoring for Markets+ report to the MIP?

3.2 Relationships and Notifications

- Should notification of market design or policy problems include the MIP?

4.2 Market Monitoring Scope

- Powerex does not support the scope of data that appears to be go beyond typical information necessary for oversight and review of market operations.
- For example, Powerex does not understand why MMU would need to examine Markets+ participating Balancing Authority Area data, including but not limited to demand, area control error, Net Scheduled Interchange, actual total net interchange, and forecasts of operating reserves and peak demand.
- Powerex does not support a requirement to provide hydro resource cost data or other information related to dispatch decisions of individual facilities or water management activities or the operational planning of hydro systems.
- Powerex notes that the necessary data sharing elements for storage hydro resources in the West has been well established in the WRAP and Western EIM and the same approach should be applied to Markets+.

4.4 Monitoring for Potential Market Manipulation

- Powerex does not support the language in Section 4.4 as currently presented.

- Powerex notes that portions of the language in this section are antiquated; they are a restatement of a FERC market behavior rule that has since been rescinded/revoked. This creates confusion and is unnecessary.

- Powerex is concerned that the draft language includes vague or subjective terminology (*e.g.,* "misleading," "material," "artificial") and provisions that appear to presume the ability and authority of the MMU to accurately determine the quantity of "available supply."

- The draft language appears to provide no exemption for inadvertent, de minimis or other factors inconsistent with manipulation.

- Powerex recommends that section 4.4 be modified to retain only the first and last sentence, as follows: "The Market Monitor will monitor for instances of market manipulation. The Market Monitor will report any market manipulation in a timely manner."

4.6.1 Uneconomic Production

- Powerex does not support the language. Today, hydro participants and hydro operators determine how to allocate limited and uncertain water over time, and in doing so can be expected to be informed by a broad set of interrelated factors, with some inputs known with certainty, and others projected. Markets+ must support the continuation of this decision-making autonomy over water management decisions.

- Hydro operators' and hydro participants' water management activities will necessarily result in supply decisions that consider factors other than market pricing, including periods where an increased volume of water is desired to be released, resulting in actions taken to support elevated levels of generation, with offers as price-taker (*i.e.,* self-schedules) or at relatively low prices. Such operational decisions are to be expected and must not be regarded as uneconomic production.

- Powerex also notes that the Western EIM (and the CAISO markets more generally) enables resource owners to "self- schedule" all, or a portion, of their production at the participant's sole discretion to manage operational needs, and that such activity is a regular, acceptable activity throughout these markets.

4.6.4 and 4.6.4.1 Physical Withholding

- Powerex does not support the language as currently presented. Today, hydro participants and hydro operators determine how to allocate limited and uncertain water over time, and in doing so can be expected to be informed by a broad set of interrelated factors, with some inputs known with certainty, and others projected. Markets+ must support the continuation of this decision-making autonomy over water management decisions.

- Hydro operators' and hydro participants' water management activities will necessarily result in supply decisions that consider factors other than market pricing, including

periods where a limited volume of water is considered available to support additional generation, resulting in limitations in the quantity of energy offered to the market, as reflected in offers of limited volumes or at relatively higher prices. Such operational decisions are to be expected and must not be regarded as physical withholding (or as economic withholding).

8.2 Access to Data and Information

- Powerex opposes this section as currently presented. The WEIS tariff section that appears to form the basis for this language is specifically related to SPP data as market operator. This language has been greatly expanded to include all data from SPP, the BAA, and the market participant, RC and TSP.

8.3 Access to Market Participant Data and Information

- Powerex opposes this section as currently presented, and opposes the requirement to provide any data beyond what is necessary to represent the resource's generation capability and production in the market optimization software for the applicable period.
- Powerex does not support a requirement for market participants to provide data or other information related to water management or the operational planning of hydro systems, data related to resource planning, or the very broad requirement to provide "all data and information used to make decisions in the course of business operations related to market strategy".
- Powerex notes that the necessary data sharing elements for storage hydro resources in the West has been well established in the WRAP and Western EIM and the same approach should be applied to Markets+.

Section 10 Review of Market Monitor

- Powerex proposes this review be performed by the MIP and that the first review take place no later than 3 years after go-live, and at least every 5 years thereafter.

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Tuesday, September 5, 2023 10:44 AM
To: Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] Markets+ check in

Hi Russ

Do you have a few minutes in the next couple of days for a brief check in on a couple of Markets+ topics related to hydro tariff considerations and GHG?

Jeff

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From: Michael Riley <michael.b.riley@spp.org>
Sent: Friday, June 28, 2024 7:56 AM
To: Meyers,Andrew P (BPA) - MTM-3
Cc: Miller,Todd E (BPA) - LP-7; Schaeffer,Virginia K (BPA) - LG-7; Chris Nolen; Cassie Butler; Carrie Simpson; Mantifel,Russell (BPA) - MTM-3; Angela H. Martin
Subject: RE: [EXTERNAL] RE: Phase 1 funding agreement amendment
Attachments: Bonneville Power Administration_Phase 1 Funding Agreement 20230213_Amendment 20240625.pdf

Andy – My apologies; we have had this challenge before. Please let me know if this version works for you.

Thanks
Mike

From: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Sent: Thursday, June 27, 2024 5:15 PM
To: Michael Riley <michael.b.riley@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Schaeffer,Virginia K (BPA) - LG-7 <vkschaeffer@bpa.gov>; Chris Nolen <cnolen@spp.org>; Cassie Butler <cbutler@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Angela H. Martin <amartin@spp.org>
Subject: **External Email** RE: [EXTERNAL] RE: Phase 1 funding agreement amendment

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Hi Mike,

The attachment in the last email didn't have SPP's signatures on it. Any chance you can send over the one that does?

Thanks,
Andy

Andy Meyers
apmeyers@bpa.gov
(w) 503-230-3014 | (c) (b)(6)
Bonneville Power Administration
Market Initiatives – Policy Lead
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

From: Michael Riley <michael.b.riley@spp.org>
Sent: Thursday, June 27, 2024 2:54 PM
To: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Schaeffer,Virginia K (BPA) - LG-7 <vkschaeffer@bpa.gov>; Chris Nolen <cnolen@spp.org>; Cassie Butler <cbutler@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel,Russell (BPA) -

MTM-3 <rxmantifel@bpa.gov>; Angela H. Martin <amartin@spp.org>
Subject: RE: [EXTERNAL] RE: Phase 1 funding agreement amendment

Hi Andy –

Thanks for sending this over. Attached is the fully executed amendment.

Have a great evening –

Mike

From: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Sent: Thursday, June 27, 2024 4:09 PM
To: Michael Riley <michael.b.riley@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Schaeffer,Virginia K (BPA) - LG-7 <vkschaeffer@bpa.gov>; Chris Nolen <cnolen@spp.org>; Cassie Butler <cbutler@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] RE: Phase 1 funding agreement amendment

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Hi Mike,

Please find attached an electronically signed copy of the phase amended funding agreement. Please let us know if the electronic signature is insufficient.

Thanks
Andy

Andy Meyers
apmeyers@bpa.gov
(w) 503-230-3014 | (c)(b)(6)
Bonneville Power Administration
Market Initiatives – Policy Lead
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

From: Michael Riley <michael.b.riley@spp.org>
Sent: Tuesday, June 25, 2024 12:39 PM
To: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Schaeffer,Virginia K (BPA) - LG-7 <vkschaeffer@bpa.gov>; Chris Nolen <cnolen@spp.org>; Cassie Butler <cbutler@spp.org>; Carrie Simpson <csimpson@spp.org>
Subject: [EXTERNAL] RE: Phase 1 funding agreement amendment

Hi, Andy –
We can easily make that change. Cassie can make that edit and send back for execution.

Thanks!
Mike

From: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Sent: Tuesday, June 25, 2024 2:31 PM
To: Michael Riley <michael.b.riley@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Schaeffer,Virginia K (BPA) - LG-7 <vkschaeffer@bpa.gov>; Chris Nolen <cnolen@spp.org>; Cassie Butler <cbutler@spp.org>; Carrie Simpson <csimpson@spp.org>
Subject: **External Email** Phase 1 funding agreement amendment

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Be very cautious of any links or attachments unless you recognize this sender - apmeyers@bpa.gov and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Hi Mike,

Thanks for sharing the phase 1 funding agreement amendment with Todd and Joel. It has been routed around to a few more of us at Bonneville for review. One of our attorneys (Virginia) had a few proposed revisions which I have attached. Her suggestion is to replace "Company" with "Bonneville". I suspect that might have been planned for the final version which Joel will need to sign. However, I wanted to double check that the proposed revisions were okay. Please let me know if the revisions look fine. Please send us a final version for signing or let me know that we can accept the revisions to create the version for signature.

Thanks,
Andy

Andy Meyers
apmeyers@bpa.gov
(w) 503-230-3014 | (c) (b)(6)
Bonneville Power Administration
Market Initiatives – Policy Lead
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

SPP MARKETS+

PHASE 1 FUNDING AGREEMENT AMENDMENT

This Amendment is made by and entered into as of the date it is fully executed by and between Southwest Power Pool, Inc. ("SPP") and the UNITED STATES OF AMERICA, Department of Energy, acting by and through the BONNEVILLE POWER ADMINISTRATION ("Bonneville") ("Amendment"). Bonneville and SPP entered into a SPP Markets+ Phase 1 Funding Agreement effective February 23, 2023 (the "Agreement"). This Amendment is pursuant to the terms of the Agreement. Except as specifically provided in this Amendment, all other terms and conditions of the Agreement remain unaltered and in full force and effect.

Both parties mutually agree to amend the Agreement to reflect the following changes:

1. Section 1(c) is deleted in its entirety and replaced with:

1. Effective Date and Term.

(c) The term of the Agreement ("Term") shall commence on the Effective Date and shall terminate (1) when all of the following occur: (i) FERC has issued an order approving the necessary Markets+ tariff; (ii) SPP has secured all necessary Markets+ Phase 2 financing, including the approval of that financing by FERC under Section 204 of the Federal Power Act; (iii) SPP has obtained access to Markets+ Phase 2 funds; and, (iv) Markets+ Phase 2 funding obligations in the Phase 2 funding contracts become effective in accordance with their terms; or (2) in accordance with Section 2 of this Agreement; or (3) on such other date as mutually agreed to by the Parties ("Termination Date").

2. Section 3 is deleted in its entirety and replaced with:

3. Markets+ Phases.

(a) As described in Section 2.2.1.1 of the final proposal for SPP Markets+ ("Final Service Offering"), Bonneville will have the right to vote in the stakeholder process in Phase 1 during the Term of this Agreement. SPP will complete the Markets+ tariff and other governing documents and submit the tariff to FERC for approval. Phase 1 will be completed on the Filing Date. After the Filing Date, Post Phase 1 will begin to support the responses, technical analysis and research necessitated by FERC filing and will continue until Phase 2 begins.

(b) Upon the Termination Date, SPP will begin Phase 2 of Markets+, which will encompass the systems and processes changes required for implementation. The terms and conditions for funding and participating in Phase 2 will be addressed in a separate agreement.

3. Section 4(a) is deleted in its entirety and replaced with:

4. Funding and Payments.

29331977

(a) The costs expected to be incurred by SPP to complete Phase 1 are identified in Exhibit A as the "Phase 1 Funding Fee" and "Post Phase 1 Monthly Run Rate." Bonneville shall pay SPP (1) a percentage of the Phase 1 Funding Fee ("Phase 1 Obligation"), and (2) a percentage of the Post Phase 1 Monthly Run Rate identified in Exhibit A ("Post Phase 1 Monthly Obligation") for each month after the completion of Phase 1 and until this Agreement is terminated as described in Sections 1(c) and 2, subject to adjustment only as described in Section 4(b). Except as provided in Section 2(e), no payment made under Section 4 will be returned or refunded. Bonneville's percentage for the purposes of determining the Phase 1 Obligation and Post Phase 1 Monthly Obligation will be specified in Exhibit A and based on Bonneville's 2021 NEL or 2021 generation output (if Bonneville is participating only with generation) measured in MWh versus total aggregate 2021 NEL and generation output for Bonneville and all Remaining Participants. The calculation of Bonneville's Phase 1 Obligation and Post Phase 1 Monthly Obligation is specified in Exhibit A and will be recalculated if the aggregate NEL and generation output for all Remaining Participants changes.

29331977

IN WITNESS WHEREOF, each of the Parties has caused its duly authorized officer to execute this Amendment.

Bonneville Power Administration

Joel D. Cook

Name of Authorized Representative

Chief Operating Officer

Title of Authorized Representative

JOEL COOK Digitally signed by JOEL COOK Date: 2024.08.27 11:33:11 -07'00'

Signature of Authorized Representative

Date of Execution

Southwest Power Pool, Inc.

Lanny Nickell

Name of Authorized Representative

Chief Operating Officer

Title of Authorized Representative

Lanny Nickell Digitally signed by Lanny Nickell Date: 2024.08.27 16:36:48 -05'00'

Signature of Authorized Representative

Date of Execution

From: Applegate, Rick <rapplegate@cityoftacoma.org>
Sent: Thursday, August 3, 2023 12:08 PM
To: Kristen Darden; Cornelius, Adam; Ching, Vincent; Trolese, Laura; Mantifel,Russell (BPA) - PGL-5
Cc: Chris Nolen; Kelli Schermerhorn; Jim Gonzalez; Rachel Kane; Emon Mahony
Subject: [EXTERNAL] RE: Markets+ Tariff - Hydro Aggregation Definition and Language
Attachments: Markets+ Tariff_Hydro Aggregation Language_RAedits.docx

Thank you Kristen for providing draft hydro aggregation language. I would like to propose the attached revisions, with changes tracked. They accomplish two things:

1. Remove the requirements that the hydro resources share a common hydrological basin and common river system.
2. Add the requirement that aggregation does not create a reliability issue as determined by any potentially affected TSPs.

Admittedly, our situation in Tacoma is probably a little unique. We operate a pair of hydro projects (four dams) that because of their close proximity to salt water do not share a common river system but for purposes of the transmission system essentially operate in the same location. The changes that I am proposing would enable us to aggregate those resources, but only if our neighboring TSPs did not object.

Thank you and best regards,

Rick

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, July 31, 2023 7:21 AM
To: Cornelius, Adam <accornelius@snopud.com>; Ching, Vincent <vincent.ching@pse.com>; Trolese, Laura <ltrolese@teainc.org>; Applegate, Rick <rapplegate@cityoftacoma.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Chris Nolen <cnolen@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>
Subject: Markets+ Tariff - Hydro Aggregation Definition and Language

Good morning all –

I have attached the rough draft language that we have worked on internally for the definition and resource participation model for Hydro Aggregation. Please review and provide your comments and edits for review. We appreciate you standing up to volunteer to help get the ball rolling in the right direction for this.

Thank you!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

29331982

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From: Dibble,Rachel L (BPA) - PT-5
Sent: Thursday, March 14, 2024 10:42 AM
To: Kim O'Guinn; Chong Tim,Marcus H (BPA) - L-7; Mantifel,Russell (BPA) - MTM-3; Manary,Michelle L (BPA) - TS-DITT-2
Cc: Paul Suskie; Len Tao; Antoine Lucas; Carrie Simpson
Subject: RE: [EXTERNAL] Markets+ Next Steps

Confirming that BPA will attend the FERC briefings in DC on March 26. Michelle Manary and I will represent BPA. Please provide any details you have on agenda/arrangements so we can get our travel plans finalized. Thanks.

-----Original Appointment-----
From: Kim O'Guinn <koguinn@spp.org>
Sent: Tuesday, March 12, 2024 8:55 AM
To: Kim O'Guinn; Chong Tim,Marcus H (BPA) - L-7; Mantifel,Russell (BPA) - MTM-3; Dibble,Rachel L (BPA) - PT-5
Cc: Paul Suskie; Len Tao; Antoine Lucas; Carrie Simpson
Subject: [EXTERNAL] Markets+ Next Steps
When: Wednesday, March 13, 2024 3:30 PM-3:45 PM (UTC-06:00) Central Time (US & Canada).
Where: Microsoft Teams Meeting

Microsoft Teams meeting

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Phone Conference ID: (b)(6) #
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From: Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>
Sent: Monday, March 11, 2024 7:33 PM
To: Kim O'Guinn <koguinn@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Dibble, Rachel <rldibble@bpa.gov>

Cc: Paul Suskie <psuskie@spp.org>; Len Tao <ltao@spp.org>; Antoine Lucas <alucas@spp.org>; Carrie Simpson <csimpson@spp.org>
Subject: **External Email** RE: [EXTERNAL] Markets+ Next Steps

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Please click the "Report Phish" button if you are unsure about this email.

Thanks, Kim. The afternoon works best for me as well.

From: Dibble,Rachel L (BPA) - PT-5 <rldibble@bpa.gov>
Sent: Monday, March 11, 2024 9:38 AM
To: Kim O'Guinn <koguinn@spp.org>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Paul Suskie <psuskie@spp.org>; Len Tao <ltao@spp.org>; Antoine Lucas <alucas@spp.org>; Carrie Simpson <csimpson@spp.org>
Subject: RE: [EXTERNAL] Markets+ Next Steps

Anytime after noon PST works for me.

From: Kim O'Guinn <koguinn@spp.org>
Sent: Monday, March 11, 2024 8:58 AM
To: Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Dibble,Rachel L (BPA) - PT-5 <rldibble@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Paul Suskie <psuskie@spp.org>; Len Tao <ltao@spp.org>; Antoine Lucas <alucas@spp.org>; Carrie Simpson <csimpson@spp.org>
Subject: [EXTERNAL] Markets+ Next Steps

Good morning, All,

I hope this message finds you well. As you know, the tariff for Markets+ has been approved by the MPEC and IMIP. It is scheduled for approval by the SPP Board of Directors at a Special Meeting on March 25, 2024. We would like to schedule a brief meeting to discuss our plans regarding the FERC filing. Would you be available for a 15-minute call on **Wednesday, March 13, 2024**, at a time that works best for you? Please let me know if this date works for you; if you need a different day and time, suggest an alternate day and time that would be more convenient.
Thank you for your time and commitment. We look forward to speaking with you soon.

Best Regards,
Kim

Kim O'Guinn | Senior Director, State Regulatory Policy | koguinn@spp.org (b)(6)
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, February 13, 2024 7:49 AM
To: Detmer, Nick; Mantifel,Russell (BPA) - MTM-3
Subject: RE: [EXTERNAL] RE: MDWG Public Power Seat - Vacancy Update

(b)(6)

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Tuesday, February 13, 2024 8:09 AM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Kristen Darden <kdarden@spp.org>
Subject: **External Email** RE: [EXTERNAL] RE: MDWG Public Power Seat - Vacancy Update

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Please click the "Report Phish" button if you are unsure about this email.

(b)(6)

From: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Sent: Monday, February 12, 2024 4:57 PM
To: Kristen Darden <kdarden@spp.org>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Subject: RE: [EXTERNAL] RE: MDWG Public Power Seat - Vacancy Update

EXTERNAL - STOP & THINK before opening links and attachments.

I would support that as well

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, February 12, 2024 3:27 PM
To: Detmer, Nick <nick.detmer@xcelenergy.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: [EXTERNAL] RE: MDWG Public Power Seat - Vacancy Update

Good evening guys –

I wanted to follow-up on my email below. Did ya'll have a recommendation?

From: Kristen Darden
Sent: Thursday, February 8, 2024 8:41 AM
To: Detmer, Nick <nick.detmer@xcelenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: MDWG Public Power Seat - Vacancy Update

Hey there –

We had two nominations for Public Power empty MDWG seat:

(b)(6)

(b)(6)

I need to let Brian Cole (APS) and Laura Trolese (TEA) our decision, and the MPEC will vote during their 2/20 meeting.

Thanks!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C (b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Tuesday, April 9, 2024 5:26 PM
To: Aaron Shipley; Truong,Mai N (BPA) - TSB-TPP-2
Cc: Mantifel,Russell (BPA) - MTM-3; Kirby,Elizabeth A (BPA) - MTM-3
Subject: Re: [EXTERNAL] Final Feedback Opportunity: Markets+ High Priority Imports and Exports Survey Closes Today

Thank you! I'll check for BPA's response early tomorrow.

Get Outlook for iOS

From: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Sent: Tuesday, April 9, 2024 6:19:27 PM
To: Kelli Schermerhorn <kschermerhorn@spp.org>; Aaron Shipley <ashipley@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Kirby, Libby <eakirby@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] Final Feedback Opportunity: Markets+ High Priority Imports and Exports Survey Closes Today

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Please click the "Report Phish" button if you are unsure about this email.

Hi Kelli and Aaron,
I just submitted BPA's responses. I didn't see this email until just now which has a 7pm CT close (original email just says COB deadline) so hopefully our survey responses made the cut.

Just wanted to flag that I didn't see question about BPA's VERBS (see below) until I was submitting BPA's responses just now so wasn't sure if I missed it or was added after the original survey email. I had transferred the questions to a word document for internal review so if it was added later, we didn't see it.

> Does your company believe that generation supported by Balancing Authority balancing services such BPA's VERBS or PSCO's Schedule 16 would mean those exports are high priority?

Will get it reviewed internally for a BPA response to share on Thursday.

Please let me know if you have any questions.

Thanks,
Mai

From: SPP Markets+ <marketsplus@spp.org>
Sent: Tuesday, April 9, 2024 9:22 AM
To: Markets+ Resource Adequacy Task Force (Members Only) <MarketsPlusResourceAdequacyTaskForce@spp.org>; Markets+ Seams Working Group (Members Only) <MarketsPlusSeamsWorkingGroup@spp.org>
Cc: Aaron Shipley <ashipley@spp.org>; Contractor-Kevin Morelock <contractor-kmorelock@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>
Subject: [EXTERNAL] Final Feedback Opportunity: Markets+ High Priority Imports and Exports Survey Closes Today

Hello again Markets+ Stakeholders and Friends,

This is a final reminder to please provide your feedback concerning **Markets+ protocol-related** in this short High Priority Imports and Exports Survey (please click here to take the survey).

The Markets+ Resource Adequacy Task Force (MRATF) and Markets+ Seams Working Group (MSWG) are using this survey effort to collect input regarding how the Markets+ protocols should address high priority transactions. The goal is to receive stakeholder feedback that will be reviewed at the next MSWG meeting on April 11. This feedback and anticipated discussion should provide context to help finalize applicable sections of the interchange protocol language to be reviewed at the meeting on May 9.

If you have any questions please reach out to either Aaron Shipley ashipley@spp.org or Kelli Schermerhorn kschermerhorn@spp.org.

The High Priority Imports and Exports Survey closes today at 7:00 p.m. CT.

We appreciate your participation, thank you!

From: Christine Dillard <cdillard@spp.org>
Sent: Thursday, September 21, 2023 5:53 AM
To: Chris Nolen; Fina, Giuseppe (Joe); Pettit, David E; Gorlin@WAPA.GOV; Alaine Ginocchio; Jason.Kuzma@pse.com; Engelby, Ben; Charles.VonReis@chelanpud.org; Miller,Todd E (BPA) - LP-7; 'Karilee S Ramaley'; Irene Scruggs; Gilhen, Jonathan; Sabers, Cathy; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7; Lee Engel; Davis,Thomas E (BPA) - LT-7; Kallstrom, Jeffrey; Starnes, Heather; Schaeffer,Virginia K (BPA) - LG-7
Cc: Emon Mahony; Rachel Kane; Joseph Ghormley; Kristen Darden; Carrie Simpson; Mantifel,Russell (BPA) - PGL-5; Michael Riley
Subject: [EXTERNAL] RE: [External Sender] RE: Markets+ Legal Group Meeting

Hi all,
The redline file has been updated: ATTACHMENT H_with_VIRTUAL_language_redline_9.12.23.docx

Thanks,

Christine Dillard | Attorney, Markets & Regulatory Policy
cdillard@spp.org | (b)(6) (c)

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Working together to responsibly and economically keep the lights on today and in the future.

From: Chris Nolen <cnolen@spp.org>
Sent: Wednesday, September 20, 2023 5:31 PM
To: Fina, Giuseppe (Joe) <gfina@snopud.com>; Christine Dillard <cdillard@spp.org>; Pettit, David E <David.E.Pettit@xcelenergy.com>; Gorlin@WAPA.GOV; Alaine Ginocchio <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; Todd Miller <temiller@bpa.gov>; 'Karilee S Ramaley' <Karilee.Ramaley@srpnet.com>; Irene Scruggs <iscruggs@ppcpdx.org>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; Lee Engel <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; Schaeffer,Virginia K (BPA) - LG-7 <vkschaeffer@bpa.gov>
Cc: Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Michael Riley <michael.b.riley@spp.org>
Subject: RE: [External Sender] RE: Markets+ Legal Group Meeting

All-

Please note there is a material change to Article 4, Section 4.1.1 of the Credit Policy *that did not show up as redline.*

The section in Article 4 of the Credit Policy that should have appeared as redline reads:
4.1.1 Unsecured Credit Allowance during the Initial Three-Years of Markets+. During the initial three-years of Markets+, granting of an Unsecured Credit Allowance will be suspended.

We will correct the issue on the M+ Legal Group sharepoint this week.

Thank you!

cmn

Christopher M. Nolen
Managing Attorney
Southwest Power Pool, Inc.
cnolen@spp.org
501.482.2394 office
(b)(6) [redacted] mobile

From: Fina, Joe <GFina@SNOPUD.com>
Sent: Tuesday, September 12, 2023 1:24 PM
To: Christine Dillard <cdillard@spp.org>; Pettit, David E <David.E.Pettit@xcelenergy.com>; Gorlin@WAPA.GOV; Alaine Ginocchio <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; Todd Miller <temiller@bpa.gov>; 'Karilee S Ramaley' <Karilee.Ramaley@srpnet.com>; Irene Scruggs <iscruggs@ppcpdx.org>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; Lee Engel <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; Schaeffer,Virginia K (BPA) - LG-7 <vkschaeffer@bpa.gov>
Cc: Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Michael Riley <michael.b.riley@spp.org>; Chris Nolen <cnolen@spp.org>
Subject: **External Email** RE: [External Sender] RE: Markets+ Legal Group Meeting

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A few more comments/edits from BPA....Again, this version is also on SharePoint now.

From: Fina, Joe
Sent: Tuesday, September 12, 2023 10:27 AM
To: Christine Dillard <cdillard@spp.org>; Pettit, David E <David.E.Pettit@xcelenergy.com>; Gorlin@WAPA.GOV; Alaine Ginocchio <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; Todd Miller <temiller@bpa.gov>; 'Karilee S Ramaley' <Karilee.Ramaley@srpnet.com>; Irene Scruggs <iscruggs@ppcpdx.org>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; Lee Engel <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; Schaeffer,Virginia K (BPA) - LG-7 <vkschaeffer@bpa.gov>
Cc: Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Michael Riley <michael.b.riley@spp.org>; Chris Nolen <cnolen@spp.org>
Subject: RE: [External Sender] RE: Markets+ Legal Group Meeting

Thanks, Christine.

So that we can work off one draft today, I have combined all the changes to the credit policy onto the attached document. The document is also uploaded onto SharePoint. It is preferred that any additional changes be made to the SharePoint version.

Thanks, and chat with you in a couple of hours.

Joe

From: Christine Dillard <cdillard@spp.org>
Sent: Tuesday, September 12, 2023 6:10 AM
To: Fina, Joe <GFina@SNOPUD.com>; Pettit, David E <David.E.Pettit@xcelenergy.com>; Gorlin@WAPA.GOV; Alaine Ginocchio <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; Todd Miller <temiller@bpa.gov>; 'Karilee S Ramaley' <Karilee.Ramaley@srpnet.com>; Irene Scruggs <iscruggs@ppcpdx.org>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; Lee Engel <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>
Cc: Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Michael Riley <michael.b.riley@spp.org>; Chris Nolen <cnolen@spp.org>
Subject: [External Sender] RE: Markets+ Legal Group Meeting

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Hi all,
Attached, please find a redlined version of the Credit Policy and a clean version of that redline, both posted to sharepoint.

Thanks,

Christine Dillard | Attorney, Markets & Regulatory Policy
cdillard@spp.org | (b)(6) (c)

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From: Fina, Joe <GFina@SNOPUD.com>
Sent: Monday, September 11, 2023 11:29 AM
To: Chris Nolen <cnolen@spp.org>; Pettit, David E <David.E.Pettit@xcelenergy.com>; Gorlin@WAPA.GOV; Alaine Ginocchio <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; Todd Miller <temiller@bpa.gov>; 'Karilee S Ramaley' <Karilee.Ramaley@srpnet.com>; Irene Scruggs <iscruggs@ppcpdx.org>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; Lee Engel <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>
Cc: Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Michael Riley <michael.b.riley@spp.org>; Christine Dillard <cdillard@spp.org>
Subject: **External Email** Markets+ Legal Group Meeting

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All,

We will be meeting tomorrow from 12:30-2p.m. pacific to discuss the credit policy. Here is link to the policy on the SharePoint: ATTACHMENT H Credit Policy.docx. Feel free to forward to others in your organizations that may be interested.

Joe

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From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, April 10, 2024 12:20 PM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] 4/9/24 MDWG Follow-up
Attachments: 4 9 MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx; MarketsPlus Protocol Drafting Document_TEMPLATE.docx; RMS Submission_Markets+ Protocols Comments.pptx

Good afternoon MDWG stakeholders and participants –

Three documents attached for you:

1. 4/9 MDWG summary of motions, AIs, and future meetings
2. MarketsPlus Protocol Drafting Document_TEMPLATE (*This is also located on SPP.org, on the MDWG page here)
3. RMS Submission_Markets+ Protocols Comments

Both protocol documents have been updated in 4/9/24 MDWG Materials, using the referenced template, to include corresponding Tariff sections.

Please submit any comments/redlines you may have for both protocol attachments in the 4/9 materials by **COB Wednesday, 4/17/2024**.

Thank you!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

You are currently subscribed to mdwg as: rxmantifel@bpa.gov.

To unsubscribe click here:
http://10.23.18.35/u?id=234284.4924ede4b09f20571c7af2310687f4ba&n=T&l=mdwg&o=128073

(It may be necessary to cut and paste the above URL if the line is broken)

or send a blank email to leave-128073-234284.4924ede4b09f20571c7af2310687f4ba@spplist.spp.org

SPP Southwest Power Pool

MARKETS+

SOUTHWEST POWER POOL, INC.
MARKETS+ DESIGN WORKING GROUP MEETING
4/9/2024
Net-Conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

1. **Agenda Item 3 – Consent Agenda**

   Motion: Russ Mantifel (BPA) motioned to approve the consent agenda. Nick Detmer (Xcel) provided the second. Motion carried with two abstentions (WRA and Tacoma).

ACTION ITEM:

Action Item: SPP staff will bring back to a future MDWG meeting Turn-Around Ramp Rate Factors (TARRF) examples.

Action Item: SPP staff will bring back to a future MDWG meeting an Electric Storage Resource (ESR) education session, including ESR impacting Settlements.

FUTURE MEETINGS:

MDWG Future Meeting Registration
Date: May 14th, 2024
Location: Net-Conference
Time: 11:00 a.m. – 5:00 p.m., CPT / 9:00 a.m. – 3:00 p.m., PT / 10:00 a.m. – 4:00 p.m., MT

MDWG Future Meeting Registration
Date: June 11th, 2024 – June 12th, 2024 (2nd day Settlements Only)
Location: Net-Conference/Potential In Person
Time: 11:00 a.m. – 5:00 p.m., CPT / 9:00 a.m. – 3:00 p.m., PT / 10:00 a.m. – 4:00 p.m., MT
Time: 11:00 a.m. – 3:00 p.m., CPT / 9:00 a.m. – 1:00 p.m., PT / 10:00 a.m. – 2:00 p.m., MT

MDWG Future Meeting Registration
Date: July 9th, 2024
Location: Net-Conference
Time: 11:00 a.m. – 5:00 p.m., CPT / 9:00 a.m. – 3:00 p.m., PT / 10:00 a.m. – 4:00 p.m., MT

29332021

SPP Southwest Power Pool

DATE:
IMPACTED WG/TF:
SUBJECT AREA:
MARKETS+ TARIFF

INSERT TARIFF SECTIONS

MARKETS+ PROTOCOLS

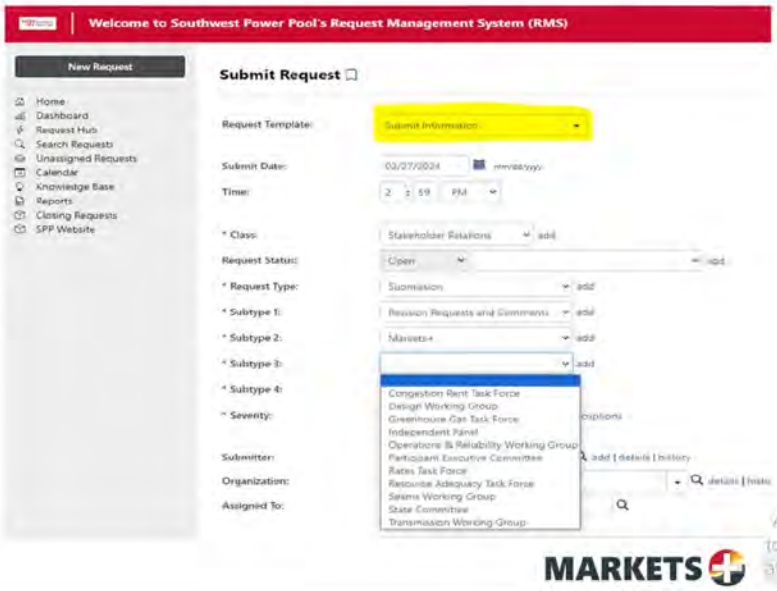
INSERT PROTOCOL SECTIONS

REQUEST OPTIONS: DRAFT PROTOCOL COMMENTS

You may also submit Draft Protocol Requests or Comments using the following:

- **Request Template:** Submit Information
- **Subtype 1:** Revision Requests and Comments
- **Subtype 2:** Markets+
- **Subtype 3:** Select applicable WG/TF
- **Subtype 4:** Request or Comment

You will then fill in the Subject and Description before submitting the request. You may also choose to attach files.



SPP

MARKETS+

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Monday, September 25, 2023 6:39 AM
To: Marr, Garrison; Eaton,Sara L (BPA) - PTMA-5; Mantifel,Russell (BPA) - PGL-5; Suzanne Cooper (sbcoooper@bpa.gov); Johnson, Ray; Zyskowski, Jason; Fina, Joe; Applegate, Rick; Kochheiser,Todd W (BPA) - TOI-DITT-2; Cornelius, Adam; Spires, Jeff; Aitken, Meredith; Van Calcar, Pamela M (BPA) - PGS-5; Doot,Erika A (BPA) - LP-7; Willis, Wendy; Shawn Smith
Subject: RE: [External Sender] RE: [EXTERNAL] Storage Hydro Participation In Markets+

Good morning,

It looks like the best time is Friday 8:30-10am (I'll extend it by ½ hour for those that can stay, as it is likely hard to schedule additional meetings and we have tight timelines).

We'll send out an invite to this list later this morning, and hopefully you can forward it to others internally, if I missed anyone.

We'll also send out today/tomorrow:

1. Our draft comments due Thursday on Attachment B and C (includes MMU proposed tariff language for Market Power Mitigation Plan and Market Monitoring Plan)
2. A document of potential principles for hydro participation in Markets+, and references of language applied in WRAP and WEIM.

Regards,

Mark Holman | Managing Director | Powerex Corp. | Direct (b)(6)

From: Marr, Garrison <GBMarr@Snopud.com>
Sent: Friday, September 22, 2023 4:47 PM
To: 'Eaton,Sara L (BPA) - PTMA-5' <sleaton@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Holman, Mark <Mark.Holman@powerex.com>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Fina, Joe <GFina@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Cornelius, Adam <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Willis, Wendy <wendy.willis@powerex.com>; Shawn Smith <Shawn.Smith@chelanpud.org>
Subject: RE: [External Sender] RE: [EXTERNAL] Storage Hydro Participation In Markets+

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Snohomish can likely make either of Shawn's times below.

Garrison Marr

Senior Manager, Power Supply
Snohomish County PUD | (b)(6)
2320 California Street | Everett, WA | 98201

From: Shawn Smith <Shawn.Smith@chelanpud.org>
Sent: Friday, September 22, 2023 2:16 PM
To: 'Eaton,Sara L (BPA) - PTMA-5' <sleaton@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Holman, Mark <Mark.Holman@powerex.com>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Fina, Joe <GFina@SNOPUD.com>
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Cornelius, Adam <ACCornelius@Snopud.com>; Jeff Spires <jeff.spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Willis, Wendy <wendy.willis@powerex.com>
Subject: [External Sender] RE: [EXTERNAL] Storage Hydro Participation In Markets+

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Do not click on links or open attachments if the sender is unknown or the email is suspect.

I have Monday, Sept 25th available from 8-10am and Friday, Sept 29th available 8:00-9:30am.

-Shawn

From: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Sent: Friday, September 22, 2023 2:14 PM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Holman, Mark <Mark.Holman@powerex.com>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Ray Johnson <crjohnson@cityoftacoma.org>; Shawn Smith <Shawn.Smith@chelanpud.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Jeff Spires <jeff.spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Willis, Wendy <wendy.willis@powerex.com>
Subject: RE: [EXTERNAL] Storage Hydro Participation In Markets+

PAUSE TO CONSIDER: The actual sender address for this email is sleaton@bpa.gov.
Do you trust this message and any contents within?
If not, please forward it to our Phishing Hole for analysis. Thank You!

Hi Mark,

Recognizing that schedules are tight, BPA could have at least 1-2 attend for either time slot and date.
Monday would present a conflict for our representative from legal and Friday would likely be a challenge for our hydro manager.
But we could make either work.

Thanks,

Sara Eaton (she/her)
Senior Markets Policy Analyst | Market Policy and Pricing | PTMP
Bonneville Power Administration
C: (b)(6) | W: 503-230-5222 | sleaton@bpa.gov

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Thursday, September 21, 2023 3:44 PM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Ray Johnson <crjohnson@cityoftacoma.org>; Shawn Smith <Shawn.Smith@chelanpud.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Willis, Wendy <wendy.willis@powerex.com>
Subject: RE: [EXTERNAL] Storage Hydro Participation In Markets+

Good afternoon,

I understand several of you are on the road next week Tues-Thursday.

With that in mind, Jeff and I can make ourselves available:

Monday (Sept 25):	8 - 11am
Friday (Sept 29):	Anytime before 2pm

Please respond with your availability during these times, and we'll pick the 1 hour time slot that seems to work best for most.
If that doesn't work for at least 1-2 people from each entity, we'll send times for the following week.

Thanks,

Mark Holman | Managing Director | Powerex Corp. | Direct (b)(6)

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Wednesday, September 20, 2023 8:24 AM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Ray Johnson <crjohnson@cityoftacoma.org>; Shawn Smith <Shawn.Smith@chelanpud.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Willis, Wendy <wendy.willis@powerex.com>
Subject: Re: [EXTERNAL] Storage Hydro Participation In Markets+

Thanks everyone - I'm just on the road (and Jeff is out of the office too) so we'll send out potential time slots and/or a doodle poll tomorrow.

Thanks

Mark

Get Outlook for iOS

From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Tuesday, September 19, 2023 11:18:45 AM
To: Holman, Mark <Mark.Holman@powerex.com>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Ray Johnson <crjohnson@cityoftacoma.org>; Shawn Smith <Shawn.Smith@chelanpud.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com <GFina@SNOPUD.com>
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Subject: RE: [EXTERNAL] Storage Hydro Participation In Markets+

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For us I'll try to make it. Todd K, Sara Eaton, Erika Doot, Pam Van Calcar as well.

Russell Mantifel (he/him/his)
Director | Market Initiatives
BONNEVILLE POWER ADMINISTRATION
rxmantifel@bpa.gov | P 503-230-4372

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Thursday, September 14, 2023 9:41 AM
To: Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Ray Johnson <crjohnson@cityoftacoma.org>; Shawn Smith <Shawn.Smith@chelanpud.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: [EXTERNAL] Storage Hydro Participation In Markets+

Good morning,

From our discussions with SPP's senior management on this topic, we have concluded that the nature of storage hydro participation in Markets+ should be set forth in the tariff. Based on those discussions, I am reaching out to you to arrange a call to kick-off a group discussion on identifying and drafting the necessary Markets+ tariff elements to facilitate storage hydro participation in Markets+. While work on some of these elements is already underway (e.g., hydro aggregation), it has become clear to us that there are several other elements that will need to be incorporated into the tariff to make Markets+ workable for storage hydro. These topics include:

- Hydro aggregation
- Hydro reference price (Default Energy Bid) for market power mitigation
- Hydro data sharing (a confined list of what data will be shared)
- Hydro operator autonomy over dispatch of individual facilities
- Hydro operator autonomy over reservoir and river management (water management)

- Hydro participant autonomy over offer quantity and offer price (while still being subject to must-offer obligations and related financial charges and to offer price mitigation)

Given the fundamental nature of these issues and their broad applicability to participating storage hydro resources, it seems critical that tariff provisions do not result in a gap in expectations of how storage hydro will participate. We are generally not seeking to carve out new approaches, but rather seeking to adopt standards that are consistent with storage hydro operations, and where possible "port over" the hydro components from the Western EIM and WRAP (Hydro DEB, voluntary nature of participation, data sharing items, etc.).

SPP has encouraged us to work with other hydro stakeholders and "use the governance process" to achieve the tariff language necessary from the outset of Markets+.

The first call is to make sure senior leaders at each of your organizations are aware of the issue and support the direction and elements to be covered in the tariff.

Please 'reply all' with a list of people to attend, and we'll set up a doodle poll for time slots.

Best regards,

Mark Holman
Managing Director | Powerex Corp.
1300 - 666 Burrard Street | Vancouver, BC | V6C 2X8
Direct 604.895.7084 | Fax 604.891.5045 | Cell (b)(6) [redacted]

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From: Doot,Erika A (BPA) - LP-7
Sent: Wednesday, December 13, 2023 3:49 PM
To: Rachel Kane; Miller,Todd E (BPA) - LP-7; Jim Gonzalez; Chris Nolen; Christine Dillard; Michael Riley; Mantifel,Russell (BPA) - MTM-3
Subject: RE: [EXTERNAL] BPA & Day-Ahead Market

We'll make it work, thanks!

Please let me know if you have additional thoughts on what we'll discuss. You mentioned you'd like to talk through how SPP will see BPA's non-participating resources, who will register them, how they'll be registered, and how'll they'll be handled by SPP and BPA in the Day-Ahead Market.

Another aspect to have an initial conversation about is customer resources. This would be a very preliminary discussion as we're just beginning to explore these issues. Some load following customers have very small resources and likely would not be impacted by BPA market participation. However, some load following customers with a larger resource portfolio may be interested in different treatment. We also anticipate that BPA will make changes to the Slice product for compatibility with day ahead market scheduling parameters.

Some food for thought.

Thanks,
Erika

From: Rachel Kane <rkane@spp.org>
Sent: Wednesday, December 13, 2023 2:29 PM
To: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Chris Nolen <cnolen@spp.org>; Christine Dillard <cdillard@spp.org>; Michael Riley <michael.b.riley@spp.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] BPA & Day-Ahead Market

Good deal. I will send out a meeting invitation.

Rachel Hildebrand Kane | Attorney, Markets & Regulatory Policy
rkane@spp.org | (b) (6)

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Working together to responsibly and economically keep the lights on today and in the future.

From: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>
Sent: Wednesday, December 13, 2023 3:41 PM
To: Rachel Kane <rkane@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Chris Nolen <cnolen@spp.org>; Christine Dillard <cdillard@spp.org>; Michael Riley <michael.b.riley@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] BPA & Day-Ahead Market

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Please click the "Report Phish" button if you are unsure about this email.

Early works good for me.

From: Rachel Kane <rkane@spp.org>
Sent: Wednesday, December 13, 2023 2:40 PM
To: Jim Gonzalez <jgonzalez@spp.org>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Chris Nolen <cnolen@spp.org>; Christine Dillard <cdillard@spp.org>; Michael Riley <michael.b.riley@spp.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] BPA & Day-Ahead Market

Great. Erika, we could try to meet *before* the IMIP at 9am Central/7am Pacific. I recognize, though, that this would be quite an early meeting for BPA. If 9am Central/7am Pacific does not work, what time(s) would work better for BPA?

Rachel Hildebrand Kane | Attorney, Markets & Regulatory Policy
rkane@spp.org (b)(6) [redacted]

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From: Jim Gonzalez <jgonzalez@spp.org>
Sent: Wednesday, December 13, 2023 1:36 PM
To: Rachel Kane <rkane@spp.org>; 'Doot,Erika A (BPA) - LP-7' <eadoot@bpa.gov>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Chris Nolen <cnolen@spp.org>; Christine Dillard <cdillard@spp.org>; Michael Riley <michael.b.riley@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] BPA & Day-Ahead Market

I can be available on 19th as long as I'm not needed for IMIP. 22nd I'm on vacation.

From: Rachel Kane <rkane@spp.org>
Sent: Wednesday, December 13, 2023 1:34 PM
To: 'Doot,Erika A (BPA) - LP-7' <eadoot@bpa.gov>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Chris Nolen <cnolen@spp.org>; Christine Dillard <cdillard@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Michael Riley <michael.b.riley@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Jim Gonzalez <jgonzalez@spp.org>
Subject: RE: [EXTERNAL] BPA & Day-Ahead Market

Hi, Erika,

I *think* Jim Gonzalez did not have availability on the 19th or 22nd. But, I am copying Jim so he can correct me if I am wrong.

Rachel Hildebrand Kane | Attorney, Markets & Regulatory Policy
rkane@spp.org | (b) [redacted]

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From: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Sent: Wednesday, December 13, 2023 12:06 PM

To: Rachel Kane <rkane@spp.org>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Chris Nolen <cnolen@spp.org>; Christine Dillard <cdillard@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Michael Riley <michael.b.riley@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] BPA & Day-Ahead Market

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Please click the "Report Phish" button if you are unsure about this email.

Hi Rachel,

Todd would be available on the 19th and the morning of 22nd.

Would you have time available on either of those days? We're working around his hunting and fishing schedule 😊

Thanks,
Erika

From: Rachel Kane <rkane@spp.org>
Sent: Tuesday, December 12, 2023 9:23 AM
To: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Chris Nolen <cnolen@spp.org>; Christine Dillard <cdillard@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Michael Riley <michael.b.riley@spp.org>
Cc: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] BPA & Day-Ahead Market

*December 18th

Rachel Hildebrand Kane | Attorney, Markets & Regulatory Policy
rkane@spp.org (b)(6) [redacted]

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From: Rachel Kane
Sent: Tuesday, December 12, 2023 11:23 AM
To: 'Doot,Erika A (BPA) - LP-7' <eadoot@bpa.gov>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Chris Nolen <cnolen@spp.org>; Christine Dillard <cdillard@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Michael Riley <michael.b.riley@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] BPA & Day-Ahead Market

Hi, Todd,

Just following up on Erika's email below. Are you available on Monday, December 8th, to discuss BPA's non-participating resources?

Rachel Hildebrand Kane | Attorney, Markets & Regulatory Policy
rkane@spp.org [redacted] (b) [redacted]

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From: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Sent: Thursday, December 7, 2023 2:03 PM
To: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Rachel Kane <rkane@spp.org>; Chris Nolen <cnolen@spp.org>; Christine Dillard <cdillard@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Michael Riley <michael.b.riley@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] BPA & Day-Ahead Market

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Please click the "Report Phish" button if you are unsure about this email.

Hi SPP & Todd,

Todd Miller is unavailable on Wednesday the 20th and he is crucial for a discussion that will be primarily with the legal team.

Todd, would you be available on:

- Monday, December 18th, at 12pm Central (10am Pacific) or
- Monday, December 18th, at 4pm Central (2pm Pacific)

If not, please let us know some good times. Todd will be on leave for most of the rest of December but has some flexibility to join us for a meeting.

Thanks,
Erika

From: Doot,Erika A (BPA) - LP-7
Sent: Wednesday, December 6, 2023 12:09 PM
To: Rachel Kane <rkane@spp.org>; Chris Nolen <cnolen@spp.org>; Christine Dillard <cdillard@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Michael Riley <michael.b.riley@spp.org>
Cc: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] BPA & Day-Ahead Market

Thanks, Rachel. This is helpful context.

- Erika

From: Rachel Kane <rkane@spp.org>
Sent: Wednesday, December 6, 2023 6:56 AM
To: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Chris Nolen <cnolen@spp.org>; Christine Dillard <cdillard@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Michael Riley <michael.b.riley@spp.org>
Cc: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] BPA & Day-Ahead Market

Hi, Erika,

For the call, we'd like to talk through how SPP will see BPA's non-participating resources, who will register them, how they'll be registered, and how'll they'll be handled by SPP and BPA in the Day-Ahead Market. I think you are right that modeling changes will not be necessary.

Does this answer your email? If not, let me know and we can expound upon it further.

Rachel Hildebrand Kane | Attorney, Markets & Regulatory Policy
rkane@spp.org | (b) (6)

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From: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Sent: Tuesday, December 5, 2023 5:12 PM
To: Rachel Kane <rkane@spp.org>; Chris Nolen <cnolen@spp.org>; Christine Dillard <cdillard@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Michael Riley <michael.b.riley@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] BPA & Day-Ahead Market

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Hi Rachel,

Wednesday the 20th at 12pm Central (10am Pacific) works best for our team.

Could you share some thoughts on the questions you'd like to discuss at the meeting? While we anticipate that some BPA customers may ask to be 'exempt' or 'non-participating' in some fashion, we did not anticipate that those decisions would necessarily require modeling changes. We'd like to put our heads together here before the call to ensure that we have a productive discussion.

Thanks,
Erika

From: Rachel Kane <rkane@spp.org>
Sent: Monday, December 4, 2023 12:18 PM
To: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Chris Nolen <cnolen@spp.org>; Christine Dillard <cdillard@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Michael Riley <michael.b.riley@spp.org>
Cc: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] BPA & Day-Ahead Market

Hi, Erika,

Do any of the following work:

- Monday, December 18th, at 12pm Central (10am Pacific);
- Monday, December 18th, at 4pm Central (2pm Pacific);
- Wednesday, December 20th, at 12pm Central (10am Pacific); or
- Wednesday, December 20th, at 1pm Central (11am Pacific)

Rachel Hildebrand Kane | Attorney, Markets & Regulatory Policy
rkane@spp.org | (b) (6)

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From: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Sent: Monday, December 4, 2023 12:50 PM
To: Rachel Kane <rkane@spp.org>; Chris Nolen <cnolen@spp.org>; Christine Dillard <cdillard@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Michael Riley <michael.b.riley@spp.org>
Subject: **External Email** RE: [EXTERNAL] BPA & Day-Ahead Market

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Hi Rachel,

Russ and I would like to move this meeting out a couple of weeks. Could you let me know some good times during the week of the 18th?

Thanks,
Erika

-----Original Appointment-----
From: Rachel Kane <rkane@spp.org>
Sent: Monday, November 27, 2023 3:01 PM
To: Rachel Kane; Doot,Erika A (BPA) - LP-7; Chris Nolen; Christine Dillard; Jim Gonzalez; Michael Riley
Subject: [EXTERNAL] BPA & Day-Ahead Market
When: Monday, December 4, 2023 4:00 PM-5:00 PM (UTC-06:00) Central Time (US & Canada).
Where: 1E Conference Room 116

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From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, July 20, 2023 12:40 PM
To: Tenney Denison, Lauren; Mantifel,Russell (BPA) - PGL-5; Detmer, Nick
Subject: [EXTERNAL] RE: SPP: Feedback Requested by Friday, 7/21: MDWG Vacant Seat - Independent Sector Vote

Thank you, Lauren.

From: Lauren Tenney Denison <tenney@ppcpdx.org>
Sent: Thursday, July 20, 2023 2:36 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: **External Email** FW: SPP: Feedback Requested by Friday, 7/21: MDWG Vacant Seat - Independent Sector Vote

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Good afternoon,

PPC's preference is for Scott Miller to fill the vacant seat.

Please let me know if anything additional is needed.

Thanks,
Lauren

Lauren Tenney Denison (she/her)
Director, Market Policy & Grid Strategy
Public Power Council
650 NE Holladay Street, Suite 810
Portland, OR 97232
503-595-9777

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, July 17, 2023 2:37 PM
Subject: SPP: Feedback Requested by Friday, 7/21: MDWG Vacant Seat - Independent Sector Vote

Hello –

There is an independent sector seat available on the MDWG. SPP staff sought nominations from Markets+ stakeholders and two nominations were received.

Per guidance from the MPEC Chairs, Laura Trolese (TEA) and Brian Cole (APS), the independent sector is to provide their preference for filling the vacant MDWG seat. Please see below for the two independent sector nominees:

1. **Kylah McNabb, Natural Resources Defense Council (NRDC)**
2. **Scott Miller, Western Power Trading Forum (WPTF)**

Please provide your company's vote to fill the vacant Independent Sector seat on the MDWG, to Russ Mantifel (BPA/MDWG Chair), Nick Detmer (PSCo/MDWG Vice-Chair), and Kristen Darden (SPP/MDWG Staff Secretary) via email (kdarden@spp.org; rxmantifel@bpa.gov; nick.detmer@xcelenergy.com) by **EOD Friday, 7/21/2023**.

Thank you,
Kristen

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, July 19, 2023 11:13 AM
To: Wiencke, Mary; Kim O'Guinn; Mantifel,Russell (BPA) - PGL-5
Cc: Breidenich, Clare; Drew McGilvray
Subject: [EXTERNAL] RE: Joint MDWG & MGHGTF Meeting

Hey Mary –

My goal is to review GHG language and design during the joint meeting. I've had internal discussions with team members working directly on GHG and they've relayed we would be able to have some discussion about language and design. I think it would be a great opportunity to get both groups together and talk it through.

Hope this helps!

Thank you!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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From: Mary Wiencke <mwiencke@publicgeneratingpool.com>
Sent: Wednesday, July 19, 2023 10:45 AM
To: Kim O'Guinn <koguinn@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Kristen Darden <kdarden@spp.org>
Cc: Breidenich, Clare <cbreidenich@aciem.us>
Subject: **External Email** Joint MDWG & MGHGTF Meeting

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Hi all –

I've gotten a couple of inquiries regarding the joint MDWG and MGHGTF meeting on August 9th regarding the intent and what will be covered during that meeting. Could one of you please let me know the purpose what is intended to be covered?

Thanks,
Mary

Mary Wiencke
Executive Director
Public Generating Pool
(971) 288-9999

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From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Wednesday, November 15, 2023 5:18 PM
To: Spires, Jeff; Tuuli Hakala; Eaton,Sara L (BPA) - PTMA-5
Cc: Paul Dietz; Mantifel,Russell (BPA) - MTM-3; Applegate, Rick; Sibyl Geiselman; Michael Linn; Fina, Joe; Marr, Garrison
Subject: RE: [EXTERNAL] RE: [External Sender] RE: Snohomish initial comments on Attachment B
Attachments: 04cd-Attachment B_C_SPP_MMU Combined Edits_Clean_110123 (SNPD to SPP).docx

As an update to my original email that kicked off this thread, I sent the attached comments on attachments B & C to SPP today. Ideally we would have been able to meet as a group first, but I had some comments that were not hydro specific that I wanted to get over to SPP ahead of Friday.

Given the preference I've heard from others to keep the CAISO hydro DEB framework if possible, I removed some of the specific edits from my prior version around the spring melt/oversupply section and the approach for hydro resources with less than 30 days of storage. I replaced these edits with some comments pointing out issues with the current spring melt language and with using the opportunity cost calculator as drafted for any storage hydro resources. Hopefully with those changes I'm not getting ahead of anyone else on this email.

Looking forward to the discussion tomorrow with those that can make it.

Thanks,
Adam

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Wednesday, November 15, 2023 6:43 AM
To: Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Cc: Paul Dietz <Pdietz@gcpud.org>; Cornelius, Adam <ACCornelius@Snopud.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Applegate, Rick <rapplegate@cityoftacoma.org>; Sibyl Geiselman <sgeiselman@publicgeneratingpool.com>; Michael Linn <mlinn@ppcpdx.org>; Fina, Joe <GFina@SNOPUD.com>; Marr, Garrison <GBMarr@Snopud.com>
Subject: RE: [EXTERNAL] RE: [External Sender] RE: Snohomish initial comments on Attachment B

Thanks all. I will send an invite out for 2 pm and hopefully most of this group can make it.

Jeff

From: Tuuli Hakala <Tuuli.Hakala@chelanpud.org>
Sent: Tuesday, November 14, 2023 5:21 PM
To: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Cc: Paul Dietz <Pdietz@gcpud.org>; Cornelius, Adam <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Applegate, Rick <rapplegate@cityoftacoma.org>; Sibyl Geiselman <sgeiselman@publicgeneratingpool.com>; Michael Linn <mlinn@ppcpdx.org>; Fina, Joe <GFina@SNOPUD.com>; Marr, Garrison <GBMarr@Snopud.com>
Subject: RE: [EXTERNAL] RE: [External Sender] RE: Snohomish initial comments on Attachment B

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Where's the love for Seams?!?

I can't make a 2 pm but Janet from our shop can. We met internally today and still prefer the full CAISO DEB approach. But view Snohomish's modification to the prompt month portion of the SHOC as an acceptable compromise if that gets rid of the opportunity cost calculator and leads to MMU support. We have concerns with the spill/max gen language. Specifically around how and whether that might be applied at times when we have sporadic hours of spill and max gen rather than being in the middle of a longer, more predictable stretch of seasonal spill. And even for seasonal spill periods, we're concerned about potentially having MMU second guess our assessment of when that time frame starts and ends.

We'll be interested in hearing all your perspectives on Thursday. Thank you Adam for kicking off the email and encouraging collaboration. I'm hopeful we can enter Friday MDWG's with a solid amount of alignment.

On Nov 14, 2023 4:49 PM, "Eaton,Sara L (BPA) - PTMA-5" <sleaton@bpa.gov> wrote:

PAUSE TO CONSIDER: The actual sender address for this email is sleaton@bpa.gov.
Do you trust this message and any contents within?
If not, please forward it to our Phishing Hole for analysis. Thank You!

I'm not our main person on seams, so I could drop and join from 2-3.

From: Paul Dietz <Pdietz@gcpud.org>
Sent: Tuesday, November 14, 2023 4:32 PM
To: Cornelius, Adam <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>
Cc: tuuli.hakala@chelanpud.org; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Applegate, Rick <rapplegate@cityoftacoma.org>; Sibyl Geiselman <sgeiselman@publicgeneratingpool.com>; Michael Linn <mlinn@ppcpdx.org>; Fina, Joe <GFina@SNOPUD.com>; Marr, Garrison <GBMarr@Snopud.com>
Subject: [EXTERNAL] RE: [External Sender] RE: Snohomish initial comments on Attachment B

I'll try to accommodate whatever time works best for the group.

Paul

From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Tuesday, November 14, 2023 4:27 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>
Cc: tuuli.hakala@chelanpud.org; Mantifel,Russell (BPA) - TSQM-DITT-2 <rxmantifel@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Applegate, Rick <rapplegate@cityoftacoma.org>; Sibyl

Geiselman <sgeiselman@publicgeneratingpool.com>; Michael Linn <mlinn@ppcpdx.org>; Paul Dietz <Pdietz@gcpud.org>; Fina, Joe <GFina@SNOPUD.com>; Marr, Garrison <GBMarr@Snopud.com>
Subject: Re: [External Sender] RE: Snohomish initial comments on Attachment B

Thanks Jeff. I agree a meeting with this group would be beneficial if we can find the time ahead of Friday.

Thursday 2 to 3 works for me, but I think there's a seams workgroup at that time.

Sent from my iPhone

On Nov 14, 2023, at 1:47 PM, Spires, Jeff <Jeff.Spires@powerex.com> wrote:

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Thanks Adam

Is there any possibility of a call to discuss on Thursday? Would 10 am – 11 am or 1 pm – 3pm work?

Jeff

From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Monday, November 13, 2023 12:17 PM
To: tuuli.hakala@chelanpud.org; Spires, Jeff <Jeff.Spires@powerex.com>; Mantifel,Russell (BPA) - TSQM-DITT-2 <rxmantifel@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Applegate, Rick <rapplegate@cityoftacoma.org>; Sibyl Geiselman <sgeiselman@publicgeneratingpool.com>; Michael Linn <mlinn@ppcpdx.org>; Paul Dietz <Pdietz@gcpud.org>
Cc: Fina, Joe <GFina@SNOPUD.com>; Marr, Garrison <GBMarr@Snopud.com>
Subject: RE: Snohomish initial comments on Attachment B

⚠ **Caution: External Email**

Hi all, just refreshing this email and adding Paul from Grant. Also hearing that some would like to just use Hydro DEB without any modifications, which is also a fair perspective.

Wondering if we can collectively get on the same page or close ahead of Friday?

-Adam

From: Cornelius, Adam
Sent: Thursday, November 9, 2023 7:02 PM
To: tuuli.hakala@chelanpud.org; Spires, Jeff <Jeff.Spires@powerex.com>; Mantifel,Russell (BPA) - TSQM-DITT-2 <rxmantifel@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Applegate, Rick <rapplegate@cityoftacoma.org>; Sibyl Geiselman <sgeiselman@publicgeneratingpool.com>; Michael Linn <mlinn@ppcpdx.org>
Cc: Fina, Joe <GFina@SNOPUD.com>; Marr, Garrison <GBMarr@Snopud.com>
Subject: Snohomish initial comments on Attachment B

Hi all,

Attached are some comments and suggested edits to Attachment B (market power mitigation) and wanted to circulate with you before sending to SPP on Monday (along with some forthcoming comments on Attachment C). Note that these have not yet been reviewed by Joe or others at Snohomish, so we may have some additional changes prior to sending back to SPP.

Two items most relevant to this group:

1. Accepting MMU's proposal to use next-day ICE prices for mitigated offer curve during periods of spill (this was a change MMU offered at MPEC from the current "spring melt period"). I tried to add a little more specific language that hopefully is workable. This feels like a point that may be reasonable to give to MMU, but don't want to get ahead of others here.
2. I don't think the opportunity cost calculator as written is a good fit for hydro resources with less than 30 days of storage. For one thing, it is written around runtime limitations rather than energy limitations. I suggest making some small tweaks to the SHOC to hopefully make it workable for these resources.

Have a great weekend all!

-Adam

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ATTACHMENT B
Market Power Mitigation Plan

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   - 3.2 Market Power Test
   - 3.3 Mitigated Offer Calculation Methodology
   - 3.4 Mitigation Measures for Energy Offer Curves
   - 3.5 Mitigation Measures for Start-Up Offers and No-Load Offers
     - 3.5.1 Mitigation Measures for Transition State Offers
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1. Purpose and Objective

The Market Mitigation Measures (the "Measures") contained within this Market Power Mitigation Plan provide for mitigation of the exercise of horizontal and vertical market power by Market Participants in certain specified circumstances. The Market Operator will implement the Market Power Mitigation Plan as defined.

2. Definitions

For purposes of this Market Power Mitigation Plan, capitalized terms have the meanings specified below:

2.1 Measures

SPP's Market Mitigation Measures set forth in this document.

2.2 Performance Factor

The calculated ratio of actual fuel burn to either theoretical fuel use (design heat input) or the most recent heat rate performance test, consistent with the Markets+ Protocols.

2.3 Resource-to-Load Distribution Factor (RLDF)

The simulated impact of incremental power output from a specific Resource ("source") on the loading of a specific flowgate based on delivery to a representation of the locational weighting of all loads within all Settlement Locations ("sink").

3. Mitigation Measures for Economic Withholding – Market Power in Energy and Flexibility Reserve Products

This section sets forth the market power mitigation measures that are applied in the Day-Ahead Market, Reliability Unit Commitment processes and the Real-Time Balancing Energy Markets, collectively referred to as Markets+.

3.2 Market Power Test

A Resource satisfying at least one of the following conditions is determined to have market power:

(1) The Resource:

(a) has a Resource-to-Load-Distribution factor less than or equal to negative five percent (-5%) relative to a binding transmission constraint; or

(b) is located in a binding Reserve Zone;

Comment [CA1]: SNPD: I don't recall discussing this provision. Is this saying that if any flex up or down constraint for a zone binds, all resources in the zone, regardless of size, are deemed to have market power and could potentially be mitigated? If the flex product demand curve is reached for a zone, does that necessarily imply that the Reserve zone has bound? Is the market power determination only for the flex product that binds, or for all products, including energy?

(2) The Resource is committed, or the Multi-Configuration Resource ("MCR") is transitioned, as a Reliability Must Run; or

(3) Within a Balancing Authority, the total Supplier Capacity plus unused deliverable import capacity is not sufficient to meet the Market Adjusted Obligation without a Market Participant's Supplier Capacity in a Dispatch Interval.

(a) Supplier Capacity is the sum of Maximum Output Limits of each Supplying Resource.

(i) The Maximum Output Limit is defined by Resource type:

(1) For a forecasted VER, the Maximum Output Limit is the greater of its (i) output forecast or (ii) its Maximum Economic Capacity Operating Limit.

(2) For an MSR with a commitment that allows it to be dispatched above zero megawatts, the Maximum Output Limit is its Maximum Discharge Limit. For an MSR with a commitment that allows it to charge only, the Maximum Output Limit is zero megawatts.

(3) For a Resource type that is not specified above, the Maximum Output Limit is the Resource's Maximum Economic Capacity Operating Limit for that interval;

(ii) A Supplying Resource is a Resource that is both:

(1) Registered under that Market Participant or its Affiliate(s), unless the Market Monitor allows an exclusion as described below, where "Affiliate" is defined in 18 CFR § 35.36(a)(9); and

(i) The Market Monitor may authorize the exclusion of the capacity associated with the Affiliate(s) of the Market Participant from that Market Participant's Supplier Capacity calculation upon a showing to the satisfaction of the Market Monitor that the relevant entities maintain safeguards and corporate controls to prevent coordinated or collusive market activity.

(2) Available for dispatch because the Resource:

Comment [CA2]: SNPD: As discussed, recommend revising to use Reserve Zone instead of BAA for the RSI test. Two reasons we prefer Reserve Zones. (1) The goal of the test as I understand it, is to address market power more granularly than at the M+ footprint level, as market power may exist in constrained areas even if there is no system-wide market power. Reserve zones will already be defined based on transmission constraints. (2) Given the diversity of BAAs in the west, BAAs are not a consistent measure of a potentially constrained area. For example, there are many BAAs nested within the BPA BAA/TSP that are highly connected to BPA – it seems appropriate to group these for the purposes of the test. On the other hand, there may be a frequently binding transmission constraint within a BAA that result in reserve zones splitting a BAA. Using the reserve zone definition as basis for the test would capture that constraint.

Alternatively, I could see the Frequently Constrained Area test used in SPP RTO as serving a similar purpose.

Comment [CA3]: SNPD: What is meant by unused? If there is a dynamic schedule into the BAA/zone that is available for optimization, that should count towards the available import capacity, correct? If there is a fixed schedule into the BAA/zone, would that reduce the obligation within the zone?

Comment [CA4]: SNPD: Does import capacity include both import capacity from another M+ BA/Zone and import capacity from outside the footprint? Any difference in treatment?

(i) Has a Commitment; or

(ii) Is an off-line fast-start resource that is eligible to be dispatched above zero megawatts; or

(iii) Is a Variable Energy Resource that has a Commitment Status other than 'Outage' or 'Not Available'.

(b) The Market Adjusted Obligation is equal to (i) the forecasted obligation adjusted by (ii) the Net Scheduled Interchange plus (iii) the sum of Maximum Charge Limits of MSRs with a commitment that allows them to charge.

Comment [CA5]: SNPD: For the DA Market and RUC tests, why must a resource be already committed, given that those processes are intended to commit resources? Would one fix be to apply subbullet (iii) to all resources – at least for DAM and RUC?

Comment [CA6]: SNPD: What is meant by forecasted obligation? Is this forecasted load or something else?

Comment [CA7]: SNPD: See comment above – for the DA market/RUC, will an MSR already have a commitment? Or should this be based on the way in which the resource offers or Commitment Status?

3.3 Mitigated Offer Calculation Methodology

Market Participants must submit a mitigated offer calculation methodology, including accurate cost data and verifiable supporting documentation sufficient to replicate the mitigated energy offer curve, to the Market Monitor for approval for each Resource. Market Participants must keep the methodology up to date. Mitigated offers must be calculated according to the approved methodology.

For a new Market Participant registering a new Resource in the market, the Market Participant must submit the methodology no less than 120 days before its first offer. For an existing Market Participant registering a new Resource, the Market Participant must submit the methodology no less than thirty (30) calendar days before its first offer.

Comment [CA8]: SNPD: Is there a process for *changing* the methodology?

If the Market Monitor communicates to a Market Participant that a methodology is not approved, the Market Monitor will identify the reasons, and the Market Participant must re-submit as soon as practicable. The methodology is effective beginning on the Operating Day following Market Monitor approval. If the Market Monitor does not respond to a submitted methodology in fifteen (15) calendar days, then the submitted methodology is allowed until the Market Monitor communicates otherwise.

3.4 Mitigation Measures for Energy Offer Curves

A. A Market Participant must submit Mitigated Energy Offer Curves daily in accordance with the mitigated offer development guidelines in the Markets+ Protocols.

1) For MCRs, for which a single configuration allows physical units to be swapped (e.g., Combustion Turbine 2 for Combustion Turbine 1), the costs used in the mitigated offer development for that configuration must be those of the least cost physical unit that is available and can be swapped in such configuration.

2) The mitigated Energy Offer Curve may be updated up to the close of the Day-Ahead Market for use in the Day-Ahead Market.

   i. For any period a Resource is not committed by the Day-Ahead Market, the mitigated Energy Offer Curve for that period may be updated until the RUC begins.

   ii. For Resources committed by the Day-Ahead Market, the mitigated Energy Offer Curve submitted as of the close of the Day-Ahead Market will apply to the Day-Ahead Market on the day before the Operating Day and the RTBM on the Operating Day unless an exception is allowed in Section 3.4 (J) of this Attachment B;

   iii. For all other Resources, the mitigated Energy Offer Curve submitted at the time the RUC begins will apply to the RUC on the day before the Operating Day, and the RUC processes and the RTBM on the Operating Day.

3) For the pricing Simultaneous Co-optimization Methodology, the composite Energy Offer Curve and mitigated composite Energy Offer Curve will be calculated and used by the Market Operator for FSRs in the Day-Ahead Market and RTBM. The conduct threshold is a 10% increase above the mitigated Energy Offer Curve.

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B. The Market Operator applies mitigation measures by placing a cap on the Energy Offer Curve of 10% above the mitigated Energy Offer Curve if:

(1) The Resource's Energy Offer Curve exceeds the mitigated Energy Offer Curve by the conduct threshold; and

(2) The Resource has market power as determined in Sections 3.2(1) or 3.2(3); and

(3) The Resource fails the Market Impact Test as described in Section 3.7.

C. For a Resource that has market power as determined in Section 3.2(2), the Market Operator applies mitigation measures by placing a cap on the Energy Offer Curve of 10% above the mitigated Energy Offer Curve.

D. Except for Resources following the Seasonal Hydroelectric Offer Curve methodology outlined in this Section 3.4M, the mitigated Energy Offer Curve must be the Resource's short-run marginal cost of producing energy as determined by the unit's heat rate or similar production efficiency ratio; fuel costs and the costs related to fuel usage, such as transportation and emissions costs ("total fuel related costs"); and Energy Offer Curve ("EOC") variable operations and maintenance costs ("VOM").

E. For Resources that are not ESRs that are not eligible for or do not elect the Seasonal Hydroelectric Offer Curve methodology outlined in this Section 3.4M, opportunity cost must be an estimate of Markets+ revenues net of short run marginal costs for the marginal forgone run time during the timeframe when the Resource experiences the run-time restrictions.

The forecasted Locational Marginal Prices are based on (i) the relationship between (a) the monthly average on-peak and off-peak system LMP and (b) the expected price of natural gas and (ii) hourly deviations between (a) the LMP at the Resource Settlement Location and (b) the system LMP, as determined by the Market Monitor. The formulas and instructions in the price forecast model are determined by the Market Monitor and published in the Markets+ Protocols as part of the Mitigated Offer Development Guidelines, updated, as needed, by the Market Monitor. Historic LMPs are considered for the three-year period immediately preceding the period of time in which the Resource is bound by the referenced restrictions. The forecasted costs to generate energy at the Resource's Settlement Location are subtracted from the forecasted Locational Marginal Prices, as specified in more detail in Appendix G of the Markets+ Protocols. If the

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Comment [CA9]: SNPD: either resources using opportunity cost should be another exception OR opportunity cost needs to be added to this list of elements included in a resource's mitigated energy offer curve

Comment [CA10]: SNPD: As written, I don't think this opportunity cost calculator works well for storage hydro resources.
(1) This framework is around runtime restrictions. However hydro resources with less than 30 days of storage that wouldn't qualify for the SHOC tend to face energy limits rather than run-time limits (and in some cases are likely to be virtually always running).
(2) Energy availability is highly dynamic based on inflows and outflows
(3) If the goal is to use the opportunity cost calculator to shape the available energy into the most valuable hours, how do ramp rate restrictions fit into that framework?

difference between the forecasted Locational Marginal Prices and forecasted costs to generate energy is negative, the resulting opportunity cost is zero. The Market Monitor will verify all Market Participants' opportunity cost calculations for consistency and accuracy. When the Market Monitor determines that the market price for any period was not competitive, it will adjust the LMP forecasting process used in the opportunity cost calculations to ensure that forecasted LMPs do not reflect non-competitive market conditions.

The following formula applies to all mitigated Energy Offer Curves unless specified otherwise in this Section 3.2(E) of this Attachment B:

Mitigated Energy Offer ($/MWh) = HeatRate (mmBtu/MWh) * Performance Factor * Total Fuel Related Costs ($/mmBtu) + EOC VOM ($/MWh) + Opportunity Costs ($/MWh) + [Schedule 1-A3 Charge ($/MWh) + Schedule 1-A4 Charge ($/MWh)]

The run-time restrictions must be updated more frequently as fewer hours remain available. The Market Participant may include in the calculation of its mitigated Energy Offer Curve an amount reflecting the resource-specific opportunity costs expected to be incurred under the following circumstances:

(1) Externally imposed environmental run-hour restrictions as verified by the Market Monitor; or

(2) Physical equipment limitations on the number of starts or run-hours, as verified by the Market Monitor and determined by reference to the manufacturer's recommendation or bulletin, or a documented restriction imposed by the applicable insurance carrier; or

(3) Fuel supply or transportation limitations, for up to one year, resulting from an event of force majeure or other circumstances as verified by the Market Monitor.

F. For Resources that are not eligible or do not elect the Seasonal Hydroelectric Offer Curve Methodology outlined in Section 3.4 M, the Market Participant must submit, if applicable, heat rate curves, descriptions of how spot fuel prices and/or contract prices are used to calculate fuel costs, ~~if applicable,~~ variable fuel transportation and handling

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Comment [CA11]: These circumstances are not the limitations faced by hydro resources

Comment [CA12]: SNPD: Should ESRs be an exception too?

Comment [CA13]: SNPD: it seems that "if applicable" likely applies to all of these elements.

costs, emissions costs, and VOM to the Market Monitor. All cost data and cost calculation descriptions are subject to the review and approval of the Market Monitor to ensure reasonableness and consistency across Market Participants. The submitted information must be sufficient for replication of the mitigated Energy Offer Curve and must include, among other data, the following information:

(1) For fuel costs, Market Participants must provide the Market Monitor with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants must submit VOM costs, calculated in adherence with the Appendix G of the Markets+ Protocols, reflecting short-run marginal costs, exclusive of fixed costs.

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Further details associated with the development, validation, and updating of these costs are included in Appendix G of the Markets+ Protocols.

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G. For Demand Response Resources utilizing Behind-The-Meter Generation, the mitigated Energy Offer Curve methodology must be developed in the same manner as a generating Resource as described above. For load reduction Demand Response Resources, the mitigated Energy Offer Curve methodology must include the quantifiable opportunity costs associated with the reduction, net of related offsetting increases in usage.

H. For Dispatchable Variable Energy Resources, the mitigated Energy Offer Curve methodology may include, but must not exceed, any calculation of quantifiable costs that vary by MWh output, including short-run incremental VOM. Mitigation does not apply to Non-Dispatchable Variable Energy Resources in the Real-Time Balancing Market.

I. For an ESR, the mitigated Energy Offer Curve methodology may include, but must not exceed, (i) charging cost and (ii) opportunity cost, both adjusted for round-trip efficiency. Charging cost is the cost at which the ESR charged, and opportunity cost is the average profit in the next hour forgone by charging or discharging in the current hour. The sum

Comment [CA14]: SNPD: how does this next hour/current hour framework fit into the day-ahead market? Does only considering two hours ensure an ESR is available to discharge in the highest priced hours and charge in the lowest priced hours of the day? How to make sure the resource is available for, say, morning and evening peaks?

of the charging cost and opportunity cost is the average LMP that is expected for the next Operating Hour. This expected average LMP for the next Operating Hour is the unweighted average of the LMPs for the most recent forty-five (45) days comparing like Operating Hours. The mitigated Energy Offer Curve for MSRs must have at least two breakpoints: one for charging and another for discharging. More breakpoints may be added to the extent that other costs vary.

The following formula applies to mitigated Energy Offer Curves for ESRs:

Charging Mitigated Energy Offer ($/MWh) =

Performance Factor * Average LMP Expected for the Next Hour ($/mmBtu) * Round-Trip Efficiency - EOC VOM ($/MWh)

Discharging Mitigated Energy Offer ($/MWh) =

Performance Factor * Average LMP Expected for the Next Hour ($/mmBtu) / Round-Trip Efficiency + EOC VOM ($/MWh)

J. Intra-day changes to the mitigated Energy Offer Curve are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past their initial commitment period by the Day-Ahead Market or a RUC process, the Market Participant may submit an updated mitigated Energy Offer Curve that reflects the procurement of higher cost fuel; or

(2) A Resource must switch fuels due to unforeseen operating conditions; or

(3) The Resource is an ESR; or

(4) As approved by the Market Monitor during periods of high intraday fuel price volatility.

Intra-day changes to the mitigated Energy Offer Curve must follow the mitigated offer development guidelines in Appendix G of the Markets+ Protocols and will be validated by the Market Monitor.

K. A Market Participant that has a Resource with short-run marginal costs greater than the Safety-net Energy Offer Cap may submit an Energy Offer Curve using the same guidelines for development of the Resource's Mitigated Energy Offer Curve established in Appendix G of the Markets+ Protocols. The Energy Offer Curve above $1,000/MWh

Comment [CA15]: SNPD: water supply can change intraday, which could affect opportunity cost for hydro resources

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must be equal to the Mitigated Energy Offer Curve and may include an adder with a maximum of $100/MWh due to the uncertainty of expected costs. For purposes of LMP calculation, the Energy Offer Curve will be limited to a maximum of $2,000/MWh and must be verified by the Market Monitor prior to the start of the applicable market clearing process. If the Energy Offer Curve cannot be verified prior to the start of the applicable market clearing process, then the Resource may be eligible to receive make-whole payments for its actual costs after verification by the Market Monitor. The default value is $1,000/MWh for any offer above $1,000/MWh until the offer can be verified. If the verified Energy Offer Curve is greater than $2,000/MWh, the Energy Offer Curve will be capped at $2,000/MWh in the applicable market clearing process, and the Resource may be eligible for make-whole payments for actual costs exceeding $2,000/MWh. Market Participants must submit evidence of actual costs to the Market Monitor. The Market Monitor must verify the actual costs for use in make-whole payments. In order to include the costs in the make-whole payments of the S120 Settlement Statement, the submission must occur within 75 calendar days after the Operating Day and the verification must be complete no later than noon on the business day prior to 105 calendar days after the Operating Day.

L. Cost data submitted for the development of mitigated offers, including opportunity cost data, are subject to the confidentiality provisions set forth in Section 10 of Attachment A of this Tariff.

M. Market Participants with hydroelectric Resources, with ~~more than 30 days of~~ storage, may elect to use the Seasonal Hydroelectric Offer Curve calculation (SHOC) if approved by the Market Monitor as defined in this Section 3.4.

(1) Market Participants electing the SHOC will calculate that curve in the following manner for all hours of every Operating day, with the exception of the spring melt period, , when they will use the day-ahead peak price at the applicable electric pricing hub as their mitigated offer curve. ~~.~~For each Operating Day, the Market Participant will calculate the Seasonal Hydroelectric Offer Curve as the maximum of the (a) gas floor, (b) short-term component, and (c) long-term, geographic component, which are all calculated as specified below.

Comment [CA16]: SNPD: given prior comments with difficulties with using the opportunity cost as written for storage hydro resources, we suggest allowing the use of SHOC for resources with less than 30 days of storage.

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Comment [CA17]: SNPD: "spring melt" is overly simplistic. As discussed, some resources are filling during this time. It may be challenging to describe the conditions that this is intended to apply to. If a hydro resource is actually in a must-run condition they should be incentivized to either offer at 0/negative or be price takers up to their maximum capability, so it is still not clear that this is necessary.

(3) The Market Participant will calculate the gas floor as the most recent average heat rate for a typical natural gas turbine generator, as defined in the Markets+ Protocols, multiplied by the natural gas price for the fuel region applicable to the location of the hydroelectric resource, multiplied by 1.1.

(4) The Market Participant will calculate the short-term component as 1.4 multiplied by the maximum of:

(a) the most recent day-ahead peak price at the applicable electric pricing hub;

(b) the on-peak balance of the month futures price for the current month at the applicable electric pricing hub; and

(c) the on-peak monthly index futures price at the applicable electric pricing hub for one (1) month after the current month.

(5) The Market Participant will calculate the long-term, geographic component calculated based on multiple electric pricing hubs in addition to the default electric pricing hub consistent with Section 3.4 of this Attachment B. The Market Participant will calculate the long-term, geographic component as 1.1 multiplied by the maximum of:

(a) the most recent day-ahead on-peak price at the applicable electric pricing hub(s);

(b) the on-peak balance of the month futures prices for the current month at the applicable electric pricing hub(s); and

(c) the on-peak monthly index futures price at the applicable electric pricing hub(s) for all future months up to the maximum storage horizon after the current month.

(6) As part of its request for a Seasonal Hydroelectric Offer Curve, the Market Participant must submit to the Market Monitor:

(a) For each month and for each electric pricing hub requested that is not the default electric pricing hub, the Market Participant must (1) demonstrate that it holds firm transmission rights to enable delivery from the hydroelectric resource's default market region to the requested electric pricing hub or to a delivery point that is similarly priced location; or (2) provide documentation that supports a historical practice of acquiring

monthly firm transmission rights to the requested electric pricing hub(s) or similarly priced location. Market Participants may demonstrate transmission rights to multiple locations and, based on the Market Monitor's evaluation of such information, the Market Participant may include multiple electric pricing hubs, in addition to the default electric pricing hubs, in the long-term, geographic component of the SHOC for the affected resources. The Market Participant will attest through its submission that it reasonably expects it will be able to use the demonstrated transmission rights to deliver incremental sales from the hydroelectric resource because the rights are not fully committed and that there is an actual opportunity to use these rights. If the Market Participant includes multiple electric pricing hubs in the long-term, geographic component, the SHOC calculation will use the maximum of the electric price indices published for each electric pricing hub as determined for each Operating Day. On Operating Days for which there are no relevant published electric price indices at an electric pricing hub, the Market Participant will use the most recently published index for the applicable electric pricing hub.

(b) For Resources that the Market Participant demonstrates a quantity of firm transmission rights to a requested electric pricing hub or similarly priced location that is less than the hydro Resource's capacity, the Market Participant will include the requested electric pricing hub up to the quantity of demonstrated transmission rights, and apply a proportional weighting of the Resource's transmission rights to calculate a weighted average of those bilateral electric pricing hub prices when calculating the value of the long-term, geographic component of the SHOC.

(c) In the absence of Market Monitor approved supporting transmission rights information when calculating the SHOC, the Market Participant will multiply the long-term, geographic, component by zero and rely on the gas floor and the short-term component to calculate the SHOC.

Comment [CA18]: Absence of transmission rights should result in no ability to utilize different hubs, but the long-term portion of this component should remain available.

(d) If during the term of the annual period the Market Participant no longer has the firm annual transmission rights previously demonstrated, or can no longer continue a historical practice of acquiring monthly firm transmission rights, the Market Participant must inform the Market Monitor within five (5) Business Days of no longer holding such firm transmission rights.

(e) The Market Monitor may audit the Market Participant and request additional information in support of the Market Participant's assertions.

(f) If the Market Monitor determines the Market Participant has submitted substantively inaccurate information, the Market Monitor will take actions to require the Market Participant to change which electric pricing hub it uses in the SHOC calculation or other actions it deems necessary to correct the calculation.

(7) The maximum hydroelectric Resource storage horizon submitted by the Market Participant must:

(a) Reflect the typical storage duration of a hydroelectric Resource's reservoir, defined as the length of time between which the reservoir cycles from a maximum elevation to a new maximum elevation during a hydro cycle. The Market Participant will compute the reservoir's cycling time based on multiple years of reservoir elevation data.

(b) Be supported by (1) a written attestation by a representative who has the authority to bind the company stating that the value used by the Market Participant as the maximum storage horizon is consistent with the requirements specified in this Section 3.4 or (2) corroborating information submitted to the Market Monitor, which may include several years of historic reservoir levels for the specific hydroelectric Resource and regulatory filings related to the operations of the hydroelectric Resource.

(8) The default electric pricing hub will be as specified in the Markets+ Protocols, which will also include a process for modifying or adding electric pricing hubs to the list of default electric pricing hubs.

(9) Run-of-river hydroelectric units, as defined in the Market Protocols, will use the day-ahead peak price at the applicable electric pricing hub as their mitigated offer curve for all hours of the year.

(10) ~~Hydroelectric units that are not Run-of-river, but also do not have more than 30 days of storage, will use the Opportunity Cost Calculator as detailed in Section 3.4.E to calculate their mitigated offer curve, except during the spring melt period when they will use the day-ahead peak price at the applicable electric pricing hub as their mitigated offer curve.~~

Comment [CA19]: As noted in prior comments, I don't believe the opportunity cost caclculator is appropriately framed around energy limits. Suggest utilizing the SHOC for all storage hydro resources.

(11) The spring melt period will be a defined by the market participant for every hydroelectric unit using the SHOC. The market participant will notify the market operator when they are in spring melt conditions, as well as when they are no longer in spring melt conditions. ,

Comment [CA20]: SNPD: as noted above, "spring melt period" is too broad and it is not clear that this section is necessary.

3.5 Mitigation Measures for Start-Up Offers and No-Load Offers

A Market Participant must submit a mitigated Start-Up Offer and a mitigated No-Load Offer for each resource in accordance with the mitigated offer development guidelines in the Markets+ Protocols. The mitigated Start-Up and No-Load Offers may be updated up to the close of the Day-Ahead Market for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead Market, the Start-Up and No-Load Offers may be updated until the RUC begins. The mitigated Start-Up and No-Load Offers submitted at the time the RUC begins will apply to the RUC on the day before the Operating Day unless an exception is allowed in Section 3.3(G) of this Attachment B.

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A. The Start-Up and No-Load Offer conduct threshold is a 10% increase above the mitigated Start-Up or mitigated No-Load Offer, as applicable.

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B. The Market Operator applies mitigation measures by placing a cap on the Start-Up or No-Load Offer of 10% above the applicable mitigated Start-Up or No-Load Offer if:

(1) The Resource's Start-Up or No-Load Offer exceeds the mitigated Start-Up or mitigated No-Load Offer, as applicable, by the applicable conduct threshold; and

(2) The Resource has market power as determined in Sections 3.2(1) or 3.2(3); and

(3) The Resource fails the Market Impact Test as described in Section 3.7(b)

C. For a Resource that has market power as determined in Section 3.2(2), the Market Operator applies mitigation measures by placing a cap on the Start-Up Offer or No-Load Offer of 10% above the mitigated Start-Up Offer or No-Load Offer, as applicable.

D. The mitigated Start-Up Offer must represent the cost per start as determined from start fuel usage and the costs related to that fuel usage, Performance Factor, cost of electricity for station use to start ("Station Service"), start-up VOM cost, start major maintenance cost, and start additional labor costs, if required above normal station staffing levels. Further guidelines for the mitigated Start-Up Offer are documented in Appendix G of the Markets+ Protocols.

The mitigated Start-Up Offer for Demand Response resources must be:

1) For load that is shut down or curtailed, the cost to shut down or curtail the load for a given period, which varies with the number of deployments rather than the amount of response, and
2) For load that is not shut down or curtailed, the start cost of Behind-The-Meter Generation utilizing the mitigated Start-Up Offer calculation applicable to other generation Resources as defined above.

The mitigated Start-Up Offer for Variable Energy Resources must be zero.

E. The mitigated No-Load Offer must be the hourly fixed cost, represented in $/hr, required to operate the Resource at zero electricity output to the grid. The mitigated No-Load Offer can be calculated using either (1) the no-load fuel approach that includes no-load fuel (mmBtu/hour), Performance Factor, no-load VOM cost ($/mmBtu), total fuel related cost ($/mmBtu), and no-load major maintenance cost ($/hr); or (2) calculated using the no-load cost approach that includes heat input at Minimum Economic Capacity Operating Limit (mmBtu), Performance Factor, total fuel related cost ($/mmBtu), no-load VOM cost

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($/mmBtu), incremental cost up to Minimum Economic Capacity Operating Limit ($/MWh), Minimum Economic Capacity Operating Limit (MW), and no-load major maintenance cost ($/hr). Further guidelines for the mitigated No-Load Offer are documented in Appendix G of the Markets+ Protocols.

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The mitigated No-Load Offer for Demand Response Resources utilizing Behind-The-Meter Generation must adhere to the same definition above as a generating Resource. For Demand Response Resources utilizing load reduction, the mitigated No-Load Offer must not exceed the quantifiable ongoing hourly costs associated with load reduction.

The mitigated No-Load Offer for Variable Energy Resources shall be zero.

F. The Market Participant must submit all inputs used in calculating mitigated Start-Up and mitigated No-Load Offers to permit the Market Monitor to verify submitted offers. Required information includes: heat rate curves, descriptions of how spot fuel prices and/or contract prices are used to calculate fuel costs, variable fuel transportation and handling costs, emissions costs, and VOM cost. All cost data and cost calculation descriptions are subject to the review and approval of the Market Monitor to ensure reasonableness and consistency across Market Participants. Information to be provided by the Market Participant must include the following:

(1) For fuel costs, Market Participants must provide the Market Monitor with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants must submit VOM costs reflecting short-run marginal costs, exclusive of fixed costs.

(4) For start and no-load major maintenance cost, Market Participants may include these costs as a component of the mitigated Start-Up Offer and the mitigated No-Load Offer. Such cost must be based solely on resource-specific information derived from actual variable maintenance costs, when available, or estimated variable maintenance costs. The maintenance period for start major Maintenance cost must be tied to the number of starts, and the maintenance period for no-load major maintenance cost must be tied to the number of Resource run hours.

Further details associated with the development, validation and updating of these costs are included in Appendix G of the Markets+ Protocols.

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G. Intra-day changes to the mitigated Start-Up and mitigated No-Load Offers are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past their commitment period, the Market Participant may submit updated mitigated Start-Up and mitigated No-Load Offers that reflect the procurement of higher cost fuel;

(2) A Resource must switch fuels due to unforeseen operating conditions; or

(3) The Resource is an ESR.

Intra-day changes to the mitigated Start-Up and mitigated No-Load offers must follow the mitigated offer development guidelines Appendix G of in the Markets+ Protocols and will be validated by the Market Monitor.

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H. In all cases under this Section 3.3, cost data submitted for the development of mitigated offers, including opportunity cost data, is subject to the confidentiality provisions set forth in Section 10 of Attachment A of this Tariff.

3.5.1 Mitigation Measures for Transition State Offers

The mitigation measures in this section apply only to MCRs. A mitigated Transition State Offer must be submitted daily by the Market Participant in accordance with the mitigated offer development guidelines specified in the Markets+ Protocols for each potential transition state changes. The mitigated Transition State offer may be updated up to the close of the Day-Ahead Market before the Operating Day as defined in Section 3.4 of Attachment B of this Tariff for use in the Day-Ahead Market. In the case a

Resource is not committed by the Day-Ahead Market, the mitigated Transition State Offer may be updated until the Day-Ahead RUC process begins. The mitigated Transition State Offer submitted at the time the Day-Ahead RUC process begins will apply to the Day-Ahead RUC process on the day before the Operating Day and Intra-Day RUC processes on the Operating Day.

A. The Transition State Offer conduct threshold is a 10% increase above the mitigated Transition State Offer.

B. The Market Operator applies mitigation measures by placing a cap on the Transition State Offer of 10% above the mitigated Transition State Offer if:

(1) The Resource's Transition State Offer exceeds the mitigated Transition State Offer by the applicable conduct threshold; and

(2) The Resource has market power as determined in Sections 3.2(1) or 3.2(3); and

(3) The Resource fails the Market Impact Test as described in Section 3.7(b).

C. For an MCR that has market power as determined in Section 3.2(3), the Market Operator applies mitigation measures by placing a cap on the Transition State Offer of 10% above the mitigated Transition State Offer.

D. The mitigated Transition State Offer for an MCR must represent the costs of moving from the current configuration to another configuration as determined from the fuel costs incurred during the transition, the costs related to that fuel usage, Performance Factor, and additional maintenance and labor costs incurred during the transition, including transition VOM cost and transition major maintenance cost. Further guidelines for the mitigated Transition State Offer are documented in Appendix G of the Markets+ Protocols.

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The Market Participant must submit documentation of the method and any cost data for calculating the mitigated Transition State Offer that is necessary to allow the Market Monitor to validate submitted offers. Further details associated with the development of these costs are included in the Markets+ Protocols.

E. Intra-day changes to the mitigated Transition State Offers are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past their commitment period, the Market Participant may submit an updated mitigated Transition State Offer that reflects the procurement of higher cost fuel; or

(2) A Resource must switch fuels due to unforeseen operating conditions.

Intra-day changes to the mitigated Transition State Offers must follow the mitigated offer development guidelines in Appendix G of the Markets+ Protocols and will be validated by the Market Monitor.

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F. In all cases under this Section 3.5.1, cost data submitted for the development of mitigated offers, including opportunity cost data, is subject to the confidentiality provisions set forth in Section 10 of Attachment A of the Tariff.

3.6 Mitigation Measures for Flexibility Reserve Product Offers

For each Flexibility Reserve Product offered, a mitigated offer must be submitted by the Market Participant in accordance with the mitigated offer development guidelines in the Markets+ Protocols. For MCRs for which a single configuration allows physical units to be swapped (e.g., Combustion Turbine 2 for Combustion Turbine 1), the costs used in the mitigated offer development for that configuration must be those of the least cost physical unit that is available and can be swapped in such configuration. The mitigated Flexibility Reserve Product Offers may be updated up to the close of the Day-Ahead Market for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead Market, the mitigated Flexibility Reserve Product Offers may be updated until the Day-Ahead RUC begins. For Resources committed by the Day-Ahead Market, the mitigated Flexibility Reserve Product Offers submitted as of the close of the Day-Ahead Market will apply to the Day-Ahead Market on the day before the Operating Day and the RTBM on the Operating Day unless an exception is allowed in Section 3.4(G) of this Attachment B; for all other Resources, the mitigated Flexibility Reserve Product Offers submitted at the time the Day-Ahead RUC begins will apply to the RTBM on the Operating Day.

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For each Flexibility Reserve Product offered, the conduct threshold is a 10% increase above the mitigated offer for the applicable Flexibility Reserve Product Offer.

A. The Market Operator applies mitigation measures by placing a cap on the Flexibility Reserve Product Offer of 10% above the applicable mitigated Flexibility Reserve Product Offer if:

(1) The Resource's Flexibility Reserve Product Offer exceeds the applicable mitigated offer by the conduct threshold; and

(2) The Resource has market power as determined in Sections 3.2(1) or 3.1(3); and

(3) The Resource fails the Market Impact Test as described in Section 3.7(b) is manually committed by the Markets+ Transmission Service Provider, Balancing Authority, or Reliability Coordinator.

B For a Resource that has market power as determined in Section 3.2(2), the Market Operator applies mitigation measures by placing a cap on the Flexibility Reserve Product Offer of 10% above the applicable mitigated Flexibility Reserve Product Offer.

C. [Intra-day changes to the mitigated Flexibility Reserve Product Offers are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource that is supplying Flexibility Reserve Products remain online past their commitment period by the Day-Ahead Market or a RUC process, the Market Participant may submit an updated mitigated Flexibility Reserve Product Offer that reflects the procurement of higher cost fuel;

(2) A Resource must switch fuels due to unforeseen operating conditions; or

(3) Intra-day changes to the mitigated Offers are allowed after the RUC clears on the day before the Operating Day under the following condition:

a. The Resource incurs the uncompensated cost in Section 3.4(E)(3) of this Attachment B, for which the mitigated offer calculation is described in Appendix G of the Markets+ Protocols.

Intra-day changes to the mitigated Flexibility Reserve Product Offer must follow the mitigated offer development guidelines in Appendix G and Section 8.2.2 of the Markets+ Protocols and will be validated by the Market Monitor.

D. The Market Participant may include in the calculation of its mitigated Flexibility Reserve Product Offer an amount reflecting the Resource-specific opportunity costs if the Market Participant is able to demonstrate to the satisfaction of the Market Monitor that such costs are legitimate and verifiable and not otherwise

included in market outcomes. To the extent such costs include run-time restrictions, such run-time restrictions must be updated as specified in the Markets+ Protocols, with more frequent updating to occur the fewer hours that remain available, consistent with the Markets+ Protocols. The formulas and instructions in the price forecast model for any such opportunity costs are determined by the Market Monitor and published in the Markets+ Protocols as part of the Mitigated Offer Development Guidelines, updated, as needed, by the Market Monitor. Opportunity costs for mitigated Flexibility Reserve Product Offers must not include Energy and Flexibility Reserve Product Markets revenues associated with forgone Energy or other types of Flexibility Reserve Product production to the extent that such costs are included in market outcomes.]

E. All cost data and cost calculation descriptions are subject to the review and approval of the Market Monitor to ensure reasonableness and consistency across Market Participants. The information must be sufficient for replication of the mitigated Flexibility Reserve Product Offers and must include, among other data, the following information:

(1) For fuel costs, Market Participants must provide the Market Monitor with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants must submit VOM costs, calculated in adherence with the Appendix G of the Markets+ Protocols, reflecting short-run marginal costs, exclusive of fixed costs.

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F. In all cases under this Section 3.4, cost data submitted for the development of mitigated offers, including opportunity cost data, is be subject to the confidentiality provisions set forth in Section 10 of Attachment A of this Tariff.

3.7 Validation of Mitigated Resource Offers

If the Market Monitor determines that the Market Participant has incorrectly applied the formulas and definitions in Sections 3.4A to 3.4L, 3.5, 3.5.1, and 3.6 of this Attachment B and in the Markets+ Protocols or determines that a mitigated offer is otherwise unacceptable, the Market Participant must submit the mitigated offer calculated by the Market Monitor going forward. The Market Monitor calculated mitigated offer must continue to be submitted until any dispute is resolved. The procedures for submitting and processing disputes related to mitigated offers are specified in the Markets+ Protocols. The Market Operator remedies mitigated offer disputes resolved in favor of the Market Participant by providing make whole payments, as necessary, to the Market Participant whose mitigated offer was improperly determined by the Market Monitor.

Each Market Participant is obligated to provide to the Market Monitor any cost data necessary to allow the Market Monitor to validate its mitigated Resource Offer.

The Market Monitor will keep such data confidential, and all cost data submitted under this Section 3.5, including any opportunity cost data, are subject to the confidentiality provisions set forth in Section 10 of Attachment A of this Tariff. The Market Monitor maintains the mechanism and procedures to allow Market Participants to submit such cost data on the Market Operator's website.

3.8 Additional Mitigation Measures for Resource Offer Parameters

The mitigation measures in this section apply to all Resource Offer parameters expressed in non-currency-based units and apply only in the presence of market power. A reference level for each applicable Resource Offer parameter that reflects the physical capability of the Resource is determined prior to the start of Markets+ by one or both of the following methods: (i) consultation between the Market Participant and the Market Monitor; and/or (ii) based on averages of Resource Offer parameters from similar Resources. This methodology for setting reference levels for Offer parameters applies to all Resources at the start of Markets+ and to all Resources that register subsequent to the start of Markets+. The Market Operator's output forecast for a wind and solar-powered Variable Energy Resource is used as the reference maximum output limit for the wind and solar-powered Variable Energy Resource.

The following thresholds are used by the Market Monitor to identify Resource Offers that may warrant mitigation and are determined with respect to the corresponding reference level:

1. Time-based Resource Offer parameters: An increase of three (3) hours, or an increase of six (6) hours in total for multiple time-based Resource Offer parameters.
2. Resource Offer parameters expressed in units other than time or dollars: One hundred percent (100%) increase for Resource Offer parameters that are minimum values, or a fifty percent (50%) decrease for Resource Offer parameters that are maximum values.
3. Minimum Economic Capacity Operating Limit, Minimum Discharge Limit, or Maximum Charge Limit, as applicable, threshold for Resources committed to address a Local Reliability Issue: twenty-five percent (25%) increase.
4. Maximum Charge Limit, as applicable, threshold for Resources committed to address a Local Reliability Issue: twenty-five percent (25%) decrease.

In the case that a Resource Offer fails the thresholds described above, the Market Monitor will determine the impact on prices or make whole payments. If an impact exceeds the LMP, MCP or make whole payment thresholds in Section 3.98, the Market Monitor will initiate a discussion with the Market Participant concerning an explanation of the parameter changes. The Market Monitor will inform the Market Operator of any potential issue. If the Market Operator, in consultation with the Market Monitor, concludes that the Market Participant has demonstrated the validity of the submitted Resource Offer parameter, no further action will be taken. If not, the Market Operator will replace the Resource Offer parameter with the corresponding reference level. Mitigation measures will remain in place until such time that the Market Participant demonstrates the validity of the Resource Offer parameter or the Market Participant notifies the Market Monitor that the Resource Offer parameter has been changed to a value that is within the tolerance range as described above, and the Market Monitor has verified that this change has occurred. In the event that the Market Participant submits a dispute, the mitigation measure will remain in place until the resolution of the dispute.

In all cases under this Section 3.8, cost data submitted for the development of mitigated offers, including opportunity cost data, is subject to the confidentiality provisions set forth in Section 10 of Attachment A of this Tariff.

3.9 Market Impact Test

If any Resource meets the conditions in Section 3.2 of this Attachment B, then the Market Operator compares a market solution with no mitigation measures to a market solution with mitigation measures applied. The Market Operator will apply mitigation measures to all such Resources when:

(1) An LMP or MCP at a Settlement Location exceeds the corresponding price from the market solution with mitigation measures applied by the applicable impact test threshold, or

(2) A make whole payment for any Resource exceeds the corresponding make whole payment from the market solution with mitigation measures applied by make whole payment impact test threshold.

The LMP, MCP, and make whole payment impact threshold is calculated as the product of (i) the MEC from the market solution with mitigation measures applied and (ii) the Slope Factor, where the impact threshold is between the minimum and maximum impact thresholds, inclusive.

(1) The Slope Factor determines how much the MEC affects the impact threshold between the minimum impact threshold and maximum impact threshold. The Slope Factor is 0.5; and

(2) The minimum impact threshold is $5 and the maximum impact threshold is $100.

4 Miscellaneous Provisions

4.1 Rights and Remedies

The Market Power Mitigation Plan does not restrict the Market Operator and Market Participants from asserting any rights they may have under state and federal regulation and laws, including initiating proceedings before the FERC regarding any matter which is subject to this Market Power Mitigation Plan.

Except as otherwise stated in this Market Power Mitigation Plan, disputes as to the implementation of, or compliance with, this Market Power Mitigation Plan are subject to the dispute resolution procedures under this Tariff or the SPP Bylaws as applicable or may be raised with the FERC.

ATTACHMENT C
Market Monitoring Plan

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1. Purpose and Objective

1.1 Purpose of the Plan

This plan is intended to provide for the monitoring of Markets and Services and submissions of recommendations to the FERC and the SPP Board of Directors.

1.2 Market Monitoring Plan ("Plan")

The Plan is developed, implemented and maintained by SPP's Market Monitor. The Market Monitor has the responsibility for implementing the Plan by (a) continuously monitoring Markets and Services, (b) recommending compliance and corrective actions per this Tariff, (c) collecting and retaining the data and information necessary for the performance of the Plan, (d) recommending updates to the monitoring plan contained within Attachment C to this Tariff, and (e) periodically reporting on Markets and Services.

1.3 Mission Statement and Objectives of the Market Monitor

1.3.1 Mission Statement

The mission of the Market Monitor is to (a) monitor and report on possible abuses of horizontal and vertical market power and gaming in Markets and Services by any Market Participant (b) identify market design flaws and recommend any changes in design to improve the operation of Markets and Services for the benefit of consumers and Market Participants and (c) monitor Market Participants' compliance with market rules.

1.3.2 Objectives

The Market Monitor will work to ensure that its functions and activities are implemented fairly and consistently, and that it protects and fosters competition while minimizing interference with open and competitive markets. The Market Monitor's preferred approach is to make recommendations to improve the operation of markets and to prevent the exercise of market power in advance rather than punishing offenders afterward.

The Market Monitor will evaluate existing and proposed market rules, Tariff provisions, and market design elements and recommend proposed rules and Tariff changes to the Market Operator, FERC, and other interested entities such as state commissions and Market Participants. The Market Monitor will limit distribution of its identifications and recommendations to the Market Operator and FERC in the event that the Market Monitor believes that broader

dissemination could lead to exploitation, with an explanation of why further dissemination should be avoided.

The Market Monitor will review the performance of the Markets and Services and provide an annual report on the state of the market as provided in Section 7 of this Attachment C.

The Market Monitor will recognize that entities otherwise identified as having market power may engage in conduct giving the impression of market power but, after analysis by the Market Monitor, may prove to be pro-competitive and efficient. In making this distinction, the Market Monitor will generally focus on an analysis of the identified conduct and associated market impacts, rather than seeking to determine the intent of the Market Participant (e.g., conducting profitability analyses that would require comprehensive information on all the physical and final positions of a participant).

1.4 Independence of the Market Monitor

The Market Monitor independently performs those activities necessary to provide impartial and effective market monitoring within the scope of the Plan. The Market Monitor may verify information with affected Market Participants prior to making recommendations or reports.

1.5 Resolution of Conflicts

In the event there is a conflict between this Attachment C and any other provision of this Tariff, this Attachment C will control.

2. Definitions

For purposes of this Plan, capitalized terms have the meanings specified below:

2.1 Confidential Information

The term defined under Section 1 to this Tariff.

2.2 Data and Information

Writings, documents and records of every type, including audio recordings and electronic files.

2.3 Interested Government Agencies

The FERC and any state regulatory commission or agency with relevant regulatory oversight responsibilities.

2.4 Markets and Services

The markets and services offered under the Markets+ tariff.

3. Market Monitor

The Market Monitor is responsible for implementing the Market Monitoring Plan as defined in this Tariff.

3.1 Staffing and Resources

The Market Monitor is an organization within SPP reporting to the Board of Directors, excluding any SPP management representatives serving on the Board of Directors. The Market Monitor will be comprised of employees of SPP with the necessary experience and qualifications to perform the duties of the Market Monitor. The duties and responsibilities of the Market Monitor are assigned by the Board of Directors. However, the Market Monitor's duties and responsibilities will not include purely administrative matters (e.g., enforcement of late fees and the untimely submission of outage reports and Meter Data). SPP management representatives on the Board of Directors will be excluded from the Board of Directors' oversight of the Market Monitor. SPP must establish and provide appropriate staffing and/or resources for the Market Monitor and must ensure that the Market Monitor has such adequate employees, funding and/or other resources, access to required information, and the full cooperation of SPP Staff, Organizational Groups, and other persons, as necessary, for the effective functioning of the Market Monitor and implementation of this Plan. The Market Monitor has full responsibility for implementing Attachment C.

3.2 Relationships and Notifications

As a general principle, the Market Monitor may obtain input from SPP staff, FERC, the Markets+ State Committee, and affected state regulatory authorities for the purpose of executing its duties.

In accordance with this Tariff, the Market Monitor must at any time bring any instances of market behavior that may require investigation (including, but not limited to, suspected Tariff violations, suspected violations of FERC-approved rules and regulations, suspected market manipulation, and inappropriate dispatch) to the attention of FERC's Office of Enforcement (or its successor organization) staff.

In the event the Market Monitor identifies a significant market design or policy problem that may require (a) a change to this Tariff or (b) referral to FERC, the Market Monitor must provide notification to the M+ Independent Panel Board of Directors, the President of SPP, and the

appropriate FERC staff, and other interested and relevant entities such as state regulatory commissions, as soon as practicable. In the event the Market Monitor believes broader dissemination could lead to exploitation, it may limit distribution of its identifications and recommendations to M+ Independent Panel, the Board of Directors, the President of SPP, and FERC with an explanation of why further dissemination should be avoided at that time.

The Market Monitor may also interface with FERC and other RTO and ISO market monitors in adjacent regions as needed for the purpose of addressing electricity market issues in a comprehensive manner.

3.3 Independence and Ethics Standards

The Market Monitor and its employees must abide by SPP's Standards of Conduct, which are appropriate for establishing the professional and financial independence of the Market Monitor.

Consistent with this requirement, the Market Monitor and its employees must:

(a) have no material affiliation with any Market Participant or any affiliate of a Market Participant;

(b) not serve as an officer, employee, or partner of a Market Participant;

(c) have no material financial interest in any Market Participant or any affiliate of a Market Participant (allowing for such potential exceptions as mutual funds and non-directed investments);

(d) not engage in any market transactions other than the performance of their duties under this Tariff;

(e) not be compensated, other than by SPP, for any expert witness testimony or other commercial services to SPP or to any other party in connection with any legal or regulatory proceeding or commercial transaction relating to SPP;

(f) not accept anything of value from a Market Participant in excess of a de minimis amount;

(g) advise their relevant supervisor (or, in the case of the Market Monitoring management, SPP's Board of Directors) in the event they seek employment with a Market Participant, and must disqualify themselves from participating in any matter that would have an effect on the financial interest of such Market Participant.

These restrictions are not exclusive of the other requirements specified in SPP's Standards of Conduct. In the event there is a conflict between this Attachment C and SPP's Standards of Conduct, this Attachment C will control.

The Market Monitor must certify compliance with such policies to the President of SPP. The Market Monitor must require any external consultants or experts to certify compliance with these policies.

4. Market Monitoring

4.1 Markets to be Monitored

The Market Monitor will monitor Markets and Services. The Market Monitor will not monitor bilateral energy, transmission or capacity markets and services not administered, coordinated or facilitated by SPP, except to assess the effect of these markets and services on Markets and Services, or the effects of Markets and Services on these unmonitored markets. Similarly, the Market Monitor will not monitor the energy, transmission, or capacity markets and services in regions adjacent to the Markets+ Footprint except to assess the effect of these markets and services on Markets and Services, or the effects of Markets and Services on these adjacent markets.

4.2 Market Monitoring Scope

The Market Monitor will monitor Markets and Services by reviewing and analyzing market data and information including, but not limited to:

(a) Resource registration data;

(b) Resource Offer data including non-price related offer parameters required for use in either the Day-Ahead Market, Reliability Unit Commitment processes and/or Real-Time Balancing Market;

(c) Demand Bids for the purchase of Energy in the Day-Ahead Market;

(d) Virtual Energy Bids for the purchase of Energy in the Day-Ahead Market and Virtual Energy Offers for the sale of Energy in the Day-Ahead Energy Market;

(e) Export Interchange Transaction Bids and Import Interchange Transaction Offers for the purchase and sale of Energy in the Day-Ahead Market and the Real-Time Balancing Market;

(f) Actual commitment and dispatch of Resources, including but not limited to Resource MW capability and output, MVAR capability and output, status, and outages;

(g) Locational Marginal Prices and zonal Market Clearing Prices at all Settlement Locations in or affecting any of Markets and Services;

(h) Markets+ participating Balancing Authority Area data, including but not limited to demand, area control error, Net Scheduled Interchange, actual total net interchange, and forecasts of operating reserves and peak demand;

(i) Conditions or events both inside and outside the Markets+ Footprint affecting the supply and demand for, and the quantity and price of, products or services sold or to be sold in Markets and Services;

(j) Information regarding transmission services and rights;

(k) Information regarding the nature and extent of transmission congestion in the region and, to the extent practicable, transmission congestion on any other system that affects Markets and Services, including but not limited to causes of, costs of and charges for transmission congestion, transmission facility loading, MVA capability, line status and outages;

(l) Settlement data for the Markets and Services;

(m) Any information regarding collusive or other anticompetitive or inefficient behavior in or affecting any of Markets and Services;

(n) Generation resource operating cost data for estimating resource incremental cost, including fuel input costs, heat rates where applicable, start-up fuel requirements, environmental costs and variable operating and maintenance expenses; and

(o) Any additional Resource and transmission facility outage data not otherwise provided for in this Section 4.2;

In addition to the monitoring of market Data and Information, the Market Monitor may communicate with SPP Staff and Market Participants at any time for the purpose of monitoring and assessing market conditions.

4.3 Referrals to FERC

(a) The Market Monitor will refer suspected market violations, as defined in 18 CFR 35.28(b)(8), to FERC's Office of Enforcement (or its successor organization) staff in accordance with the FERC's reporting protocols for referrals by market monitors as specified in 18 C.F.R. § 35.28(g)(3)(iv) in a timely manner. Any such referrals by the Market Monitor to FERC Staff will be on a confidential basis, and all information and documents included in such reports will not be released to any other party except to the extent FERC directs or authorizes such release, unless such information and documents are already in the public domain.

(b) The Market Monitor will refer any perceived market design flaws and recommended Tariff language changes to ~~the Commission~~FERC's Office of Energy Market Regulation or its successor office/organization in accordance with 18 C.F.R. § 35.28(g)(3)(v).

4.4 Monitoring for Potential Market Manipulation

The Market Monitor will monitor for potential instances of market manipulation as defined in 18 C.F.R. §1c.2.. The Market Monitor will report any market manipulation in a timely manner.

4.5 Monitoring for Potential Transmission Market Power Activities

The Market Monitor will monitor Markets and Services for the exercise of transmission market power by reviewing and analyzing data and information related to the availability of transmission facilities that impact access to services under this Tariff. The Market Monitor will monitor for activities particularly with respect to the withholding of transmission facilities or transmission capacity, including activities such as but not limited to, the following:

(a) Physical withholding by Transmission Owners by providing improper information related to the availability of transmission, such as information related to the capability or other modeling data used by SPP for use in system operations;

(b) Economic withholding by Transmission Owners through the use of methods and data for estimating costs of interconnection and system upgrades that is not comparable for affiliates and non-affiliates;

(c) Unavailability of transmission facilities through planned and unplanned maintenance outages that routinely exceed historical baselines; and

(d) Withholding of transmission capacity through excess reservations that are not actually used.

The Market Monitor will refer any instance(s) of the suspected exercise of transmission market power directly to FERC's Office of Enforcement (or its successor organization) utilizing the protocols for referrals to FERC for suspected instances of the exercise of market power that may be part of a suspected market violation, such as manipulation, in accordance with 18 C.F.R. § 35.28(g)(3)(iv). Where appropriate, the Market Monitor will also provide the FERC with an estimate of damages equal to (i) the effect on prices multiplied by (ii) the affected energy produced by the Transmission/Generation Owner. The Market Monitor may also request FERC to impose additional sanctions and penalties, which may consist of a fixed dollar amount based on each instance, or an amount up to (i) the effect on prices multiplied by (ii) the affected energy produced by Market Participants other than the Transmission/Generation Owner.

4.6 Monitoring for Market Participant Behavior Possibly Warranting Mitigation

The Market Monitor will monitor Markets and Services for potential abuse associated with the following categories of Market Participant behavior: (1) economic withholding; (2) uneconomic production; (3) physical withholding; and (4) uneconomic Virtual Bids and Virtual Offers. Abuse of these types of behaviors is prohibited. The mitigation measures for each of the behaviors identified in items (1) through (4) of this paragraph are described in Attachment B. When the Market Monitor determines that there is sufficient credible information about a specific abusive practice, the issue will be referred to ~~the Commission~~FERC's Office of Enforcement (or its successor organization). Nothing in this section limits the Market Monitor's obligation to refer other suspected market violations to ~~the Commission~~FERC's Office of

Enforcement, even where suspected behavior does not fall explicitly within the abovementioned categories or descriptions.

4.6.1 Uneconomic Production

. The Market Monitor will monitor the Markets+ for uneconomic production and will impose appropriate mitigation measures if such conduct is detected. Uneconomic production from an Resource that is increasing the output of an Resource to levels that would otherwise be uneconomic in order to cause, and obtain benefits from, a transmission constraint.

4.6.2 Monitoring for Virtual Energy Bids and Virtual Energy Offers

The Market Monitor will monitor the level of divergence between the Day-Ahead Market LMPs and the Real-Time Balancing Market LMPs. Section 4.6.3 defines the monitoring metric and thresholds to be used in determining the existence of excessive LMP divergence. In the case that there is excessive LMP divergence, the Market Monitor will determine if the LMP divergence is attributable to the Virtual Energy Bid and Virtual Energy Offer behavior of one or more Market Participants. If the Market Monitor identifies one or more Market Participants as having caused the excessive LMP divergence through Virtual Energy Bid and Virtual Energy Offer behavior, then the Market Monitor will recommend that the Market Operator apply the mitigation measures described in Section 5.4 of Attachment A.

4.6.3 Metric and Threshold Specifications

The Market Monitor computes the hourly LMP deviation between the Day-Ahead Market and Real-Time Balancing Market using the following formula: $[(LMP_{RTBM} / LMP_{DA\ Market}) - 1] * 100$. The average hourly LMP deviation is computed over a rolling four (4) week period or any other period that the Market Monitor determines is appropriate. If the rolling average is below negative ten percent (-10%) or in excess of ten percent (10%), then the divergence is considered excessive and additional analysis is required.

4.6.4 Physical Withholding

(1) Physical withholding and unavailability of facilities includes but is not limited to:

(a) Declaring that a Resource has been derated, forced out of service or otherwise been made unavailable for technical reasons that are untrue or that cannot be verified;

(b) Refusing to provide offers or schedules for a Resource when it would otherwise have been in the economic interest to do so without market power;

(c) Operating a Resource in real-time to produce an output level that is less than the Dispatch Target minus the Resource's Operating Tolerance defined in Section 6.4.1 of Attachment A to this Tariff and the Resource is not exempt from URD under Section 6.4.11 of Attachment A to this Tariff;

(d) Derating a transmission facility for technical reasons that are not true or verifiable;

(e) Operating a transmission facility in a manner that is not economic and that causes a binding transmission constraint, binding reserve zone, Local Reliability Issue, or Emergency Condition; and

(f) Declaring that the magnitude of the capability of a Resource is reduced for reasons that are not true or verifiable. This capability includes but is not limited to the following:

(i) The capability to provide Energy;

(ii) The capability to provide Flexibility Reserve Products;

(iii) In the case of MSRs, the capability to charge and/or to discharge.

(2) Market Participant will not be deemed to be physically withholding if:

(a) They are following the directions of the Balancing Authority, Reliability Coordinator, transmission service provider, or applicable reliability standards;

(b) They are selling into another market at a higher price;

(c) The Market Participant is reducing the magnitude of the MSR's maximum capability, either charging or discharging, from its true and verifiable physical or environmental limitations in order to provide that capability for the duration of the minimum clearable commitment period.

(d) The Market Participant satisfies the must offer requirements as detailed in Section 5.1;

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(e) They are following water management directives pursuant to the legal authority and operational responsibilities of the hydro operator or hydro participant.

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4.6.4.1 Thresholds for Identifying Physical Withholding of Resource Capacity

A Market Participant is deemed to be physically withholding capacity if all of the following conditions exist:

(a) One or more transmission constraints are binding or a Reserve Zone is binding; and

(b) The Market Participant owns or controls one of more Resources that have market power as defined in Section 3.2 of Attachment B of this Tariff; and

(c) One of the following conditions apply:

(1) Such Resource(s) satisfy one of the conditions in Sections 4.6.4(a), 4.6.4(b), or 4.6.4(f) of this Attachment C and the total withheld capacity exceeds the lower of 5 percent of the total capability owned or controlled by the Market Participant or 200 MW; or

(2) Where the real-time output of each such Resource is less than the Dispatch Target minus the Resource's Operating Tolerance defined in Attachment A, Section 6.4.1 of this Tariff and the Resource is not exempt from Uninstructed Resource Deviation under Attachment A, Section 6.4.1.1 of this Tariff.

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4.6.4.2 Thresholds for Screening of Potential Physical Withholding of Transmission Facilities

A transmission facility fails the physical withholding screen if either of the following conditions is met:

(a) The transmission facility satisfies a condition in Section 4.6.4(d) or 4.6.4(c) of this Attachment C; or

(b) The Market Monitor identifies a pattern of scheduling outages resulting in increased market costs compared to an alternative and lower cost impact outage schedule.

4.6.4.3 Sanctions

The Market Monitor will record instances where Market Participants have failed the screens in Sections 4.6.4.1 and 4.6.4.2 of this Attachment C. The Market Monitor will notify FERC's Office of Enforcement, or successor organization, of suspected physical withholding behavior. In the event the Market Monitor determines there is credible evidence of a market violation, the Market Monitor will make a referral to FERC as described in Section 4.3 of this Attachment C.

5. Review of Market Activity

5.1 Requests

Any Market Participant or Interested Government Agency may raise any issue with the Market Monitor and request that the Market Monitor consider the issue in its monitoring and reporting. The Market Monitor may include this issue in its monitoring or reporting if it determines it is appropriate to do so. The Market Monitor should not monitor or report on any complaint pertaining to issues not related to Markets and Services or activities not monitored and overseen by the Market Monitor.

Any requests by Market Participants and Interested Government Agencies to the Market Monitor may be made confidentially. The Market Monitor will maintain the confidentiality to the extent practicable.

6. Compliance and Corrective Actions

6.1 Compliance

The Market Monitor will administer the Market Monitoring Plan as described in this Attachment C and will report any actual or potential abuse of market power or market design inefficiencies as part of its monitoring process. However, the Market Monitor's activities are limited to matters that (i) are expressly set forth in this Tariff; (ii) involve objectively-identifiable behavior; and (iii) do not subject the Market Participant to sanctions or other consequences other than those expressly approved by FERC and set forth in this Tariff.

As part of the monitoring process, the Market Monitor may issue a demand letter requesting Market Participants causing the issue to arise to change actions as the Market Monitor deems proper to achieve compliance and the Market Monitor may also engage in discussions with persons or entities other than Market Participants as necessary as part of any investigatory or compliance process.

6.2 Corrective Actions for Market Design

If the Market Monitor discerns any weaknesses or failures in market design and market rules, including the determination that Markets and Services are not resulting in just and reasonable prices or providing appropriate incentives for investment in needed infrastructure, the Market Monitor will advise the appropriate Organizational Group of SPP, the President of SPP, the MSC, appropriate state authorities, FERC, and relevant Market Participants. In the event the Market Monitor believes providing such information could lead to exploitation, it will restrict such notification to the President of SPP, the Chairman of the SPP Oversight Committee, and FERC, and will provide a justification for such limited notification.

Should SPP not respond within 60 days, the Market Monitor may recommend changes in market design and market rules to the Board of Directors, FERC, and the MSC as needed. If SPP responds, but does not recommend changes to market design and market rules that are acceptable to the Market Monitor, the Market Monitor will report to the Board of Directors and the appropriate regulatory body or bodies as needed, and then SPP may file a petition or submission seeking appropriate action from FERC or any other appropriate enforcement agency. The Market Monitor may make recommendations for changes to this Tariff as necessary to correct weaknesses or failures in Markets and Services.

In the event that any weaknesses or failures in market design require immediate corrective action to ensure just and reasonable prices, the Market Monitor may request the President of SPP to authorize an immediate FERC filing requesting implementation of a corrective action while the appropriate Organizational Group of SPP responds to the Market Monitor's notification as described above. The requested immediate corrective action should be the method least intrusive or disruptive to Markets and Services necessary to resolve the market weakness or failure as determined by the Market Monitor. Prior to making such a request to the President of SPP, the Market Monitor will make reasonable efforts to discuss with affected Market Participants and the staff of affected Interested Government Agencies the market weakness or failure potentially requiring immediate corrective action, unless the Market Monitor determines that such discussions would lead to exploitation.

7. Periodic Reports and Updates to SPP, Government Agencies, and Market Participants

7.1 Reports and Updates to the Board of Directors

7.1.1 State of the Market Reports

(1) The Market Monitor will publish an annual state of the market report providing details on the market for the previous year. As a part of its annual reports, the Market Monitor may make recommendations regarding any matter within its purview as defined in the Tariff. The Market Monitor will submit and present on its annual state of the market report to the Oversight Committee and Board of Directors.

(2) The Market Monitor will publish a quarterly state of the market report providing details on the market for the previous quarter. As part of its quarterly reports, the Market Monitor may make recommendations regarding any matter within its purview as defined in the Tariff. The Market Monitor will post the quarterly state of the market report on the Market Operator's website.

Any such reports may be subject to confidentiality provisions consistent with Section 8.1.

7.1.2 Market Monitor Activities Report

The Market Monitor will also prepare and submit to the Oversight Committee quarterly updates on Market Monitor activities emphasizing any issues of concern to the Market Monitor.

7.1.3 Report Comments

SPP and Market Participants may comment on any public reports made pursuant to this section, through the appropriate stakeholder process or directly to the Market Monitor. The independent Market Monitor maintains discretion to disregard any comments or suggestions with which it disagrees.

7.2 Reports to Government Agencies, the Market Operator, and Market Participants

After an annual review of the performance of the wholesale markets as discussed in Section 1.3.2 of this Attachment C, the Market Monitor will provide its annual State of the Market Report to FERC, the SPP Board of Directors, the Market Operator, state commissions, Market Participants, and other interested entities. The Market Monitor will also make available, as described below, the reports provided to the Board of Directors and other such reports as may be requested by the FERC or such authorities subject to protection of confidential, proprietary and commercially sensitive information and the protection of the confidentiality of ongoing monitoring activities.

7.2.1 The Market Monitor will submit such reports to the FERC and other affected regulatory authorities, including the Markets+ State Committees.

7.2.2 These Market Monitor reports are made available on the Market Operator's website.

7.2.3 The Market Monitor will hold conference calls related to these reports. Any interested party may attend these conference calls. The Market Monitor will make one or more of its staff members available for regular conference calls. Individual entities may request meetings to discuss these reports.

8. Data Access, Collection and Retention

8.1 Confidentiality

SPP and Market Participants may designate Data and Information as Confidential Information consistent with the terms of SPP's Membership Agreement and Section 10 of Attachment A. If the designation of Confidential Information appears to be unreasonable, the Market Monitor may challenge such designation of Confidential Information consistent with Section 10 of Attachment A.

The Market Monitor will provide Confidential Information to Interested Government Agencies consistent with the terms of Section 10.4 of Attachment A.

8.2 Access to Data and Information

The Market Monitor must have access to all market impacting Data and Information. This Data and Information will be gathered or generated by the Market Operator, participating Balancing Authority, or Market Participant. This Data and Information includes, but is not limited to the operational data, listed in Section 4 of this Plan, gathered or generated by all market impacting entities which may include the Market Operator, Balancing Authority, Reliability Coordinator, and transmission service provider. All Data and Information listed in Section 4 of this Plan must be retained for a minimum period of six years.

8.3 Access to Market Participant Data and Information

Market Participants must retain Data and Information listed below, and in Section 4 of this Plan as applicable, that is in the custody and control of Market Participants, for a minimum of six years and must promptly provide any such Data and Information to the Market Monitor upon request, unless such Data and Information is not required for sharing with the Market Monitor as detailed in this section.

Market Participants must provide the Data and Information to the Market Monitor, upon request, unless explicitly exempted in a Markets+ participant agreement. Requested Data and Information must be shared in a commonly used format along with a description of the data and format. Market Participants will not continuously share data on Resources beyond what is necessary to represent the resource's generation capability in the market optimization software for the applicable period. If necessary, due to proprietary format restrictions, the Market

Participant must provide the data to the Market Monitor in a non-proprietary format, such as CSV or XML format along with a description of the data and format. Market Participants may designate such Data and Information as Confidential Information, but such Data and Information must not be redacted or modified in any manner prior to delivery to the Market Monitor by the Market Participant.

Market Participants must provide the Data and Information to the Market Monitor, upon request, in a commonly used format along with a description of the data and format. If necessary, due to proprietary format restrictions, the Market Participant must provide the data to the Market Monitor in a non-proprietary format, such as CSV or XML format along with a description of the data and format. Market Participants may designate such Data and Information as Confidential Information, but such Data and Information must not be redacted or modified in any manner prior to delivery to the Market Monitor by the Market Participant.

Market Participants must retain the following Data and Information for all parties affiliated with the Market Participant and provide it to the Market Monitor upon request:

(a) All Data and Information relating to the costs of operating a resource, including but not limited to, heat rates, start-up fuel requirements, fuel purchases, environmental costs, and operating and maintenance expenses;

(b) All Data and Information regarding opportunity costs of a resource, including but not limited to, regulatory, environmental, technical, or other restrictions that limit the run-time or other resource operating characteristics;

(c) All Data and Information relating to the operating status of a resource, including but not limited to logs showing the status of a resource, including information relating to an outage or derate;

(d) All Data and Information relating to the operating status of a transmission facility, a contingency, tap setting of a phase shifting transformer, or other operating consideration, including but not limited to an outage or derate of a transmission system component;

(f) All Data and Information relating to the ability of a Market Participant or its affiliate to determine the pricing or output level of resource capacity owned by another entity, including but not limited to any document setting forth the terms or conditions of such ability;

(g) All Data and Information used in the course of business operations in arriving at a decision by a reserve sharing group member to call an operating reserve contingency and to request assistance;

If any additional Data and Information not listed above or in Section 4 of this Plan is required from Market Participants by the Market Monitor for the purpose of fulfilling its responsibilities, the Market Monitor may request such Data and Information from Market Participants, unless such Data and Information is explicitly excluded as a sharing obligation in this Section. Such eligible Data and Information must be provided in a timely manner by Market Participants. If a Market Participant receiving a request for Data and Information not listed above or in Section 4 of this Plan believes that production of the requested Data and Information would impose a substantial burden or expense, or would require the party to produce information that is not relevant to achieving the purposes or objectives of this Plan, the Market Participant receiving the request should promptly notify the Market Monitor. If the Market Monitor determines that the request can be narrowed or otherwise modified to reduce the burden or expense of compliance, the Market Monitor may modify the request. No party that is the subject of a data request will be required to produce any summaries, analyses, or reports of the data that do not exist at the time of the data request, other than a description of the data.

If the Market Monitor determines that the requested Data and Information has not or will not be provided in a timely manner, the Market Monitor may (a) follow the dispute resolution procedures under this Tariff or under the SPP Markets+ Bylaws as applicable or (b) make a filing with the appropriate regulatory or enforcement agency to compel the production of the requested information.

8.4 Data Created by Market Monitor

Any data created by the Market Monitor, including any reconfiguration of Data and Information under this section, will remain within the Market Monitor's exclusive control. Such data may be shared at the Market Monitor's sole discretion and on a non-discriminatory basis, subject to the confidentiality provisions specified in this Attachment C and Section 10 of Attachment A.

9. Miscellaneous Provisions

9.1 Rights and Remedies

This Plan does not restrict SPP and Market Participants from asserting any rights they may have under state and federal regulation and laws, including initiating proceedings before the FERC regarding any matter which is subject to this Plan.

9.2 Disputes

Disputes as to the implementation of, or compliance with, this Plan are subject to the dispute resolution procedures under this Tariff or under the SPP Markets+ Bylaws as applicable or subject to review by FERC.

10. Review of Market Monitor

The activities of the Market Monitor will be reviewed from time to time by the Board of Directors.

From: Michael Daly <mdaly@spp.org>
Sent: Friday, July 7, 2023 7:02 AM
To: Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] M+ Question
Attachments: Lighting the Way_Arizona.xlsx

Hi Russ,

I enjoyed meeting you last month in Portland and appreciate your efforts to help us explain the basics of energy markets to a new audience.

We will be taking this same session on the road week after next to SRP in Tempe, and I am needing help identifying someone that will be as knowledgeable as you/Libby about Markets+.

Can you review the attached list and identify someone we might could call upon to help explain and/or translate more complex questions that might arise? If no one on the list meets that criteria, do you know of someone in the Desert Southwest that might fit that bill? We will certainly work to invite that person to the event.

Thank you,

Michael

Michael Daly (he/him/his) Why Pronouns Matter | Principal External Affairs Liaison | mdaly@spp.org | (O) 501.688.8264 |
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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User Last Name	User First Name	Division
Aguilar	Raquel	Tucson Electric Power Company (TEPC)
Autio	Phoebe	Other Non-Member
Barbash	Carolyn	NV Energy
Beljean	Beau	Salt River Project
Brightwell	Lisa	Salt River Project
Chwialkowski	Todd	EDF Renewables Development, Inc.
Clark	Michael	Arizona Corporation Commission
Clinkscales	Amber	Salt River Project
Conn	Stephanie	Salt River Project
Correira	Derek	Arizona Public Service Company
Curson	Connor	Powerex Corp.
Dacus	Calvin	Tucson Electric Power Company (TEPC)
Fischer	Jerret	Salt River Project
Garcia	Kandy	Salt River Project
Gilbert	Alysha	Salt River Project
Guice	Bethany	ACES Power Marketing
Guzman	Christina	Arizona Public Service Company
Hamilton	James	Arizona Public Service Company
Hanson	Dwight	Arizona Public Service Company
Hardin	Patrick	Farmington Electric Utility System (FEUS)
Hartman	David	Arizona Electric Power Cooperatives, Inc. (AEPC)
Hasty	Amanda	Arizona Corporation Commission
Henderson	Michael	Bonneville Power Administration (BPA)
Henrickson	Linda	Arizona Public Service Company
Hirsch	Allison	Arizona Public Service Company
Johnson	Magdalena	Salt River Project
Kwan	Petros	ConnectGen LLC
Lin	Kate	Salt River Project
Little	Stephanie	Arizona Public Service Company
Lopez	Stephanie	Tucson Electric Power Company (TEPC)
Lut	Agnes	Salt River Project
Lydon	Patrick	Arizona Public Service Company
Lyons	Kenneth	Arizona Public Service Company
Maser	Michele	Salt River Project
Monahan	Christine	Salt River Project
Moore	Kiley	NV Energy
Myers	Nick	Arizona Corporation Commission
Nelsen	Jennifer	Salt River Project
Olson	Laura	Salt River Project
Ortiz	Charles	Farmington Electric Utility System (FEUS)
Parker	Amber	Arizona Electric Power Cooperatives, Inc. (AEPC)
Pederson	Blake	Tucson Electric Power Company (TEPC)
Pfeister	Mike	Salt River Project

Raatz	Eric	Tucson Electric Power Company (TEPC)
Reed	Pamela	Tucson Electric Power Company (TEPC)
Reynolds	Houston	ACES Power Marketing
Robertson	Darrin	Salt River Project
Sasaki	Matthew	ACES Power Marketing
Schmidt	Marcus	Arizona Public Service Company
Shaver	Justin	Arizona Public Service Company
Stevens	John	Orsted US Trading LLC
Stoltz	Heidi	Salt River Project
Tai	Alexander	Tucson Electric Power Company (TEPC)
Taylor	Joshua	WAPA - Desert Southwest Region
Welty	Brian	Salt River Project
Zard	Brian	ACES Power Marketing

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, September 28, 2023 9:08 AM
To: Fina, Giuseppe (Joe); Mantifel,Russell (BPA) - PGL-5
Cc: Chris Nolen
Subject: [EXTERNAL] RE: Legal Group Comments on Attachment C

Hey Joe –

Thank you for the modifications. I have incorporated them into the master tariff and will relay the message to the MMU.

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Fina, Joe <GFina@SNOPUD.com>
Sent: Thursday, September 28, 2023 10:59 AM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Kristen Darden <kdarden@spp.org>
Cc: Chris Nolen <cnolen@spp.org>
Subject: **External Email** Legal Group Comments on Attachment C

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - GFina@SNOPUD.com and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Russ and Kristen,

The Markets+ Legal Group had a chance to review Section 4 of Attachment C. Specifically, we recommend that the MDWG approve section 4.4 of Attachment C as shown below. The original proposed language was based on similar language in the WEIS tariff. That language was dated and attempted to summarize the FERC regulation on market manipulation. To avoid confusion and inconsistency, the group replaced the "summary" language with a reference to the FERC regulation.

- Joe

Giuseppe "Joe" Fina
Assistant General Counsel
Public Utility District No. 1 of Snohomish County

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4.4 ~~WEIS~~ Monitoring for Potential Market Manipulation

The Market Monitor will monitor for potential instance
defined in 18 C.F.R. §1c.2. ~~Such actions or trans~~
~~legitimate business purpose and that foreseeably coul~~
~~market conditions, or market rules for electric ener~~
~~prohibited. As listed by the FERC, prohibited behavio~~
~~to (a) wash trades, (b) submission of false data, (c~~
~~congestion and (d) collusive acts.~~ The Market Mon
manipulation ~~in the WEIS Market~~ in a timely manner.

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From: Kristen Darden <kdarden@spp.org>
Sent: Friday, November 3, 2023 1:58 PM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] November 3rd MDWG Summary of Motions, Action Items, and Future Meetings
Attachments: 11 03 MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx

Good afternoon MDWG stakeholders and participants –

Attached is the draft summary of the 11/3 MDWG meeting motions, action items, and future meetings. Please review and let me know if you have any edits.

Have a great weekend!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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SPP Southwest Power Pool

MARKETS+

SOUTHWEST POWER POOL, INC.
MARKETS+ DESIGN WORKING GROUP MEETING
11/3/2023
Net-Conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MDWG MOTIONS:

1. **Agenda Item 3 – AI #15: Attachment A, Sec. 6.4 Market Manipulation Antiquated Language in Market Participant Obligations**

   Motion: Lindsey Schlekeway (NVE) motioned to approve Attachment A, Section 6.4 (Market Participant Obligation: Market Manipulation) as modified during the meeting to include the reference to the CFR instead of removing the section entirely. Laura Trolese (TEA) provided the second. Motion carried unanimously.

MDWG ACTION ITEM:

Action Item: MDWG representatives to provide feedback on Attachments B and C, to Kelli Schermerhorn (kschermerhorn@spp.org), by close of business Thursday, November 9th, 2023. SPP staff and SPP MMU staff will discuss internally the use of reserve zones as a basis for the Residual Supply Index (RSI) test.

FUTURE MEETINGS:

Meeting: November 17th MDWG Meeting
Date: November 17th, 2023
Location: Net-conference
Time: 10:30 a.m. – 5:00 p.m., CPT (8:30 a.m. – 3:00 p.m., PT/9:30 – 4:00 p.m., MT)

Meeting: November 28th MDWG Meeting
Date: November 28th, 2023
Location: Net-conference
Time: 10:30 a.m. – 5:00 p.m., CPT / 8:30 a.m. – 3:00 p.m., PDT / 9:30 a.m. – 4:00 p.m., MT

29332152

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, August 8, 2023 7:38 AM
To: Mantifel,Russell (BPA) - PGL-5; Detmer, Nick
Cc: Jim Gonzalez
Subject: [EXTERNAL] Today's MPEC Notes
Attachments: 2b MPEC Agenda 20230808_KD NOTES.docx

Hey there –

I've attached the MPEC agenda for today with some notes attached to the MDWG items. I'll also be there in the room with you guys, as will Jim.

See you soon.

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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SPP Southwest Power Pool

MARKETS+

SOUTHWEST POWER POOL, INC.
MARKET+ PARTICIPANT EXECUTIVE COMMITTEE MEETING (MPEC)

August 8, 2023 10:00 a.m. – 5:00 p.m. PT
August 9, 2023 8:30 a.m. – 10:30 a.m. PT
Hyatt Regency at Oregon Convention Center – Portland, Oregon

AGENDA

1. Call to Order ..... Laura Trolese (10)
   A. Anti-Trust Statement ..... Carrie Simpson
   B. Attendance/Receipt of Proxies ..... Carrie Simpson
2. Consent Agenda (Approval) ..... Laura Trolese (5)
   A. MPEC Meeting Minutes 20230418
   B. MPEC Meeting Agenda 20230808
3. Action Item Review ..... Carrie Simpson (5)
4. Markets+ Program Schedule Overview ..... Carrie Simpson (30)
5. Markets+ Governance Update ..... Paul Suskie (60)
6. Markets+ State Committee Update ..... Ann Rendahl (15)
7. **Markets+ Market Design Working Group** .....
   A. Tariff Language ..... Jim Gonzalez/Russell Mantifel
      i) Attachment A-Sections 1-2.3.3 Day-Ahead and Operating Day Activities and Attachment A-Sections 3-3.7.2 Locational Marginal Prices and Market Clearing Prices (Approval) (45)

         (1) Need approval on the language. Encourage them to know that they'll see this language again, even once they approve it during this meeting, because we will need to add in other inputs such as GHG, Congestion Rent, etc., as they become available from other WG/TFs.

         (2) Received feedback during the MPEC quarterly briefing from stakeholders that they want to ensure the group knows discussion is encouraged at this

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time on the language. I believe there was a concern that we weren't allowing enough time to discuss the language, but they definitely have the ability and right to discuss it. Ya'll have probably heard the same notion, but wanted to emphasize that here whenever it comes up.

B. Virtual Transactions Effective Date (Approval) .....Jim Gonzalez/Russell Mantifel (30)

(1) Need approval to move forward with our proposed motion we landed on during the 7/26 MDWG meeting (*approve Virtuals with 6-month delayed implementation and system limitations*). The full motion will be included in the slide for MPEC.

(2) We (MDWG and SPP staff) will be working through establishing/designing system limitations for the Virtuals market design during future MDWG meetings. Potentially as soon as the 8/29 MDWG, but definitely by 9/20 MDWG.

C. Cost Allocation Methodology (Approval).....Jim Gonzalez/Russell Mantifel (30)

(1) Need approval of proposed Cost Allocation Methodology (*by Balancing Authority Area*). The full motion is included in the slide for MPEC.

(2) Will be having the Technical Settlements Workshop 8/31-9/1 at TSGT in Denver, CO. I encourage everyone to sign-up so they can get comfortable with settlements and be ready to review tariff language associated with charge types during future meetings.

D. MDWG Roster Update.....Russell Mantifel (15)

(1) No action needed from MPEC. Updating the group to let them know Scott Miller with Western Power Trading Forum (WPTF) is the new MDWG independent sector seat representative. The MPEC Independent Sector seats voted him in.

8. Markets+ Green House Gas Task Force Update.....Clare Breidenich (15)
9. Markets+ Congestion Rents Task Force Update.....Jeff Spires (30)
10. Markets+ Seams Working Group Update.....Tuuli Hakala (15)
11. Markets+ Resource Adequacy Task Force Update.....Tyler Moore (15)
12. Markets+ Transmission Working Group Update.....Joe Taylor (15)
13. Markets+ Rates Task Force Update.....Arthur Freitas (15)

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14. Markets+ Operations and Reliability Working Group Update.....Chris Hoffman (15)

15. Summary of Action Items.....Carrie Simpson (5)

16. Discussion of Future Meetings.....Carrie Simpson (5)

Markets+ Participant Executive Committee Meeting
November 7-8, 2023
8:30 a.m. to 5:00 p.m. MT / 8:30 a.m. to 5:00 p.m. MT
Salt River Project—Public Administration Building
1500 N. Mill Ave.
Tempe, AZ 85281

17. Adjournment.....Laura Trolese

Antitrust: SPP strictly prohibits any participation in SPP activities as a forum for engaging in practices or communications that violate the antitrust laws. These would discussion of topics or behavior that would result in anti-competitive behavior, including but not limited to, agreements between or among competitors regarding prices, bid and offer practices, availability of service, product lines, terms of sale, division of markets, allocation of customers or any other activity that might unreasonably restrain competition.

From: Meghan D. Sever <msever@spp.org>
Sent: Tuesday, June 11, 2024 10:16 AM
To: Kirby,Elizabeth A (BPA) - MTM-3; Hayes,Matthew C (BPA) - MTM-3; Mantifel,Russell (BPA) - MTM-3; Dibble,Rachel L (BPA) - PT-5
Cc: Eaton,Sara L (BPA) - PTMA-5; Meyers,Andrew P (BPA) - MTM-3
Subject: RE: [EXTERNAL] Markets+ support letter footprint

This is very helpful info and exactly what we needed, Libby! Thanks so much!

From: Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>
Sent: Tuesday, June 11, 2024 12:14 PM
To: Meghan D. Sever <msever@spp.org>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Mantifel, Russ <rxmantifel@bpa.gov>; Dibble, Rachel <rldibble@bpa.gov>
Cc: Eaton, Sara <sleaton@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] Markets+ support letter footprint

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Hi Meghan,

Assuming you're asking that the placements on the map look right and not that the list of supporters looks right. I'm working off the map of our customers and adjacencies that can be found here: public-tribal-and-iou-territories.pdf (bpa.gov)

A couple notes:

- For Idaho Falls, I think you are mapping Idaho Power (BA/IOU in Idaho), not Idaho Falls (small muni in PAC BA), you'll see a small yellow dot in the purple section in the east of Idaho on the map above. Idaho Falls is one of BPA's "transfer customers", which means we are responsible for them but they are not in our BA.
- Snohomish looks like it goes all the way to the water in between those 2 chunks of Puget on our map, might want to check with them, but maybe not a big deal.
- Hood River, Benton, and Frankling look a little funny, but not huge issues either. I'll try to confirm internally but if you need to send it out before I can get an answer, no worries.

From: Meghan D. Sever <msever@spp.org>
Sent: Monday, June 10, 2024 2:45 PM
To: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - PT-5 <rldibble@bpa.gov>
Subject: [EXTERNAL] Markets+ support letter footprint

Hi, all –

We are working on a Markets+ footprint map that shows each of the April 12 Markets+ support letter signees. Can you let me know if the entities in the PNW look accurate to you? Hoping to share this with participants soon.

Thanks.

Meghan Sever, APR | Senior Communication Strategist | msever@spp.org | ([redacted] (b) [redacted]

From: Carrie Simpson <csimpson@spp.org>
Sent: Monday, October 2, 2023 11:43 AM
To: Meyers,Andrew P (BPA) - B-3; Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] FW: Markets+ Funding Party Executives Call Follow Up

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From: Antoine Lucas <alucas@spp.org>
Sent: Monday, September 11, 2023 12:04 PM
Subject: Markets+ Funding Party Executives Call Follow Up

Markets+ Executives,

At today's meeting with Markets+ funding party executives, we discussed several options for Phase 2 funding. The following notes are SPP's preliminary ideas for two and possibly three options. As discussed on the call, before deciding on a funding option, I will continue organizing calls with you individually. We will then pull the group together to try and establish a critical mass to move forward with a unified option.

The options, and associated numbers are intended to be used as placeholders for budgeting purposes until more detail is known. Since work is ongoing and the options are subject to change, please limit distribution of this information.

I welcome continued discussion with you on your thoughts and suggestions about Phase 2 funding.

Key assumptions for all options:

1. **Timing:**
    a. Markets+ participants will be fully prepared to execute Phase 2 contracts prior to the tariff filing in January 2024.
    b. Phase 2 implementation will begin immediately upon contract execution.
    c. FERC's approval of the tariff could take up to nine months.

2. **Participation:** All Markets+ Phase 1 funding parties will participate in and fund Phase 2.

3. **Off-Ramps:** Limited off-ramps will be offered subject to qualifying criteria such as FERC tariff rejection or critical mass/footprint viability (Phase 1 critical mass defined as 150,000 GWhs of NEL and at least two contiguous balancing authorities).

4. **Total market implementation cost**: $140M

Option 1: Commit to Markets+ Phase 2 upon tariff filing

- Each participant will pay its share of four, $35M payments over 24 months, totaling $140M.
- First payment will be collected upon tariff filing, with each of the subsequent three payments collected at the beginning of the next six-month period.

- Funding obligations will transition to an operational fee of $76M at the conclusion of the implementation period.
- Markets+ will be implemented as early as Q1 2026.

Option 2: Fund preliminary Markets+ Phase 2 activities as a bridge to full commitment

- Each participant will pay its share of the first $10M payment at the start of Phase 2.
- Each participant will pay its share of four, ~$32.5M subsequent payments over 24 months.
- The second payment will be collected upon FERC approval of Markets+ tariff
- The subsequent three payments will be collected at the beginning of the next six-month period.
- Funding obligations will transition to an operational fee of ~$76 at the conclusion of the implementation period
- Markets+ will be implemented as early as Q3 2026.

SPP is exploring a third option that allows SPP to borrow funds for Markets+ implementation and recover the costs from participants over time after market go live. To effectuate this option, SPP must determine how to leverage Markets+ participants' credit to allow SPP to meet lender credit requirements and secure lender funding. SPP would need to craft a multi-party agreement with Markets+ participants that obligates them to repay the debt.

SPP is also evaluating the development of an "on-ramp" mechanism that could facilitate entities joining Markets+ at different points during the implementation period and paying their share of the cost.

Thanks,

Antoine Lucas
Vice President, Markets
Southwest Power Pool
Phone: *501-614-3382*
Email: *alucas@spp.org*

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This email and any attachments are for the sole use of the intended recipient(s) and may contain confidential information. If you receive this email in error, please notify the sender, delete the original and all copies of the email and destroy any other hard copies of it.

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, July 31, 2023 7:21 AM
To: Cornelius, Adam; Ching, Vincent; Trolese, Laura; Applegate, Rick; Mantifel,Russell (BPA) - PGL-5
Cc: Chris Nolen; Kelli Schermerhorn; Jim Gonzalez; Rachel Kane; Emon Mahony
Subject: [EXTERNAL] Markets+ Tariff - Hydro Aggregation Definition and Language
Attachments: Markets+ Tariff_Hydro Aggregation Language.docx

Good morning all –

I have attached the rough draft language that we have worked on internally for the definition and resource participation model for Hydro Aggregation. Please review and provide your comments and edits for review. We appreciate you standing up to volunteer to help get the ball rolling in the right direction for this.

Thank you!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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Definition

Hydro Aggregation

Hydroelectric facilities, including pumped storage facilities, which share a common hydrological basin, river system, ownership and operational control, and are registered as a Hydro Aggregation.

Attachment A – Section 4: Resource Participation

4.2.6 Hydro Aggregation

Hydroelectric facilities, including pumped storage facilities, meeting the following criteria may register as a Hydro Aggregation:

1) Share a common hydrological basin;
2) Share a common river system;
3) Share common ownership and operational control; and
4) Aggregation does not create a reliability issue as determined by the BA.

Physical and operational Resource characteristics, real-time telemetry and other information for each generating Resource in a Hydro Aggregation must be provided to the Market Operator.

From: Meghan D. Sever <msever@spp.org>
Sent: Thursday, May 2, 2024 2:04 PM
To: Johnson,G Douglas (BPA) - DK-7; Hayes,Matthew C (BPA) - MTM-3; Baskerville,Sonya L (BPA) - AI-WASH
Cc: Mantifel,Russell (BPA) - MTM-3; Kirby,Elizabeth A (BPA) - MTM-3; Dibble,Rachel L (BPA) - PT-5; Derek Wingfield; Dustin B. Smith; Kristen Darden
Subject: [EXTERNAL] BPA external affairs meeting

Hi, all –

Thank you for your involvement in Markets+ development and willingness to engage with SPP on external affairs matters.

As you know, SPP canceled the May 2 External Affairs Forum because of participants' scheduling conflicts. Instead, SPP external affairs staff is conducting one-on-one meetings with each Markets+ participant. These meetings allow us to have casual, candid conversations about outreach, needs, challenges and opportunities unique to your organization and region.

SPP staff will be at BPA July 9-10, and our external affairs staff would love to schedule some time with BPA's staff responsible for external affairs, stakeholder relations, communication and regulatory and legislative outreach during that visit.

Kristen Darden has been working with BPA staff to develop an agenda for the July 9-10 meeting. While that agenda is still under development, we'd like to see whether there is any availability for SPP external affairs staff to meet with you either the afternoon of July 10 or sometime July 11.

Please let me know what day and time works best for your staff. We'd love to include other key BPA staff engaged in Markets+ development because our initial discussions with stakeholders have shown their unique perspectives contribute significantly to the conversation.

Thanks again for everything you do, and we look forward to meeting with you soon!

Regards,

Meghan Sever, APR | Senior Communication Strategist | msever@spp.org | (b) (6)
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, August 23, 2023 8:45 AM
To: Mantifel,Russell (BPA) - PGL-5; Detmer, Nick
Subject: RE: [EXTERNAL] RE: Agenda for next meeting

Great – thanks guys. I'll get it updated and emailed out.

From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Wednesday, August 23, 2023 10:39 AM
To: Detmer, Nick <nick.detmer@xcelenergy.com>; Kristen Darden <kdarden@spp.org>
Subject: **External Email** RE: [EXTERNAL] RE: Agenda for next meeting

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Same here

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Wednesday, August 23, 2023 6:31 AM
To: Kristen Darden <kdarden@spp.org>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Subject: [EXTERNAL] RE: Agenda for next meeting

I am good with another hour and I am good with the agenda.

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, August 22, 2023 8:44 AM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Subject: RE: Agenda for next meeting

EXTERNAL - STOP & THINK before opening links and attachments.

Hey guys –

For our meeting next week, 8/29, the agenda is super packed, but we have to big items we need to get through. Thoughts on adding another hour to the meeting so that it is 8:30-3:00 PT/9:30-4:00 MT/10:30-5:00 CPT?

From: Kristen Darden
Sent: Monday, August 21, 2023 3:11 PM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: RE: Agenda for next meeting

Hey Russ –

I have not sent it yet. Here you go! I've looped in Nick too. Let me know your thoughts.

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Monday, August 21, 2023 3:10 PM
To: Kristen Darden <kdarden@spp.org>
Subject: **External Email** Agenda for next meeting

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Hi Kristen,

Is there a draft agenda for the next meeting? Sorry if you sent it and I missed it.

Russell Mantifel (he/him/his)
Director | Market Initiatives
BONNEVILLE POWER ADMINISTRATION
rxmantifel@bpa.gov | P 503-230-4372



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From: Marr, Garrison <GBMarr@Snopud.com>
Sent: Tuesday, July 23, 2024 11:33 AM
To: Tuuli Hakala; Marcie L Martin
Cc: Walter, Kent C; (b)(6) [redacted]; Jeff Spires; Holman, Mark; Josh C Robertson; Zahnow, Jessica Lynn; Phil Haines; Mantifel,Russell (BPA) - MTM-3; Dibble,Rachel L (BPA) - PT-5; Hayes,Matthew C (BPA) - MTM-3; Cole, Brian; Janet Jaspers; Egge, Eric; dan.walter@tristategt.org; Robinson, Chris; Johnson, Ray; Zyskowski, Jason; Cornelius, Adam; Rich Flanagan; Joe Taylor; (b)(6) [redacted]; Aitken, Meredith
Subject: RE: [External Sender] Re: [External] RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

Hey all,

We have some of our senior folks out and are not able to sign on the group's timeline for that reason.

That being said, it might be worthwhile to wordsmith some of the language on Page 3. That language now says the Pathways Initiative "cannot result in a governance framework comparable to Markets+ for several reasons". You might consider replacing "cannot" with "is unlikely to". Softening the language may help establish credibility with what could be a broad audience with diverse perspectives. Don't disagree with the notion, but think the language may cause a reaction for some and impede broader goals.

Garrison Marr
Senior Manager, Power Supply
Snohomish County PUD | (b)(6) [redacted]
2320 California Street | Everett, WA | 98201

From: Tuuli Hakala <Tuuli.Hakala@chelanpud.org>
Sent: Tuesday, July 23, 2024 11:08 AM
To: Marcie L Martin <Marcie.Martin@srpnet.com>
Cc: Walter, Kent C <Kent.Walter@aps.com>; (b)(6) [redacted]@tep.com>; Jeff Spires <jeff.spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh C Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Cole, Brian <Brian.Cole@aps.com>; Janet Jaspers <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Marr, Garrison <GBMarr@Snopud.com>; Cornelius, Adam <ACCornelius@Snopud.com>; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) [redacted] (b)(6) [redacted]@tep.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: [External Sender] Re: [External] RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

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Chelan as well

On Jul 23, 2024 10:35 AM, Marcie L Martin <Marcie.Martin@srpnet.com> wrote:

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prvs=69340f9711=marcie.martin@srpnet.com.
Do you trust this message and any contents within?
If not, please forward it to our Phishing Hole for analysis. Thank You!

Hi Kent,

SRP will sign the governance issue brief.

Marcie Martin

Principal Analyst
SRP | Energy Market Strategy | PAB 361
P.O. Box 52025, Phoenix, AZ 85072-2025
P: (602) 236-2811 | **M**: (b)(6)

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From: Walter, Kent C <Kent.Walter@aps.com>
Sent: Monday, July 22, 2024 10:40 AM
To: (b)(6) @tep.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh C Robertson <Josh.Robertson@srpnet.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Cole, Brian <Brian.Cole@aps.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) (b)(6) @tep.com>

Cc: Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

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Thanks for the comments. Attached are clean and redline versions with the proposed language incorporated.

Kent

From: (b)(6) @Tep.com>
Sent: Monday, July 22, 2024 8:56 AM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Cole, Brian <Brian.Cole@aps.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) (b)(6) @tep.com>
Cc: Walter, Kent C <Kent.Walter@aps.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

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(b)(4)

(b)(4)

[redacted]

From: (b)(6) [redacted] @tep.com>
Sent: Friday, July 19, 2024 4:03 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Brian.Cole@aps.com; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) [redacted] @tep.com>
Cc: Kent.Walter@aps.com; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

(b)(4)

[redacted]

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, July 19, 2024 6:10 AM
To: Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Brian.Cole@aps.com; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) @tep.com>; (b)(6) @tep.com>
Cc: Kent.Walter@aps.com; Aitken, Meredith <Meredith.Aitken@powerex.com>
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Good morning all,

Last week during the Monday Markets+ funding party executive call there was discussion followed by general consensus on the call for developing a series of "Issue Alerts" that could be shared publicly by Markets+ funding entities, with one Issue Alert released every two weeks or so, to provide some balance to the recent industry dialogue that has been narrowly focused on seams issues and the Pathways initiative. The objective is to publicly issue (to Clearing Up and possibly elsewhere) these short summaries (one on governance and then 5-6 on specific market design topics) that details the benefits of Markets+ relative EDAM/EIM in each of these areas to better explain the continued support for Markets+.

A smaller group (PWX, CHPD, BPA, PSE, APS, and SRP) have worked together on the first paper on governance (see attached). We expect each of those entities will sign on except for BPA based on certain limitations they have related to their ongoing public process.

Please keep this letter **confidential** for now. We request that each of you confirm whether you will sign on by the ***end of the day on Monday.***

This effort is being coordinated by Kent Walter (APS) and myself so please feel free to reach out to us with any questions. Please note I am on vacation starting next week; Meredith Aitken will be the Powerex point of contact on this while I am away.

Regards,

Jeff

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From: Kristen Darden <kdarden@spp.org>
Sent: Friday, December 15, 2023 10:52 AM
To: Mantifel,Russell (BPA) - MTM-3; Detmer, Nick
Subject: RE: [EXTERNAL] RE: MDWG Touchbase

Thank you both!

Happy Holidays!

From: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Sent: Friday, December 15, 2023 12:11 PM
To: Detmer, Nick <nick.detmer@xcelenergy.com>; Kristen Darden <kdarden@spp.org>
Subject: **External Email** RE: [EXTERNAL] RE: MDWG Touchbase

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Same for me

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Friday, December 15, 2023 9:22 AM
To: Kristen Darden <kdarden@spp.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] RE: MDWG Touchbase

That works for me.

From: Kristen Darden <kdarden@spp.org>
Sent: Friday, December 15, 2023 9:53 AM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Subject: RE: [EXTERNAL] RE: MDWG Touchbase

EXTERNAL - STOP & THINK before opening links and attachments.

Hey there –

I don't think 1/16 will work for the settlements MWG meeting. Would Friday, 1/19/24, be available for you both? It would be only settlements, so maybe 3-4 hours tops?

From: Kristen Darden
Sent: Wednesday, December 6, 2023 2:06 PM
To: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: RE: [EXTERNAL] RE: MDWG Touchbase

Great – thank you both. And per the service offering, it's a two-year term of service. However, I note that with the caveat that I do not know if that pertains to a specific phase of the project. I would think your terms would run through the end of next year and then January 2025 will be open election time.

From: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Sent: Wednesday, December 6, 2023 1:14 PM
To: Detmer, Nick <nick.detmer@xcelenergy.com>; Kristen Darden <kdarden@spp.org>
Subject: **External Email** RE: [EXTERNAL] RE: MDWG Touchbase

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Should work for me too. Are we keeping to same leadership in Phase 2a? I'm happy (happy?) to keep on keeping on, just checking.

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Wednesday, December 6, 2023 9:49 AM
To: Kristen Darden <kdarden@spp.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: [EXTERNAL] RE: MDWG Touchbase

Should be no problem for me.

From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, December 6, 2023 10:29 AM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Subject: MDWG Touchbase

EXTERNAL - STOP & THINK before opening links and attachments.

Hey there –

Russ – (b)(6)

A few things for you:

1. The MDWG meeting scheduled for **1/11/24**, 11:00-1:00 p.m., CPT, will need to be extended to accommodate the other topics that we were not able to cover 11/28 or 12/1. I'm thinking 11:00-5:00 p.m., CPT. Any heartburn here?
2. Looking to schedule another MDWG **1/16/24** to cover only Settlements. Not sure on the time yet, but I would think 3-4 hours. Does this work for you?
3. Attached is the proposed 2024 M+ meeting calendar. We will be transitioning to Protocols in 2024, as soon as the Tariff has been fully approved and blessed by the stakeholders. Let me know your thoughts on this calendar. It is not set in stone and is able to be modified.

Thank you both!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)

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From: Carrie Simpson <csimpson@spp.org>
Sent: Tuesday, September 19, 2023 6:58 AM
To: Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] RE: CAISO Language

CAISO

39.4 Sanctions for Physical Withholding The CAISO may report a Market Participant the CAISO determines to have engaged in physical withholding, including providing the CAISO false information regarding derating or outage of an Electric Facility, to the Federal Energy Regulatory Commission in accordance with Section 9.3.10.5. In addition, a Market participant that fails to operate a Generating Unit in conformance with CAISO Dispatch Instructions shall be subject to the penalties set forth in Section 11.23.

SPP:

3. Mitigation Measures for Economic Withholding – Market Power in Energy and Flexibility Reserve Products

This section sets forth the market power mitigation measures that are applied in the Day-Ahead Market, Reliability Unit Commitment processes and the Real-Time Balancing Energy Markets, collectively referred to as Markets+.

3.1 Market Participant Communication

A Market Participant must provide accurate and factual information and not submit false or misleading information, or omit material information, in any communication with the Market Monitor, unless the Market Participant exercises due diligence to prevent such occurrences.

4.6 Monitoring for Market Participant Behavior Possibly Warranting Mitigation

The Market Monitor will monitor Markets and Services for potential abuse associated with the following categories of Market Participant behavior: (1) economic withholding; (2) uneconomic production; (3) physical withholding; and (4) uneconomic Virtual Bids and Virtual Offers. Abuse of these types of behaviors is prohibited. The mitigation measures for each of the behaviors identified in items (1) through (4) of this paragraph are described in Attachment B. When the Market Monitor determines that there is sufficient credible information about a specific abusive practice, the issue will be referred to the Commission's Office of Enforcement (or its successor organization). Nothing in this section limits the Market Monitor's obligation to refer other suspected market violations to the Commission's Office of Enforcement, even where suspected behavior does not fall explicitly within the abovementioned categories or descriptions.

From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Monday, September 18, 2023 4:00 PM
To: Carrie Simpson <csimpson@spp.org>
Subject: **External Email** CAISO Language

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Can you send me the CAISO language you found this morning? Talking to Tacoma

Russell Mantifel (he/him/his)
Director | Market Initiatives
BONNEVILLE POWER ADMINISTRATION
rxmantifel@bpa.gov | P 503-230-4372



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From: Christine Dillard <cdillard@spp.org>
Sent: Thursday, January 18, 2024 4:05 PM
To: Fina, Giuseppe (Joe); Gilhen, Jonathan; Chris Nolen; 'Pettit, David E'; 'Gorlin@WAPA.GOV'; 'Alaine Ginocchio'; 'Jason.Kuzma@pse.com'; Engelby, Ben; 'Charles.VonReis@chelanpud.org'; Miller,Todd E (BPA) - LP-7; 'Karilee S Ramaley'; 'Irene Scruggs'; Sabers, Cathy; 'Jennifer.Spina@pinnaclewest.com'; Doot,Erika A (BPA) - LP-7; 'Lee Engel'; Davis,Thomas E (BPA) - LT-7; Kallstrom, Jeffrey; Starnes, Heather; 'Timothy T. Mastrogiacomo (Tim.T.Mastrogiacomo@xcelenergy.com)'; Hickey, Lisa; 'matt@healylawoffices.com'; 'edward.garvey@aeslconsulting.com'; 'ganguiano@westernenergyboard.org'; Binette, Matthew; Tabak, Gabe; Rubin, David; 'mmorais@nationalgridrenewables.com'; Gray, Spencer
Cc: Emon Mahony; Rachel Kane; Joseph Ghormley; Kristen Darden; Carrie Simpson; Mantifel,Russell (BPA) - MTM-3; Michael Riley
Subject: [EXTERNAL] RE: [External Sender] RE: Markets+ Legal Group Meeting

Hi Joe,
I will send this language on to MMU on behalf of the Legal Group.
Thanks,

Christine Dillard | Attorney, Markets & Regulatory Policy
cdillard@spp.org (b)(6) (c)

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From: Fina, Joe <GFina@SNOPUD.com>
Sent: Thursday, January 18, 2024 6:02 PM
To: Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Christine Dillard <cdillard@spp.org>; Chris Nolen <cnolen@spp.org>; 'Pettit, David E' <David.E.Pettit@xcelenergy.com>; 'Gorlin@WAPA.GOV' <Gorlin@WAPA.GOV>; 'Alaine Ginocchio' <agpolsol@outlook.com>; 'Jason.Kuzma@pse.com' <Jason.Kuzma@pse.com>; Engelby, Ben <bengelby@azgt.coop>; 'Charles.VonReis@chelanpud.org' <Charles.VonReis@chelanpud.org>; 'Todd Miller' <temiller@bpa.gov>; 'Karilee S Ramaley' <Karilee.Ramaley@srpnet.com>; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; 'Jennifer.Spina@pinnaclewest.com' <Jennifer.Spina@pinnaclewest.com>; 'eadoot@bpa.gov' <eadoot@bpa.gov>; 'Lee Engel' <elee@cityoftacoma.org>; 'Davis,Thomas E (BPA) - LT-7' <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; 'Timothy T. Mastrogiacomo (Tim.T.Mastrogiacomo@xcelenergy.com)' <Tim.T.Mastrogiacomo@xcelenergy.com>; Hickey, Lisa <lisa@interwest.org>; 'matt@healylawoffices.com' <matt@healylawoffices.com>; 'edward.garvey@aeslconsulting.com' <edward.garvey@aeslconsulting.com>; 'ganguiano@westernenergyboard.org' <ganguiano@westernenergyboard.org>; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; 'mmorais@nationalgridrenewables.com' <mmorais@nationalgridrenewables.com>; Gray, Spencer <sgray@nippc.org>
Cc: Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Michael Riley <michael.b.riley@spp.org>
Subject: **External Email** RE: [External Sender] RE: Markets+ Legal Group Meeting

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All,

Jonathan, Karilee, and I were able to touch base and came up with the following alternative to the language added by the MDWG:

Subject to the confidentiality provisions set forth in Section [10] of Attachment A of this Tariff, a Market Participant that invokes this Section 4.6.4(2)(f) will provide to the Market Monitor upon request the relevant portions of the applicable power purchase agreement, or other applicable power supply agreement, to which the Market Participant is a party and supporting explanation for the technical, operational, or legal limitations of the resource or interconnected facilities, if applicable.

Please reply all with any additional edits **by COB tomorrow**. Assuming this group has consensus/no objections, the plan is to introduce the alternative language during the MPEC meeting next week.

SPP Legal – Please share the new language with the MMU so that they are aware.

Thanks!

Joe

From: Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>
Sent: Tuesday, January 16, 2024 8:28 AM
To: Christine Dillard <cdillard@spp.org>; Fina, Joe <GFina@SNOPUD.com>; Chris Nolen <cnolen@spp.org>; 'Pettit, David E' <David.E.Pettit@xcelenergy.com>; 'Gorlin@WAPA.GOV' <Gorlin@WAPA.GOV>; 'Alaine Ginocchio' <agpolsol@outlook.com>; 'Jason.Kuzma@pse.com' <Jason.Kuzma@pse.com>; Engelby, Ben <bengelby@azgt.coop>; 'Charles.VonReis@chelanpud.org' <Charles.VonReis@chelanpud.org>; 'Todd Miller' <temiller@bpa.gov>; 'Karilee S Ramaley' <Karilee.Ramaley@srpnet.com>; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; 'Jennifer.Spina@pinnaclewest.com' <Jennifer.Spina@pinnaclewest.com>; 'eadoot@bpa.gov' <eadoot@bpa.gov>; 'Lee Engel' <elee@cityoftacoma.org>; 'Davis,Thomas E (BPA) - LT-7' <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; 'Timothy T. Mastrogiacomo (Tim.T.Mastrogiacomo@xcelenergy.com)' <Tim.T.Mastrogiacomo@xcelenergy.com>; Hickey, Lisa <lisa@interwest.org>; 'matt@healylawoffices.com' <matt@healylawoffices.com>; 'edward.garvey@aeslconsulting.com' <edward.garvey@aeslconsulting.com>; 'ganguiano@westernenergyboard.org' <ganguiano@westernenergyboard.org>; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; 'mmorais@nationalgridrenewables.com' <mmorais@nationalgridrenewables.com>; Gray, Spencer <sgray@nippc.org>
Cc: Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Michael Riley <michael.b.riley@spp.org>
Subject: [External Sender] RE: Markets+ Legal Group Meeting

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For those on the call, the provision I flagged is Attachment C Section 4.6.4(2)(f) and the highlighted language below, which was added during MDWG at the request of the Market Monitor but don't think it received much consideration or discussion (for the parts I was listening on the call anyway). As mentioned, I wanted to flag it as we recommended revisions to Attachment A Section 6.9 that initially required provision of documents/contracts. I defer to Joe, but if any concerns with this it may be best to have a short follow up MLG call before MPEC next week to discuss.

(2) Market Participant will be deemed not to be physically withholding if:

(a) They are following the directions of the Balancing Authority, Reliability Coordinator, transmission service provider, or applicable reliability standards. ; or

(b) The Market Participant satisfies the must offer requirements as detailed in Attachment A, Section 5.1; or

(b) They are selling into another market at a higher price; or

(c) The Market Participant is reducing the magnitude of the MSR's maximum capability, either charging or discharging, from its true and verifiable physical or environmental limitations in order to provide that capability for the duration of the minimum clearable commitment period; or

(e) They are following water management requests or directives pursuant to the legal authority and operational responsibilities of the hydro operator or hydro participant.

(f) The Market Participant is subject to the terms of a power purchase agreement, or other power supply agreement, that limits the availability of capacity or energy deliveries to Markets+ as a result of (i) the good faith exercise by the Market Participant of contractual or operational responsibilities thereunder, (ii) the technical or operational limitations of the resource or interconnected facilities, which limitations are beyond the control of the Market Participant to mitigate, or (iii) a request, order, or directive issued by a legal authority with jurisdiction over the resource or interconnected facilities. The purchase agreement, or other power supply agreement, will by made available to the Market Monitor upon request.

Jonathan

Jonathan Gilhen
Lead Counsel, Power & Renewable Products | Powerex Corp.
Email Jonathan.Gilhen@powerex.com

From: Christine Dillard <cdillard@spp.org>
Sent: Tuesday, January 16, 2024 6:55 AM
To: Fina, Giuseppe (Joe) <gfina@snopud.com>; Chris Nolen <cnolen@spp.org>; 'Pettit, David E' <David.E.Pettit@xcelenergy.com>; 'Gorlin@WAPA.GOV' <Gorlin@WAPA.GOV>; 'Alaine Ginocchio' <agpolsol@outlook.com>; 'Jason.Kuzma@pse.com' <Jason.Kuzma@pse.com>; Engelby, Ben <bengelby@azgt.coop>; 'Charles.VonReis@chelanpud.org' <Charles.VonReis@chelanpud.org>; 'Todd Miller' <temiller@bpa.gov>; 'Karilee S Ramaley' <Karilee.Ramaley@srpnet.com>; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; 'Jennifer.Spina@pinnaclewest.com' <Jennifer.Spina@pinnaclewest.com>; 'eadoot@bpa.gov' <eadoot@bpa.gov>; 'Lee Engel' <elee@cityoftacoma.org>; 'Davis,Thomas E (BPA) - LT-7' <tedavis@bpa.gov>; 'Kallstrom, Jeffrey' <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; 'Timothy T. Mastrogiacomo (Tim.T.Mastrogiacomo@xcelenergy.com)' <Tim.T.Mastrogiacomo@xcelenergy.com>; Hickey, Lisa <lisa@interwest.org>; 'matt@healylawoffices.com' <matt@healylawoffices.com>; 'edward.garvey@aeslconsulting.com' <edward.garvey@aeslconsulting.com>; 'ganguiano@westernenergyboard.org' <ganguiano@westernenergyboard.org>; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; 'mmorais@nationalgridrenewables.com' <mmorais@nationalgridrenewables.com>;

Gray, Spencer <sgray@nippc.org>
Cc: Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Michael Riley <michael.b.riley@spp.org>
Subject: RE: Markets+ Legal Group Meeting

⚠ **Caution: External Email**

Hi all,
As requested by the group during the January 12th meeting, I am sending along Attachments B&C as approved by MDWG on January 11th, also in sharepoint. Please note that this section is also in review for proofing and syncing with the rest of the Tariff, so you will notice some redlines have been made since the MDWG meeting for that purpose (i.e., capitalizing Calendar Days).

Thanks,

Christine Dillard | Attorney, Markets & Regulatory Policy
cdillard@spp.org | (b)(6) (c)

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From: Christine Dillard
Sent: Thursday, January 11, 2024 6:26 PM
To: Fina, Giuseppe (Joe) <gfina@snopud.com>; Chris Nolen <cnolen@spp.org>; 'Pettit, David E' <David.E.Pettit@xcelenergy.com>; 'Gorlin@WAPA.GOV' <Gorlin@WAPA.GOV>; 'Alaine Ginocchio' <agpolsol@outlook.com>; 'Jason.Kuzma@pse.com' <Jason.Kuzma@pse.com>; Engelby, Ben <bengelby@azgt.coop>; 'Charles.VonReis@chelanpud.org' <Charles.VonReis@chelanpud.org>; 'Todd Miller' <temiller@bpa.gov>; 'Karilee S Ramaley' <Karilee.Ramaley@srpnet.com>; 'Irene Scruggs' <iscruggs@ppcpdx.org>; 'Gilhen, Jonathan' <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; 'Jennifer.Spina@pinnaclewest.com' <Jennifer.Spina@pinnaclewest.com>; 'eadoot@bpa.gov' <eadoot@bpa.gov>; 'Lee Engel' <elee@cityoftacoma.org>; 'Davis,Thomas E (BPA) - LT-7' <tedavis@bpa.gov>; 'Kallstrom, Jeffrey' <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; 'Timothy T. Mastrogiacomo (Tim.T.Mastrogiacomo@xcelenergy.com)' <Tim.T.Mastrogiacomo@xcelenergy.com>; Hickey, Lisa <lisa@interwest.org>; 'matt@healylawoffices.com' <matt@healylawoffices.com>; 'edward.garvey@aeslconsulting.com' <edward.garvey@aeslconsulting.com>; 'ganguiano@westernenergyboard.org' <ganguiano@westernenergyboard.org>; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; 'mmorais@nationalgridrenewables.com' <mmorais@nationalgridrenewables.com>; Gray, Spencer <sgray@nippc.org>
Cc: Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Michael Riley <michael.b.riley@spp.org>
Subject: RE: Markets+ Legal Group Meeting

Hi all,
Stakeholder agreement is available here.
Thanks,

Christine Dillard | Attorney, Markets & Regulatory Policy
cdillard@spp.org | (b)(6) (c)

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From: Christine Dillard
Sent: Wednesday, January 10, 2024 3:36 PM
To: Fina, Giuseppe (Joe) <gfina@snopud.com>; Chris Nolen <cnolen@spp.org>; Pettit, David E <David.E.Pettit@xcelenergy.com>; Gorlin@WAPA.GOV; Alaine Ginocchio <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; Todd Miller <temiller@bpa.gov>; 'Karilee S Ramaley' <Karilee.Ramaley@srpnet.com>; Irene Scruggs <iscruggs@ppcpdx.org>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; Lee Engel <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; Timothy T. Mastrogiacomo (Tim.T.Mastrogiacomo@xcelenergy.com) <Tim.T.Mastrogiacomo@xcelenergy.com>; Hickey, Lisa <lisa@interwest.org>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>
Cc: Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Michael Riley <michael.b.riley@spp.org>
Subject: RE: Markets+ Legal Group Meeting

Hi all,
The current version of the Special Rules is attached and has been posted to the M+ Legal Group drive. I expect to post the Stakeholder Agreement by end of day tomorrow.

Thank you,

Christine Dillard | Attorney, Markets & Regulatory Policy
cdillard@spp.org | (b)(6) (c)

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-----Original Appointment-----
From: Fina, Joe <GFina@SNOPUD.com>
Sent: Wednesday, January 10, 2024 3:22 PM
To: Fina, Joe; Chris Nolen; Pettit, David E; Gorlin@WAPA.GOV; Alaine Ginocchio; Jason.Kuzma@pse.com; Engelby, Ben; Charles.VonReis@chelanpud.org; Todd Miller; 'Karilee S Ramaley'; Irene Scruggs; Gilhen, Jonathan; Sabers, Cathy; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; Lee Engel; Davis,Thomas E (BPA) - LT-7; Kallstrom, Jeffrey; Starnes, Heather; Christine Dillard; Timothy T. Mastrogiacomo (Tim.T.Mastrogiacomo@xcelenergy.com); Hickey, Lisa; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew; Tabak, Gabe; Rubin, David; mmorais@nationalgridrenewables.com; Gray, Spencer
Cc: Emon Mahony; Rachel Kane; Joseph Ghormley; Kristen Darden; Carrie Simpson; Mantifel, Russ; Michael Riley
Subject: **External Email** Markets+ Legal Group Meeting
When: Friday, January 12, 2024 11:00 AM-12:30 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

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This meeting is intended to review the remaining Special Rules for BPA and WAPA, and to review the new Stakeholder Agreement. A follow-up email will be sent when those documents are available on the SharePoint site.

Thanks for your patience as we get these last items taken care of.

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From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, November 21, 2023 11:26 AM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] November 17th MDWG Summary of Motions, Action Items, and Future Meetings
Attachments: 11 17 MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx

Hello MDWG stakeholders and participants –

The 11/17/2023 MDWG summary of motions, action items, and future meetings are attached for your review. Please let me know if there are any edits.

Thank you, and Happy Thanksgiving!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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SPP Southwest Power Pool

MARKETS+

SOUTHWEST POWER POOL, INC.
MARKETS+ DESIGN WORKING GROUP MEETING
11/17/2023
Net-Conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

1. **Agenda Items 4a and 4b – 10/26/2023 and 11/3/2023 MDWG Minutes**

   Motion: Kent Walter (APS) motioned to approve the consent agenda as presented. Tuuli Hakala (CCPUD) provided the second. Motion carried unanimously.

2. **Agenda Item 5a – MPEC AI10: Attachment A, Sec. 4.2.6 Resource Aggregation**

   Motion: Scott Miller (WPTF) motioned to reject the language in Attachment A, Section 4.2.6 (Resource Aggregation) proposed by the Markets+ Participant Executive Committee (MPEC) through MPEC Action Item 10. Russ Mantifel (BPA) provided the second. Motion carried unanimously.

3. **Agenda Item 5c – Attachment A: Markets+ Settlements**

   Motion: Paul Dietz (GCPUD) motioned to approve Markets+ Settlements Tariff language in Attachment A, except for Sections 9.2.6 (Day-Ahead Short-Term Flex Up Distribution Amount), 9.2.7 (Day-Ahead Short-Term Flex Down Distribution Amount), and 9.2.8 (Day-Ahead Mid-Term Flex Up Distribution Amount). SPP staff will review internally and confirm the noted sections are consistent with the proposed Day-Ahead Must-Offer Obligation. Russ Mantifel (BPA) provided the second. Motion carried with one abstention (NVE).

4. **Agenda Item 5d – Attachment A: Scarcity Pricing**

   Motion: Lindsey Schlekeway (NVE) motioned to approve the SPP MMU proposed Energy Offer Floor of -$150/MWh. Kent Walter (APS) provided the second. Motion carried unanimously.

   Motion: Laura Trolese (TEA) motioned to approve the following proposed Offer Floors and Caps. Paul Dietz (GCPUD) provided the second. Motion carried unanimously:

   - Energy Offer Soft Cap = $1,000/MWh
   - Energy Offer Hard Cap = $2,000/MWh
   - Virtual Energy Offer Cap = $2,000/MWh
   - Interchange Offer Cap = $2,000/MWh
   - Start-Up Offer Floor = $0
   - No-Load Offer Floor = $0
   - Flexibility Reserve Products Cap = $1,000/MWh

29332417

- Flexibility Reserve Products Floor = $0/MWh

ACTION ITEM:

Action Item: SPP staff will follow-up with Renewable Northwest (RNW) on their proposed modification in Attachment A, Section 4.2.6 (Resource Aggregation), noted in MPEC-created action item 10.

Action Item: SPP staff will provide an update on Attachment A, Sections 4.1(9), 6.2, 6.8, and 6.9 during the November 28th MDWG meeting.

Action Item: SPP staff to review Flexibility Reserve Allocation in Attachment A, Sections 9.2.6 (Day-Ahead Short-Term Flex Up Distribution Amount), 9.2.7 (Day-Ahead Short-Term Flex Down Distribution Amount), and 9.2.8 (Day-Ahead Mid-Term Flex Up Distribution Amount), in comparison to the Real-Time and Day-Ahead Must Offer Obligation Distribution. Staff will determine if the distributions need to be tied together and provide updated language for approval of those sections, and 9.2.1 (Day-Ahead Energy Amount) and 9.2.13 (Day-Ahead Congestion Rent Allocation Amount), during the November 28th MDWG meeting.

Action Item: SPP staff to review Attachment A, Section 9.2.10 (Day-Ahead Make Whole Payment Distribution Amount) and provide an update targeting the November 28th MDWG meeting.

Action Item: SPP staff will provide examples of self-schedules for MDWG review during the November 28th MDWG meeting.

Action Item: SPP staff will review changes made during the November 17th MDWG meeting, to Attachments B (Market Power Mitigation Plan) and Attachment C (Market Monitoring Unit), and will coordinate with the SPP MMU on further internal review of proposed changes. Updated language will be provided during the November 28th MDWG meeting.

FUTURE MEETINGS:

Meeting: November 28th MDWG Meeting
Date: November 28th, 2023
Location: Net-conference
Time: 10:30 a.m. – 5:00 p.m., CPT / 8:30 a.m. – 3:00 p.m., PDT / 9:30 a.m. – 4:00 p.m., MT

Meeting: January 11th MDWG Meeting
Date: January 11th, 2024
Location: Net-conference
Time: 11:00 a.m. – 1:00 p.m., CPT (9:00 a.m. – 11:00 a.m., PT/10:00 – 12:00 p.m., MT)

From: Kirby,Elizabeth A (BPA) - MTM-3
Sent: Thursday, January 11, 2024 8:48 AM
To: John Gunter
Cc: Mantifel,Russell (BPA) - MTM-3
Subject: RE: [EXTERNAL] Markets(+) Training Contact

Excellent, thanks for reaching out John!

From: John Gunter <jgunter@spp.org>
Sent: Thursday, January 11, 2024 7:27 AM
To: Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>
Cc: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] Markets(+) Training Contact
Importance: High

Thanks, Libby. I hope you've been well.

I am working right now to pull together a list of training contacts for the Markets(+) project. As soon as I'm finished, I will pull everyone together for an introduction call where my team will share our draft plans for training to support the project and get feedback from the group on training needs, scheduling preferences, etc.

Have a great day.

John Gunter | Lead Stakeholder Trainer| jgunter@spp.org | (501) 482-2526 | Cell Phone (b)(6)
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>
Sent: Wednesday, January 10, 2024 3:32 PM
To: John Gunter <jgunter@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] Markets(+) Training Contact

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - eakirby@bpa.gov and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Hey John,

Thanks for reaching out! For now, use me, but we will work internally to identify someone more specific than me.

Thanks,

Libby Kirby | Electrical Engineer
Bonneville Power Administration | BTO – Market Initiatives
Desk: (503) 230-4286 | Mobile: (b)(6)

From: John Gunter <jgunter@spp.org>
Sent: Friday, January 5, 2024 9:06 AM
To: Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>
Subject: [EXTERNAL] Markets(+) Training Contact
Importance: High

Good morning, Libby.

I hope you're doing well and had a great holiday season. My team (SPP Stakeholder Training) will be handling much of the stakeholder training for Markets(+). I'm working to build a list of Markets(+) training contacts my team can work with to communicate training information and coordinate future training efforts. I don't have a training contact for BPA. Can you provide me one or point me to someone in your organization I can reach out to?

Thank you for your help.

John Gunter | Lead Stakeholder Trainer| jgunter@spp.org | (501) 482-2526 | Cell Phone (b)(6)
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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From: Kristen Darden <kdarden@spp.org>
Sent: Friday, September 15, 2023 9:18 AM
To: Mantifel,Russell (BPA) - PGL-5; Detmer, Nick
Subject: [EXTERNAL] Today's MDWG

Hey guys –

Here are some notes going into today's meeting:

1. **Attendance**
   a. Proxies:
      i. Marcie Martin (SRP) for Barbara Cenalmor Bruquetas (SRP) – Second half of meeting
      ii. Caitlin Liotiris (WPTF) for Scott Miller (WPTF)
   b. Note:
      i. Tuuli Hakala (CCPUD) will be 1 hour late to the meeting.
      ii. Russ will be a few late to the meeting.
2. **Approval Items**
   a. Consent Agenda – This is the only approval item today. No tariff will be available for approval.
3. **Overall Meeting**
   a. I view this as the "MMU Show", since it will be dedicated entirely to their tariff attachments (B and C). They'll walk through the Market Monitoring Plan and Market Power Mitigation Plan. I'll have the language also as background/additional discussion during the 9/20 MDWG meeting, with a goal of the meeting following the 9/20 (was 10/4, but turns out the CREPC meets 10/4-6, so need to reschedule this). During whichever date we pick, I'd like approval of their language then. That allows 3 meeting review cadence.

That should be it! Ya'll know if you need anything during the meeting, feel free to text me.

Thank you!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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From: Gentry Crowson <gtcrowson@spp.org>
Sent: Thursday, November 9, 2023 1:49 PM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] Markets+ Congestion Rent Tariff Language
Attachments: Markets Plus Congestion Rent Tariff Section Endpoint 11_09_2023.docx

Markets+ Congestion Rent Task Force,

Thank you all for your significant participation in today's MCRTF Meeting. As promised, attached are the Congestion Rent Tariff sections that encompass the changes from the meeting today. Section 7.16 bullet 5 is where we ended the discussion. SPP invites the submittal of comments at any point before the next meeting, which is still to be determined. Please send comments to the following emails:

mcbailey@spp.org
cruder@spp.org
gtcrowson@spp.org

Thanks,
Gentry Crowson
MCRTF Staff Secretary

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or send a blank email to leave-124634-234283.ab060f4db6e56ad7a74d8702edd00012@spplist.spp.org

Definitions

Congestion Rent

Revenue collected by the Market Operator resulting from binding transmission constraints in the Day-Ahead Market that will be allocated to Congestion Rent Eligible Transmission Service Reservation Holders , ~~and~~ Markets+ Transmission Service Providers and/or Markets+ Transmission Contributors.

Comment [GC1]: Revisit

Comment [GC2]: Tyler Moore: I think they could contribute transmisison but not be eligible for congestion rent, but we wouldn't want to keep it in the defintiion here since it's saying who would be allocated. Any transmission contributor that would be allocated would be captured as a CRETSR Holder.

Conditional Firm Point-To-Point Transmission Service

The reservation and transmission of capacity and energy on a conditional firm basis from a Point(s) of Receipt to a Point(s) of Delivery. This service is equivalent to Firm Point-To-Point Transmission Service except that, under certain system conditions or under a number of hours in real-time, this service will be curtailed ahead of Firm Point-To-Point Transmission Service, as further defined in each transmission service provider's Open Access Transmission Tariff (OATT).

Congestion Rent Eligible Transmission Service Reservation (CRETSR)

The MW reservation quantity of Firm Point-to-Point Transmission Service, Conditional Firm Point-To-Point Transmission Service, Network Integration Transmission Service, and/or Legacy Transmission Service of a monthly or longer service increment that spans the full applicable calendar month and is available for use by Markets+.

Designated Network Resource

Any designated generating resource owned, purchased or leased by a Network Customer for the purposes of serving Network Load, as further defined in each Markets+ Transmission Service Provider's Open Access Transmission Tariff.

Firm Point-To-Point Transmission Service

The reservation and transmission of capacity and energy on a firm basis from a Point(s) of Receipt to a Point(s) of Delivery, as further defined in each Markets+ Transmission Service Provider's Open Access Transmission Tariff

Legacy Transmission Service

Transmission service that existed on a transmission service provider's system prior to the effective date of that transmission service provider's Open Access Transmission Tariff that is equivalent to Network Integration Transmission Service or Firm Point-To-Point Transmission Service.

Markets+ Transmission Contributor *(Definition approved by MTWG and MDWG)*

Any Market Participant that voluntarily provides its transmission service rights on a non-participating transmission service provider's system for Markets+ optimization.

Markets+ Transmission Service Provider *(Definition approved by MTWG and MDWG)*

Any transmission service provider in the Markets+ Footprint that executes the agreement for a Markets+ Transmission Service Provider in Markets+ and contributes Markets+ Transmission Capability.

Markets+ Transmission User *(Definition approved by MTWG and MDWG)*

Any Market Participant offering or bidding load, generation, interchange, or virtual transactions within Markets+.

Maximum Economic Capacity Operating Limit

An economic MW level used for constraining Energy dispatch that includes reductions to account for the Operating Reserve identified in the Ancillary Service Plan.

Network Customer

An entity receiving Network Integration Transmission Service under one or more Markets+ Transmission Service Provider's Open Access Transmission Tariff.

Network Integration Transmission Service (NITS)

The reservation and transmission of capacity and energy on a firm basis between Designated Network Resources and Network Load, as further defined in each Markets+ Transmission Service Provider's Open Access Transmission Tariff.

Network Load

Comment [AC3]: Is this based on resource offer curves or a fixed amount? What about for VERs?

Comment [TM4]: What's the ancillary service plan?

Comment [WC5]: How much Operating Reserve is being carried on the Resource. This capacity will impact what is left on the Resource for Energy dispatch. For example, a 500 MW Resource that is carrying 50 MW of regulation would have an Econ Max of 450 MW.

Comment [GC6]: Revisit after DNR section

The load that a Network Customer designates for Network Integration Transmission Service under a Markets+ Transmission Service Provider's Open Access Transmission Tariff. The Network Customer's Network Load will include all load served by the output of any Designated Network Resources identified by the Network Customer.

Network Service Distribution Cap

The monthly cap on MW for which a Network Integration Transmission Service NITS customer is eligible for Congestion Rent. The MW cap is equal to a monthly load used for Network Integration Transmission Service billing for the applicable Congestion Rent allocation month by each respective Markets + Transmission Service Provider.

Point-to-Point Transmission Service Distribution Cap

The monthly cap on MW for which a Firm or Conditional Firm Point-to-Point Transmission Service CRETSR Holder is eligible for Congestion Rent. The MW cap equals the Firm or Conditional Firm Point-to-Point Transmission Service included in the Market Participant's CRETSR.

Transmission Constraint Shadow Price

The reduction in production cost, in $/MWh, that is realized by increasing the MW limit of a binding transmission constraint by 1 MW.

Congestion Rent Eligible Transmission Service Reservation (CRETSR) Holder

A Market Participant with a Congestion Rent Eligible Transmission Service Reservation.

Comment [MK(E7]: Is the defined term Markets + Market Participant? Or just Market Participant?

Comment [GC8]: Used in an individual way (revisit) for possible inclusion of 'sum of'

Comment [GC9]: Maybe include each here (revisit)

Comment [GC10]: Check elsewhere to ensure we've caught all

Section 7.16: Congestion Rent Eligible Transmission Service Reservation Verification

The Market Operator, in collaboration with Markets+ Transmission Service Providers and Market Participants within the Markets+ Footprint, will use the following procedure to verify each Market Participant's Congestion Rent Eligible Transmission Service Reservations.

1) Markets+ Transmission Service Providers and Markets+ Transmission Contributors will make available on their respective Open Access Same-time Information System (OASIS) the Market Participant's firm transmission service reservation information for service increments that are monthly, yearly, or longer, and that span the upcoming operational month, which may include where available:

    a) Transmission Service Provider;

    b) Reservation Number (AREF);

    c) MW Quantity;

    d) Designated Network Resource;

    e) Markets+ Transmission User;

    f) Service Increment

    g) Start Time;

    h) End Time;

    i) Type (Firm Point-to-Point Transmission Service, Conditional Firm Point-to-Point Transmission Service, Network Integration Transmission Service, Legacy Transmission Service);

    j) Source;

Comment [GC11]: Ensure all information below in public on OASIS

k) Sink;

l) Point-of-Receipt (POR); and

m) Point-of-Delivery (POD).

2) A resale of a Congestion Rent Eligible Transmission Service Reservation to a different transmission customer that does not span the entire duration of the upcoming month, or that is arranged after the verification process begins, will not be considered in the congestion rent allocation process. The congestion rent associated with the TSR will be allocated to the Markets+ Transmission User that previously held the rights for the entire month.

3) A redirect of a Congestion Rent Eligible Transmission Service Reservation to a different POR or POD that does not span the entire duration of the upcoming month, or that is made after the verification process begins, will not be considered in the congestion rent allocation process. The congestion rent associated with the TSR will be allocated based on the last valid POR and POD that spanned the entire month.

4) If a Markets+ Transmission Service Provider or Markets+ Transmission Contributor is unable to provide information related to Legacy Transmission Service on OASIS, the Markets+ Transmission Service Provider or Markets+ Transmission Contributor will notify the Market Operator and the Markets+ Transmission User, and the Market Operator will coordinate the exchange of Legacy Transmission Service information.

Comment [MK(E12]: Will there be a verification with the TSP as to validate data?

****BULLET 5) is was the last topic of discussion in the 11/09/2023 MCRTF**********

5) The Market Operator will obtain the transmission service reservation information as specified under subsections (1), (2), (3), and (4) above during the month preceding the operating month as defined in the Markets+ Protocols and:

a) Provide such information to each identified Markets+ TSP and CRETSR Holder for verification/correction.

b) Unless the Markets+ TSP or CRETSR Holder communicates a potential error during the verification period as defined in the Markets+ Protocols, the Market Operator will deem the transmission service reservation information provided to be valid.

c) If a Markets+ TSP or CRETSR Holder identifies a suspected error with the transmission service reservation information, the respective Markets+ TSP or CRETSR Holder will contact the Market Operator. The Market Operator will communicate its determination of the validity of the transmission service reservation to the Markets+ TSP and CRETSR Holder, including the correction of any error.

6) For Firm or Conditional Firm Point-to-Point Transmission Service CRETSR Holders, the TSR MW used for settlements is equal to the Point-to-Point Transmission Service Distribution Cap.

7) For Network Integration Transmission Service (NITS) -TSR Holders, the total TSR MWsMWs from each Designated Network Resource (DNR) to Network Load is calculated by the Market Operator based upon the TSR Holder'sequal to the Network Service Distribution Cap using the following procedure:

a) To the extent that Designated Network ResourceThe DNR MW capacity and Point of ReceiptOR POR and/or the Network Load Point POD will be provided from the Markets+ Transmission Service Provider's OASIS as described under Subsection 1) above. During the verification period, if the above information cannot be provided through OASIS, the Market Operator will coordinate with the applicable Markets+ Transmission Service Provider and NITS TSR Holders to obtain and maintain a record of each Designated Network Resource's MW capacity and Point-of DeliveryOD Receipt and associated Network Load's Point-of-Delivery for that NITS TSR Holder.To the extent that DNR MW capacity and POR and/or the Network Load POD cannot be obtained from the Markets+

Comment [BK13]: Same comment as above.

Comment [AC14]: Can a single DNR serve multiple NT customers? How would the offer curves of the resources be allocated? Maybe that is covered by 5)a)

Comment [WC15]: I like this change.

~~Transmission Service Provider's OASIS as described under Subsection 1) above, the Market Operator, through coordination during the verification period with the applicable Markets+ Transmission Service Provider and NITS TSR Holders, will obtain and maintain a record of each Designated Network Resource's MW capacity and Point of Receipt and associated Network Load's Point of Delivery for that~~ Network Integration Transmission Service~~NITS TSR Holder.~~ For Designated Network Resources that are located outside of the Markets+ Transmission Service Provider's system that is serving Network Load inside of the Markets+ Transmission Service Provider's system, the Point of Receipt will be at the import location of delivering energy to the Markets+ Transmission Service Provider's system.

b) Based on the information obtained in Subsection 5(a) and for each hour of the Operating Day, the Market Operator will systematically select each Network Integration Transmission Service~~NITS~~ TSR Holder's source to sink paths from its Designated Network Resources~~DNRs~~ to its Network Loads as follows;

   i. A merit order stack is created from the lowest cost Designated Network Resources~~DNRs~~ to the highest cost Designated Network Resources~~DNRs~~, where the Designated Network Resources~~DNR~~ cost is equal to the incremental cost, in $/MWh, to operate each Designated Network Resource~~DNR~~ at its Maximum Economic Capacity Operating Limit in effect at the time of the Day-Ahead Market close. Such incremental cost will be calculated using the submitted Mitigated Energy Offer Curve for each ~~DNR.~~Designated Network Resource~~DNR~~. Designated Network Resource~~DNR. DNR~~s with a Commit Status of Self or Reliability Must Run will be positioned at the bottom of the merit order stack with zero cost.

Comment [MTC16]: What if we have better modeling of the off system resource? It has to be the POR of import location?

Comment [WC17]: Agree. We could add that here or include as a Protocol detail.

Comment [AC18]: The stacking should be on a segment by segment basis, not a resource-by-resource basis, correct? This could be read to mean that the $/MWh for the last segment of the offer curve is used.

Comment [CA19]: The approved proposal stated that SPP *may* incorporate mitigated offers; this states that it *will* be based on mitigated offers.

Comment [GC20]: Once Green House Gas design is approved, we will have discussion on whether or not to include that adder here.

Comment [MTC21]: This is fine for reliability must run - but a "reliability" status for only running during reliability events should not be positioned at bottom. Also, what does "bottom" mean, one could argue what it means.

Comment [WC22]: "Reliability Status" is not being included in Markets+. A Resource in RMR status is basically the same as Self-Schedule except it is eligible for Make-Whole Payment. Bottom of the Stack means "lowest cost".

Comment [BK23]: Is this accurate? Suggest adding this to 1) clarify that the bottom of the stack is the lowest cost, and 2) that self schedule and must run resources will show up as the "lowest cost DNR" selected in the next section.

ii. Starting with the lowest cost DNR Designated Network Resource~~DNR~~ in the merit order stack created in Section 7.16(5)(b)(i) of this Attachment A, the Market Operator will select ~~DNR~~s to Network Load paths from the merit order stack until the total MW capacity of the Designated Network Resource~~DNR~~s DNRs selected is equal to the ~~NITS TSR Holder's~~ Network Integration Transmission Service ~~TSR H~~holder's Network ServiceDistribution ~~Nomination~~ Distribution Cap. Such selected Designated Network Resource~~DNR~~ to Network Load paths will be used for Congestion Rent allocation purposes as described under Section 9.2.13 of this Attachment A.

Comment [BK24]: This assumes Self and Must Run have zero cost. See comment above.

Comment [CA25]: What if offered MWs differs from MWs associated with MW of NT service for a given DNR? Offered MW could be less than NT MW in the case of an ourage or VER with low forecast; or could be greater in the case of a shared rsource or if customer had less NT service from the DNR than it's capacity. Should the MWs selected from a DNR be the minimum of the two values (offered MWs or NT service MWs)? Or maybe this level of detail belongs in protocols?

Comment [MTC26]: Why is this Nomination instead of Distribution Cap as it is called in 7.16 subsection 5? Where is the nomination cap set that allows for the 4CP, monthly billing etc.?

Comment [BK28]: Is this correct? Nomination Cap is not defined.

Comment [WC27]: Mistake. Should be Distribution Cap.

Section 7.17: Coordinated Interchange Scheduling Limits

1) For a coordinated scheduling limit applied at a single location and involving one or more Markets+ Transmission Service Providers and/or Markets+ Transmission Contributors on each side of the constraint, the Market Operator will separate the congestion rent available for allocation on the binding constraint into an Export Share and an Import Share. The Export Share will be associated with transmission service to schedule and deliver energy to the coordinated scheduling location and will be distributed in the same manner as set forth in this Attachment A. The Import Share will be associated with transmission service to schedule and receive energy from the coordinated scheduling location and will be allocated in the same manner as set forth in this Attachement A.

2) The Market Operator will allocate 50% of the Ceongestion Rrent Aavailable Ffor Aallocation on the binding constraint to the Export Share and 50% to the Import Share, provided that the applicable Markets+ Transmission Service Providers and/or Markets+ Transmission Contributors associated with a coordinated scheduling limit may mutually

agree and instruct the Market Operator to use a different sharing ratio that better reflects the particular arrangement associated with the constraint.

3) The Market Operator will maintain a list of all the coordinated scheduling limits that will be activated in Markets+ in the Market Protocols.

Section 9.2.13: Day Ahead Congestion Rent Available for Allocation Amount

The Market Operator calculates the Congestion Rent on each binding transmission constraint for each hour in the Day-Ahead Market as follows:

1) The Congestion Rent Available For Allocation on each binding transmission constraint in each hour is calculated as follows:

Congestion Rent Available for Allocation =

(Hourly Transmission Constraint Shadow Price of that constraint)

* (Hourly Day-Ahead Market Flow).).

a) Hourly Day-Ahead Transmission Constraint Shadow Price is calculated by the Day-Ahead Market solution and is defined in the Markets+ Tariff.

b) Hourly Day-Ahead Market Flow is the hourly ~~Day-Ahead Market F~~flow~~Flow~~ quantity across that binding Transmission Constraint calculated by the Day-ahead Market solution ~~associated with that binding Transmission Constraint.~~t~~T~~ransmission c~~C~~onstraint.

Section 9.2.14: Day Ahead TSR Holder Congestion Rent Distribution

The Market Operator distributes the Congestion Rent collected to each TSR Holder for each hour in the Day-Ahead Market as follows:

1) A TSR Holder's Total Congestion Rent Allocation in an hour is calculated as follows:

Comment [EL(P529]: Will this be a defined term in the tariff?

Comment [WC30]: That was not the intent. I think FERC is familiar with terminology we but could define it if needed.

Comment [EL(P531]: Did not see this in the definition section

Comment [WC32]: Its defined within this Settlements Section. This is typical since we don't want list out all of billing determinants in the definitions section.

Comment [AC33]: Signs of elements in the various formulas is a little confusing. Can SPP walk through this and/or verify that signs are correct?

Comment [MK(E34]: In prevailing flow?

Comment [EL(P535]: Did not see Day-Ahead Market Flow defined in this tariff language or in the broader tariff. draft markets plus tariff public 091523.pdf (spp.org)
Assume that opted out transmission would be excluded from DAM flow

Comment [WC36]: Defined under Section 9.2.13(1)(b)

Comment [AC37]: Can we define this in a way that doesn't use the term in the definition?

Comment [EL(P538]: Defined term?

Comment [WC39]: No. This should be lower case.

Comment [BK40]: Is "distribution" the right term here? Or should it be "allocation"? "Distribution" implies payment, but this section does not discuss payment. It discusses allocation amounts.

Comment [BK41]: Is this subsection redundant with the preceding language? Consider deleting.

TSR Holder's Total Congestion Rent Allocation = the sum of that TSR Holder's Congestion Rent Allocations for all binding transmission constraints.

a) TSR HIolder Congestion Rent Allocation = TSR HIolder Congestion Rent Allocation Factor multiplied by the Congestion Rent Available for Allocation for that binding transmission constraint multiplied by (-1)

b) If the Total of all TSR Holders' Positive MW Impacts in the Binding Flow Direction on that binding transmission constraint is greater than or equal to the Hourly Day-Ahead Market Flow on that binding transmission constraint,

Then

TSR Holder Congestion Rent Allocation Factor =

(TSR Holder's Positive MW Impact in the Binding Flow Direction on that binding transmission constraint) /

(Total ~~of all TSR Holders' Positive MW Impacts~~Transfer Capability of that binding transmission constraint in the Binding Flow Direction on the same binding transmission constraint).

c) If the t~~T~~otal of all TSR Holders' Positive MW Impact in the Binding Flow Direction on that binding transmission constraint is less than the Hourly Day-Ahead Market Flow on that binding transmission constraint

Then

TSR HIolder Congestion Rent Allocation Factor =

(TSR Holder's Positive MW Impact in the Binding Flow Direction on that binding transmission constraint /

Hourly Day-Ahead Market Flow on that binding transmission constraint).

Comment [MK(E42]: The group agreed this is not pro rata. Yet this definition looks like it could still be pro rata

Comment [EL(P543]: Confirm that this is somehow tied to MCC being a negative value? CR Factor should be a positive number and the CR Available Allocation should be positive number, but don't see that term defined anywhere

Comment [WC44]: This multiply by (-1) is get the sign convention correct for Settlements. Negative values are credits. The CR Available for Allocation is the value calculated under Section 9.2.13. Need to add this Section reference here.

Comment [MK(E45]: Disagree with this language.

Comment [MK(E46]: This looks like pro rata. That is not the case. How are we carving out unsold capacity beyond what was reserved by TSR rights holders?

d) TSR Holders' Positive MW Impact in the Binding Flow direction on the binding constraint =

TSR Holder's Reserved MW Quantity *

Percentage flow impact in the binding flow direction on the binding constraint, calculated as part of the Day-Ahead Market solution, for that TSR Holder's Congestion Rent Eligible Transmission Service Reservation.

i. For PTP TSR Holders, TSR Reserved MW Quantity is equal to the Point-To-Point Service Distribution Cap;

ii. For NITS TSR Holders, TSR Reserved MW Quantity is equal to the MW amounts identified under Section 7.1.6(5)(b)(ii) of this Attachment A..

Section 9.2.15: Day Ahead Excess Congestion Rent ~~Excess~~ Distribution ~~Amount~~

For each hour in the Day Ahead Market, ~~T~~the~~The~~ Market Operator quantifies and distributes any excess Congestion Rent collected to the applicable Markets+ Transmission Service Providers for distribution to its transmission customers according to its OATT tariff ~~for each hour in the Day-Ahead Market~~ as follows:

1) A Markets+ Transmission Service Provider's Total Congestion Rent Allocation in an hour is calculated as follows:

Markets+ Transmission Service Provider's Total Congestion Rent Allocation = the sum of that Markets+ Transmission Service Provider's Congestion Rent Allocations for all binding transmission constraints associated with that Markets+ Transmission Service Provider, multiplied by (-1).

a) Markets+ Transmission Service Provider's Congestion Rent Allocation = Excess Congestion Rent for that binding transmission constraint associated with any unsold capacity the Markets+ Transmission Service Provider puts into the market in that hour.

Comment [BK47]: Do we need this new term? Or is it the same as the "Congestion Rent Eligible Transmission Service Reservation"?

Comment [BK48]: Don't understand. In particular, please clarify "percentage flow impact".

Comment [BK49]: If "Reserved MW Quantity" means the same thing as "Congestion Rent Eligible Transmission Service Reservation", then these amounts were already determined in 7.16 (4) and (5) and shouldn't need to be repeated here.

Comment [MK(E50]: NV Energy feels strongly that if there is a derate or not enough dollars in the bucket to pay out PTP and NT on a path that the customers who schedule on their reservation in that hour should first be protected, then the customer who did not schedule in that hour.

If we cannot get there. NV Energy would like to see IN ALL DAM flow scenarios, that the customer gets a percentage of the CR based on their pro rata allocation of the MW for the Rights holders as compared to the Total Transfer Capability. This way the unsold gets the CR associated with unsold capacity as well so the TSP can hold customers who scheduled harmless.

Comment [BK51]: Same comment as above re: "distribution" vs. "allocation".

Comment [BK52]: Should this say "Excess" instead, referring to the term later defined?

Comment [MK(E53]: Don't love this term, but tried to help define what this is a little more

For elements of a constraint associated with more than one Markets+ Transmission Service Provider, the Market Operator will allocate the Excess Congestion Rent for the constraint based on the percentage of market available capacity associated with each Markets+ Transmission Service Provider.

b) Excess Congestion Rent = (Congestion Rent Available for Allocation in that hour), Plus

(the sum of all TSR Holder Congestion Rent Allocations for that binding constraint associated with the Markets+ Transmission Service Provider in that hour)

i. Congestion Rent Available for Allocation is equal to the value calculated under Section 9.2.13(1) of this Attachment A.

ii. TSR Holder Congestion Rent Allocation is equal to the value calculated under Section 9.2.14(1)(a) of this Attachment A.

2) If the applicable Transmission Service Provider associated with a binding constraint is not a Markets+ Transmission Service Provider, the Market Operator will distribute any excess Congestion Rent to the applicable Markets+ Transmission Contributor.

Comment [MTC54]: Should this be minus?

Comment [WC55]: No. It's a little confusing. Its plus here because the TSR Congestion Rent Allocations is a negative number. (See Section 9.2.14(1)(a), there is multiply by (-1) to get the settlement sign convent4ion correct, negative values are credits.)

Formatted: List Paragraph, Indent: Left: 0", First line: 0"

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Sunday, July 14, 2024 9:46 PM
To: Josh Robertson; Zahnow, Jessica Lynn; Hakala, Tuuli; Kent.Walter@aps.com; Mantifel,Russell (BPA) - MTM-3
Cc: Ching, Vincent; Haines, Philip - Marketing; Hayes,Matthew C (BPA) - MTM-3; Ahmad, Omaya
Subject: [EXTERNAL] Updated Draft of Issue Alert on Governance
Attachments: Issue Alert 1 Governance DRAFT_v2.docx

Hi everyone,

Thanks to those that have provided edits and thoughts on the initial draft. In advance of tomorrow's call, please see the latest version based on the input and feedback we've received so far. There was a fair bit of re-wording to tighten up the document as well as a few new sentences related to competition between two markets driving better outcomes in the long run. Overall I think this is a significant improvement on the previous version. Given the fair number of modifications I thought it best to share a clean copy.

Jeff

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Markets+ Phase 1 Funding Parties To Publish "Issue Alerts" To Inform Public Dialogue On Day-Ahead Market Choices

In recent months, there has been considerable industry dialogue focused on the market seams that will exist between EDAM/EIM and Markets+, as well as the EDAM/EIM governance enhancements being pursued through the Pathways Initiative. While both topics are important, the Markets+ Phase 1 Funding Parties believe this dialogue is incomplete without also considering the numerous governance and market design differences between Markets+ and EDAM/EIM that are driving continued support for Markets+. To address this information gap, the Markets+ Phase 1 Funding Parties will be issuing a series of "Issue Alerts" to identify and explain the key governance and market design elements that differ between Markets+ and EDAM/EIM and why these differences have important consequences for customers in terms of reliability, economic value, and environmental objectives.

The Markets+ Phase 1 Funding Parties will share a new Issue Alert every few weeks covering the following topics:

1. Governance
2. Reliability
3. Price Formation
4. Seams Issues
5. GHG Attribution
6. Operator Actions & Modeling

Issue Alert 1:
The Markets+ Governance Framework Is The Best Option For A Multi-State Day-Ahead Organized Market

Governance is a key consideration in the selection of a day-ahead market. It determines how key decisions are made in a market where participants and regions sometimes have different interests. A governance framework establishes market design, tariffs, business practices and operating protocols – determining initial rules and how they will adapt over time. Governance affects the daily actions of market operators and the values against which market performance is measured. Consequently, governance has a major influence on market outcomes, including the determination of market prices, how costs are allocated, the extent and allocation of reliability risks during stressed grid conditions, and the success of environmental programs.

The governance framework of a western day-ahead market has the potential to affect $25 billion or more in annual trade. This is because the transition to a full day-ahead and real-time organized market (whether EDAM/EIM or Markets+) is expected to replace much of the bilateral day-ahead and real-time transactions that occur today while also impacting forward transactions and the utilization of the western transmission grid.



Sound governance is a foundational requirement for a day-ahead organized market to provide the benefits of increased efficiency and enhanced reliability while also ensuring equitable outcomes for all participants and all western sub-regions. The key features of sound governance were described in Bonneville Power Administration's Staff Recommendation on Day-Ahead Market Participation:

> *The market has a durable, effective, and independent governance structure which provides fair representation to all market participants and stakeholders. Decision making and stakeholder engagement occurs in a transparent and inclusive manner.*

The Markets+ Governance framework fully achieves this objective through these key features:

1. A fully independent board / panel with authority over all aspects of the market;
2. A transparent market development process led by stakeholders, with stakeholder voting rights to determine whether each specific market design proposal moves forward; and
3. A fully independent and impartial market operator that does not also act as one of the participating balancing authorities with its own interests.

Importantly, the Markets+ governance framework is already up and running, and it provided the decision-making framework for developing the Markets+ initial market design and proposed tariff.

While the Pathways Initiative has proposed incremental improvements to the governance of EDAM and EIM, it cannot result in a governance framework comparable to Markets+ for several reasons:

1. The starting point for EDAM and EIM is a market design and tariff developed under the California ISO's existing governance framework. The Pathways Initiative does not propose to replace this initial market design with a stakeholder-driven design.
2. Both EDAM and EIM were built as extensions of a legacy institutional framework with embedded dependencies on, and obligations to, California state agencies, which the Pathways initiative does not propose to eliminate.
3. The Pathways Initiative has not proposed a framework in which stakeholders with formal voting rights—rather than California ISO staff—will determine how the market design will evolve over time.
4. The Pathways Initiative does not ensure that the California ISO, as a market operator, will balance the interests of all stakeholders and avoid undue influence from California interests.
5. A fully independent governance framework will not realistically be achieved until well after most western entities will have made their market participation decisions, even if the significant and numerous uncertainties are ultimately overcome.

The stakeholder-driven Markets+ development process has resulted in a market design that is substantially different from the EDAM/EIM design in several key respects. Production cost models—including the models used in the multiple studies published comparing Markets+ and EDAM/EIM—are generally unable to reflect and quantify these important market design differences. This is because these models assume the two markets are largely identical in important aspects when in fact they are not. The models incorrectly assume:

- Both markets are always fully resource adequate/resource sufficient, and thus there is no material reliability risk or undue leaning;
- Scarcity events rarely or never occur in either market (and no scarcity pricing);
- There are few, if any, differences in how prices are calculated between the two markets;
- Congestion rent is allocated similarly in both markets;
- Environmental programs, including GHG attribution, are similar in both markets; and
- There are no operator actions such as load biasing or changing import/export limits in either market.

Not only do these studies make the above incorrect simplifying assumptions, they also incorrectly assume that each distinct market design will have no impact on:

1. the extent to which entities participate in the day-ahead market (versus transacting in forward and day ahead bilateral markets); and
2. future investments in generation or transmission

In reality, differences in the design of a voluntary day ahead market can drive increased or decreased participation, while also encouraging or discouraging generation and transmission investments. For example, a market that inaccurately suppresses peak prices will discourage flexible generation and

storage solutions. Similarly, a market that has a history of misallocating congestion rent will generally discourage transmission investments.

Finally, experience in the East demonstrates that the ongoing existence of two or more competing organized markets provides the opportunity for participants to continuously evaluate which organized market provides the best value for its customers. This places ongoing competitive pressure on each organized market to continuously evolve to deliver value to all of its participants and all of its sub-regions, driving immeasurable value for consumers while also reducing risk.

Future Issue Alerts will focus on key market design differences, which have the potential to greatly impact real-world economic, reliability and environmental outcomes for customers.

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, October 10, 2023 7:52 AM
To: Mantifel,Russell (BPA) - BT-3; Detmer, Nick
Subject: [EXTERNAL] Today's MDWG
Attachments: 07-Proposed Mitigated Offer for Hydroelectric Resources.docx

Good morning –

Couple of notes on today's meeting:

- Proxies –
  - Jason Byram (BEPC) for Alycia Kramer (BEPC)
  - Alex Tai (TEP) for Blake Pederson (TEP)
  - Lauren Tenney Dennison (PPC) for Mike Linn (PPC) last 2 hours of meeting
- Diane Brandt is the new Renewable Northwest rep and will be 30 mins late.
- Everything on today and tomorrow's agendas, I'm pushing for MPEC approval 10/19. So I really would like to make some progress, if we are comfortable with it. (I of course do not want people to approve what they're not good with.)
- MMU modified their mitigation language for Hydros to align more with CAISO's DEB approach. Attached document for you.

I think these are the big things that I wanted to talk with you about. I can't think of anything else at this point.

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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SPP Southwest Power Pool

MARKET MONITORING UNIT

PROPOSED MITIGATED OFFER FOR HYDROELECTRIC RESOURCES

By Market Monitoring Unit

Published on October 3, 2023

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1 INTRODUCTION

Under the Markets+ initiative there are a series of entities that are interested in joining Markets+ that have substantial hydroelectric capacity. There has been a proposal that, with respect to the hydroelectric functionality, large portions of tariffs from other jurisdictions can simply be ported over to the SPP tariff either wholly unchanged, or substantively unchanged. Most of the entities in the Pacific Northwest have experience with the CAISO and their hydroelectric Default Energy Bid, and this implementation has proven popular in conversation. This document examines the CAISO's implementation of the Hydroelectric Default Energy Bid, and outlines some concerns that the MMU has with the CAISO's implementation and why SPP should deviate from a strict following of the CAISO approach. Thereafter, the SPP MMU proposes modifications to that implementation and provides background and tariff language to support those changes.

2 MITIGATED OFFER CALCULATIONS

2.1 CAISO HYDROELECTRIC REFERENCE LEVEL CALCULATIONS

Although the CAISO has long allowed opportunity cost to play a role in the formation of the reference levels used for mitigation, it was only quite recently in 2019 that the hydroelectric reference level was explicitly introduced. The calculation of the hydro DEB is the maximum of the following three components:

1. Long-Term/Geographic: representing the opportunity costs for the resource to sell output in the future, including in different bilateral markets.
2. Short-Term: opportunity costs created by short-term water use limitations.
3. Gas Floor: represents the cost of replacement energy in the real-time market if the resource exceeds its short-term limitations as measured by the average gas turbine heat rate multiplied by the gas price applicable to the relevant region.

The long-term and gas floor components include a 10 percent adder to account for variations between published price indices and prices of actual individual bilateral transactions. The short-term component includes a 40 percent adder to prevent a resource from being too frequently dispatched on a particular day that is intended to avoid dispatching a resource for more than four hours per day. CAISO calculates the hydro DEB on a resource level once per day, and separately for the day-ahead and real-time markets.

In addition to the calculation requirements there are a number of further requirements that allow an entity to qualify to use the hydro DEB. These include:

1. Deliverability demonstration; entity must have firm transmission rights to a requested electric pricing hub. This must also include:
    a. Historical records validating these firm transmission rights on a monthly basis
    b. Unencumbered transmission capacity available on a monthly basis, allowing for incremental sales to the electric hub
    c. Where the transmission rights fall short of the hydro resource capacity the CAISO can apply proportional weighting to the calculation
    d. In the absence of supporting transmission rights the CAISO defaults to the bilateral electric pricing hub specified elsewhere in the tariff or Business Practice Manual (BPM)
    e. Should the entity lose access to its transmission rights for any reason it has a positive obligation to inform the CAISO within five business days
    f. The CAISO can audit the Scheduling Coordinator (SC) to validate its assertions and request extra data
    g. In the event of any disagreement the CAISO can revert any resource to the default electric pricing hub

There is also detail in the tariff about how to calculate the storage horizon, as well as extensive detail in the Market Instruments BPM on the exact implementation detail in section D.8. As a convention the CAISO uses the LMP option as the standard default to the hydroelectric DEB.

2.2 SPP EQUIVALENT TARIFF

SPP has most of its mitigation detail in its OATT tariff, Attachment AF, as well as in its market protocols, in particular Section 8 of the Integrated Marketplace Protocols (and Appendix G in particular) and also Section 7 and Appendix D of the WEIS Protocols. These protocols include detail on various circumstances in which opportunity cost might be considered in constructing mitigated offers. However there is no explicit hydroelectric mitigated offer construct.

2.3 DIFFERENCES BETWEEN SPP AND CAISO

There are numerous differences between these entities, and it is not the purpose of this document to exhaustively document them, however there are some that pertain to mitigation that are worth cataloguing.

1. Generally, the CAISO uses direct mitigation similar to PJM, rather than Conduct and Impact mitigation common to SPP, MISO, NYISO and ISO-NE. Direct mitigation is regarded as somewhat more severe than conduct and impact, as mitigation is likely to be triggered more often.

2. The CAISO tariff does not prescribe a method for routinely screening for uneconomic production in the same manner that SPP and MISO screen for this condition. This is important as the screen at SPP is based on the mitigated offers. Higher mitigated offers will trip the screens and may lead to an unacceptably high level of false positives.

3. Reference levels at the CAISO are agreed upon by DMM during resource registration and thereafter calculated by the CAISO. At SPP, the market participant proposes a mitigated offer methodology that is reviewed and agreed upon by the MMU before participation in the market. Mitigated offers are calculated by the participants and provided to the market software by the participant, and are subject to validation by the MMU.

2.4 MMU CONCERNS WITH THE CAISO IMPLEMENTATION

Firstly, the MMU would like to state explicitly that it has no qualms with the general methodology of the CAISO DEB. Hydro facilities are energy limited and the use of opportunity cost for these sorts of facilities is well established. As a general rule the SPP MMU believes that an opportunity-based mitigated offer calculation is appropriate. The MMU has concerns with certain aspects of the CAISO implementation. The purpose of mitigated offers is to mimic the bid pattern under competitive conditions. The main concern is simply that the MMU is concerned that a mitigated offer calculated with this methodology will not mimic competitive conditions in all seasons. There are two main issues that the MMU has with this formulation;

1. Hydroelectric plants have less flexibility currently than they did forty years ago due to the rise of environmentalism in society and the increasing demands made on water resources. The idea that hydroelectric plants are flexible is not an historical anachronism, but the level of flexibility is much lower than one might think. The MMU recognizes that modeling a cascading hydroelectric system is complicated, however it seems as if the hydroelectric flexibility is over-emphasized given the constraints that modern hydroelectric systems have to navigate. Generally water facilities are sequentially optimized, not co-optimized, and the sequence is approximately as follows (with b and c being somewhat interchangeable);

   a. Flood control

   b. Environmental constraints (various fish species such as salmon or delta smelt)

c. Water provision to cities and farmers

d. Recreational uses (river rafting; maintaining water levels)

e. Electricity production

2. There are certain time periods of the year when this lack of flexibility is at its peak. This period is termed the spring melt/fish flush. Its timing depends on latitude and altitude. This time coincides with low loads as there is less heating and air-conditioning load in the spring, although thermal plants often perform pre-summer maintenance during this time as well. Generally hub pricing during this time period is depressed, transmission lines are often fully loaded, and hydroelectric generators have to either generate or spill. This does depend on storage levels generally and the largest dams can store, but many secondary facilities are quickly water saturated. In addition, higher water levels mean more efficient hydroelectric production due to higher head levels.

3. Implementation issues. The hydroelectric reference level is highly constrained. It is available, but only to those resources that can satisfy the conditions enumerated by the CAISO procedures.

Given these concerns, this approach, which calculates "the max of the max of the max", can be an unduly optimistic interpretation of competitive conditions and does not likely reflect the realities of hydro operation in all seasons.

2.5 MMU'S PREFERRED IMPLEMENTATION ADJUSTMENTS

Although the MMU believes that the CAISO approach is generally workable, it also believes that the CAISO implementation does not reasonably reflect opportunity costs under certain conditions. Therefore, the MMU cannot support such an approach without some changes. At the same time the MMU does not question the general approach of using opportunity costs and does not think that a wholesale study of this issue and a new stakeholder process will be worth the effort at this time.

The main change the MMU would like to see is an adjustment of the reference level calculation during the second quarter, defined as April 1st to June 30th for all hours of the day. During this period the mitigated offer calculation should revert to the day-ahead peak price at the locally defined and registered hub price. During this period of constrained operation the local hub is, most likely, the most appropriate measure of opportunity cost. In the event that a participant believes that this approximation is overly constraining, then that participant may approach the MMU with historical data and advocate for a more compressed period than the entire second

quarter. In this manner the second quarter is abbreviated so that it matches the spring melt more closely.

The MMU proposes to introduce to the SPP tariff two main changes that are similar to the CAISO's tariff specification:

1. A Seasonally-Adjusted Hydroelectric Offer Curve (SHOC). This mitigated offer approach is essentially the same as the CAISO's formulation with the exception of the second quarter, when the day-ahead peak price at the applicable electric pricing hub is used instead. The length of the second quarter by default is from April 1st to June 30th, however, with the consent of the MMU, and with appropriate evidence, this period may be shortened, so that it is effectively the spring melt period on a resource-specific basis.

2. A day-ahead peak price at the applicable electric pricing hub as the default method for hydroelectric resources without storage, as well as the only mitigated offer method for all hydroelectric resources during the second quarter.

3 PROPOSED TARIFF LANGUAGE

The language below is from the proposed Attachment B, section 3.4, as presented in the Markets+ Design Working Group background materials on September 20, 2023. This language is intended here as context for the proposed hydro language.

ATTACHMENT B
Market Power Mitigation Plan

3.4 Mitigation Measures for Energy Offer Curves

A Market Participant must submit Mitigated Energy Offer Curves daily in accordance with the mitigated offer development guidelines in the Markets+ Protocols.

1) For MCRs, for which a single configuration allows physical units to be swapped (e.g., Combustion Turbine 2 for Combustion Turbine 1), the costs used in the mitigated offer development for that configuration must be those of the least cost physical unit that is available and can be swapped in such configuration.

2) The mitigated Energy Offer Curve may be updated up to the close of the Day-Ahead Market for use in the Day-Ahead Market.

i. For any period a Resource is not committed by the Day-Ahead Market, the mitigated Energy Offer Curve for that period may be updated until the RUC begins.

ii. For Resources committed by the Day-Ahead Market, the mitigated Energy Offer Curve submitted as of the close of the Day-Ahead Market will apply to the Day-Ahead Market on the day before the Operating Day and the RTBM on the Operating Day unless an exception is allowed in Section 3.4 (J) of this Attachment B;

iii. For all other Resources, the mitigated Energy Offer Curve submitted at the time the RUC begins will apply to the RUC on the day before the Operating Day, and the RUC processes and the RTBM on the Operating Day.

3) For the pricing Simultaneous Co-optimization Methodology, the composite Energy Offer Curve and mitigated composite Energy Offer Curve will be calculated and used by the Market Operator for FSRs in the Day-Ahead Market and RTBM.

The conduct threshold is a 10% increase above the mitigated Energy Offer Curve

B. The Market Operator applies mitigation measures by placing a cap on the Energy Offer Curve of 10% above the mitigated Energy Offer Curve if:

(1) The Resource's Energy Offer Curve exceeds the mitigated Energy Offer Curve by the conduct threshold; and

(2) The Resource has market power as determined in Sections 3.2(1) or 3.2(3); and

3) The Resource fails the Market Impact Test as described in Section 3.7. A Resource with a

C. For a Resource that has market power as determined in Section 3.2(2), the Market Operator applies mitigation measures by placing a cap on the Energy Offer Curve of 10% above the mitigated Energy Offer Curve.

D. The mitigated Energy Offer Curve must be the Resource's short-run marginal cost of producing energy as determined by the unit's heat rate or similar production efficiency ratio; fuel costs and the costs related to fuel usage, such as transportation and emissions costs ("total fuel related costs"); and Energy Offer Curve ("EOC") variable operations and maintenance costs ("VOM").

E. For Resources that are not ESRs and not using the Seasonal Hydroelectric Offer Curve, opportunity cost must be an estimate of Markets+ revenues net of short run marginal costs for the marginal forgone run time during the timeframe when the Resource experiences the run-time restrictions.

The forecasted Locational Marginal Prices are based on (i) the relationship between (a) the monthly average on-peak and off-peak system LMP and (b) the expected price of natural gas and (ii) hourly deviations between (a) the LMP at the Resource Settlement Location and (b) the system LMP, as determined by the Market Monitor. The formulas and instructions in the price forecast model are determined by the Market Monitor and published in the Markets+ Protocols as part of the Mitigated Offer Development Guidelines, updated, as needed, by the Market Monitor. Historic LMPs are considered for the three-year period immediately preceding the period of time in which the Resource is bound by the referenced restrictions. The forecasted costs to generate energy at the Resource's Settlement Location are subtracted from the forecasted Locational Marginal Prices, as specified in more detail in Appendix XYZ of the Markets+ Protocols. If the difference between the forecasted Locational Marginal Prices and forecasted costs to generate energy is negative, the resulting opportunity cost is zero. The Market Monitor will verify all Market Participants' opportunity cost calculations for consistency and accuracy. When the Market Monitor determines that the market price for any period was not competitive, it will adjust the LMP forecasting process used in the opportunity cost calculations to ensure that forecasted LMPs do not reflect non-competitive market conditions.

The following formula applies to all mitigated Energy Offer Curves unless specified otherwise in this Section 3.4 of this Attachment B:

Mitigated Energy Offer ($/MWh) = HeatRate (mmBtu/MWh) *

Performance Factor * Total Fuel Related Costs ($/mmBtu) + EOC VOM ($/MWh) + Opportunity Costs ($/MWh) + [Schedule 1-A3 Charge ($/MWh) + Schedule 1-A4 Charge ($/MWh)]

The run-time restrictions must be updated more frequently as fewer hours remain available. The Market Participant may include in the calculation of its mitigated Energy Offer Curve an amount reflecting the resource-specific opportunity costs expected to be incurred under the following circumstances:

(1) Externally imposed environmental run-hour restrictions as verified by the Market Monitor; or

(2) Physical equipment limitations on the number of starts or run-hours, as verified by the Market Monitor and determined by reference to the manufacturer's recommendation or bulletin, or a documented restriction imposed by the applicable insurance carrier; or

(3) Fuel supply or transportation limitations, for up to one year, resulting from an event of force majeure or other circumstances verified by the Market Monitor.

F. The Market Participant must submit heat rate curves, descriptions of how spot fuel prices and/or contract prices are used to calculate fuel costs, variable fuel transportation and handling costs, emissions costs, and VOM to the Market Monitor. All cost data and cost calculation descriptions are subject to the review and approval of the Market Monitor to ensure reasonableness and consistency across Market Participants. The submitted information must be sufficient for replication of the mitigated Energy Offer Curve and must include, among other data, the following information:

(1) For fuel costs, Market Participants must provide the Market Monitor with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel

transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants must submit VOM costs, calculated in adherence with the Appendix XYZ of the Markets+ Protocols, reflecting short-run marginal costs, exclusive of fixed costs.

Further details associated with the development, validation, and updating of these costs are included in Appendix XYZ of the Markets+ Protocols.

G. For Demand Response Resources utilizing Behind-The-Meter Generation, the mitigated Energy Offer Curve methodology must be developed in the same manner as a generating Resource as described above. For load reduction Demand Response Resources, the mitigated Energy Offer Curve methodology must include the quantifiable opportunity costs associated with the reduction, net of related offsetting increases in usage.

H. For Dispatchable Variable Energy Resources, the mitigated Energy Offer Curve methodology may include, but must not exceed, any calculation of quantifiable costs that vary by MWh output, including short-run incremental VOM. Mitigation does not apply to Non-Dispatchable Variable Energy Resources in the Real-Time Balancing Market.

I. For an ESR, the mitigated Energy Offer Curve methodology may include, but must not exceed, (i) charging cost and (ii) opportunity cost, both adjusted for round-trip efficiency. Charging cost is the cost at which the ESR charged, and opportunity cost is the average profit in the next hour forgone by charging or discharging in the current hour. The sum of the charging cost and opportunity cost is the average LMP that is expected for the next Operating Hour. This expected average LMP for the next Operating Hour is the unweighted average of the LMPs for the most recent forty-five (45) days comparing like Operating Hours. The mitigated Energy Offer Curve for MSRs must have at least two breakpoints: one for charging and another for discharging. More breakpoints may be added to the extent that other costs vary.

The following formula applies to mitigated Energy Offer Curves for ESRs:

Charging Mitigated Energy Offer ($/MWh) =

Performance Factor * Average LMP Expected for the Next Hour ($/mmBtu) * Round-Trip Efficiency - EOC VOM ($/MWh)

Discharging Mitigated Energy Offer ($/MWh) =

Performance Factor * Average LMP Expected for the Next Hour ($/mmBtu) / Round-Trip Efficiency + EOC VOM ($/MWh)

J. Intra-day changes to the mitigated Energy Offer Curve are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past their initial commitment period by the Day-Ahead Market or a RUC process, the Market Participant may submit an updated mitigated Energy Offer Curve that reflects the procurement of higher cost fuel; or

(2) A Resource must switch fuels due to unforeseen operating conditions; or

(3) The Resource is an ESR; or

(4) As approved by the Market Monitor during periods of high intraday fuel price volatility.

Intra-day changes to the mitigated Energy Offer Curve must follow the mitigated offer development guidelines in Appendix XYZ of the Markets+ Protocols and will be validated by the Market Monitor.

K. A Market Participant that has a Resource with short-run marginal costs greater than the Safety-net Energy Offer Cap may submit an Energy Offer Curve using the same guidelines for development of the Resource's Mitigated Energy Offer Curve established in Appendix XYZ of the Markets+ Protocols. The Energy Offer Curve above $1,000/MWh must be equal to the Mitigated Energy Offer Curve and may include an adder with a maximum of $100/MWh due to the uncertainty of expected costs. For purposes of LMP calculation, the Energy Offer Curve will be limited to a maximum of $2,000/MWh and must be verified by the Market Monitor prior to the start of the applicable market clearing process. If the Energy Offer Curve cannot be verified prior to the start of the applicable market clearing process, then the Resource may be eligible to receive make-whole payments for its actual costs after verification by the Market Monitor. The default value is $1,000/MWh for any offer above $1,000/MWh until the offer can be verified. If the verified Energy Offer Curve is greater than $2,000/MWh,

the Energy Offer Curve will be capped at $2,000/MWh in the applicable market clearing process, and the Resource may be eligible for make-whole payments for actual costs exceeding $2,000/MWh. Market Participants must submit evidence of actual costs to the Market Monitor. The Market Monitor must verify the actual costs for use in make-whole payments. In order to include the costs in the make-whole payments of the S120 Settlement Statement, the submission must occur within 75 calendar days after the Operating Day and the verification must be complete no later than noon on the business day prior to 105 calendar days after the Operating Day.

L. Cost data submitted for the development of mitigated offers, including opportunity cost data, are subject to the confidentiality provisions set forth in Section 10 of Attachment A of this Tariff.

M. Market Participants with hydroelectric Resources may elect to use the Seasonal Hydroelectric Offer Curve calculation (SHOC) if approved by the Market Monitor as defined in this Section 3.4.

(1) Market Participants electing the SHOC will calculate that curve in the following manner for all hours of every Operating day, with the exception of the spring melt period, which, by default, is defined as the annual period from April 1st of every year to June 30th. The beginning and end of the spring melt period may be adjusted for each resource with the agreement of the Market Monitor. For each Operating Day, the Market Participant will calculate the Seasonal Hydroelectric Offer Curve as the maximum of the (a) gas floor, (b) short-term component, and (c) long-term, geographic component, which are all calculated as specified below. Hydroelectric resources without meaningful storage, as defined in the Market Protocols, will default to the day-ahead peak price at the applicable electric pricing hub.

(2) The Market Participant will calculate the gas floor as the most recent average heat rate for a typical natural gas turbine generator, as defined in the Markets+ Protocols, multiplied by the natural gas price for the fuel region applicable to the location of the hydroelectric resource, multiplied by 1.1.

(3) The Market Participant will calculate the short-term component as 1.4 multiplied by the maximum of:

(a) the most recent day-ahead peak price at the applicable electric pricing hub;

(b) the on-peak balance of the month futures price for the current month at the applicable electric pricing hub; and

(c) the on-peak monthly index futures price at the applicable electric pricing hub for one (1) month after the current month.

(4) The Market Participant will calculate the long-term, geographic component calculated based on multiple electric pricing hubs in addition to the default electric pricing hub consistent with Section 3.4 of this Attachment B. The Market Participant will calculate the long-term, geographic component as 1.1 multiplied by the maximum of:

(a) the most recent day-ahead on-peak price at the applicable electric pricing hub(s);

(b) the on-peak balance of the month futures prices for the current month at the applicable electric pricing hub(s); and

(c) the on-peak monthly index futures price at the applicable electric pricing hub(s) for all future months up to the maximum storage horizon after the current month.

(5) As part of its request for a Seasonal Hydroelectric Offer Curve, the Market Participant must submit to the Market Monitor:

(a) For each month and for each electric pricing hub requested that is not the default electric pricing hub, the Market Participant must (1) demonstrate that it holds firm transmission rights to enable delivery from the hydroelectric resource's default market region to the requested electric pricing hub or to a delivery point that is similarly priced location; or (2) provide documentation that supports a historical practice of acquiring monthly firm transmission rights to the requested electric pricing hub(s) or similarly priced location. Market Participants may demonstrate transmission rights to multiple locations and, based on the Market Monitor's evaluation of such information, the Market Participant may include multiple electric pricing hubs, in addition to the default electric pricing hubs, in the long-term, geographic component of the SHOC for the

affected resources. The Market Participant will attest through its submission that it reasonably expects it will be able to use the demonstrated transmission rights to deliver incremental sales from the hydroelectric resource because the rights are not fully committed and that there is an actual opportunity to use these rights. If the Market Participant includes multiple electric pricing hubs in the long-term, geographic component, the SHOC calculation will use the maximum of the electric price indices published for each electric pricing hub as determined for each Operating Day. On Operating Days for which there are no relevant published electric price indices at an electric pricing hub, the Market Participant will use the most recently published index for the applicable electric pricing hub.

(b) For Resources that the Market Participant demonstrates a quantity of firm transmission rights to a requested electric pricing hub or similarly priced location that is less than the hydro Resource's capacity, the Market Participant will include the requested electric pricing hub up to the quantity of demonstrated transmission rights, and apply a proportional weighting of the Resource's transmission rights to calculate a weighted average of those bilateral electric pricing hub prices when calculating the value of the long-term, geographic component of the SHOC.

(c) In the absence of Market Monitor approved supporting transmission rights information when calculating the SHOC, the Market Participant will multiply the long-term, geographic, component by zero and rely on the gas floor and the short-term component to calculate the SHOC.

(d) If during the term of the annual period the Market Participant no longer has the firm annual transmission rights previously demonstrated, or can no longer continue a historical practice of acquiring monthly firm transmission rights, the Market Participant must inform the Market Monitor within five (5) Business Days of no longer holding such firm transmission rights.

(e) The Market Monitor may audit the Market Participant and request additional information in support of the Market Participant's assertions.

(f) If the Market Monitor determines the Market Participant has submitted substantively inaccurate information, the Market Monitor will take actions to require the Market Participant to change which electric pricing hub it uses in the SHOC calculation or other actions it deems necessary to correct the calculation.

(6) The maximum hydroelectric Resource storage horizon submitted by the Market Participant must:

(a) Reflect the typical storage duration of a hydroelectric Resource's reservoir, defined as the length of time between which the reservoir cycles from a maximum elevation to a new maximum elevation during a hydro cycle. The Market Participant will compute the reservoir's cycling time based on multiple years of reservoir elevation data.

(b) Be supported by (1) a written attestation by a representative who has the authority to bind the company stating that the value used by the Market Participant as the maximum storage horizon is consistent with the requirements specified in this Section 3.4 or (2) corroborating information submitted to the Market Monitor, which may include several years of historic reservoir levels for the specific hydroelectric Resource and regulatory filings related to the operations of the hydroelectric Resource.

(7) Every resource will have a default electric pricing hub. That default electric pricing hub will be as specified in the Markets+ Protocols, which will also include a process for modifying or adding electric pricing hubs to the list of default electric pricing hubs. Candidate electric pricing hubs considered shall be established, liquid, third-party hubs or SPP's own relevant hubs.

From: Doot,Erika A (BPA) - LP-7
Sent: Tuesday, February 13, 2024 10:03 AM
To: Gorlin, David; Rachel Kane
Cc: Meyers,Andrew P (BPA) - MTM-3; Miller,Todd E (BPA) - LP-7; Mantifel,Russell (BPA) - MTM-3
Subject: FW: Additional BPA Comments on Draft M+ Tariff
Attachments: 2024.02.08 BPA Draft Tariff Comments 2.docx

Hi Rachel & David,

Attached are additional comments that BPA submitted to SPP on Friday.

Please let us know if you have any questions.

Thanks,
Erika

From: Doot,Erika A (BPA) - LP-7
Sent: Friday, February 9, 2024 4:55 PM
To: Kristen Darden <kdarden@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Subject: RE: Additional BPA Comments on Draft M+ Tariff

Hi Kristen, Kelli, Rachel and Chris,

Attached is a second set of BPA comments on the draft M+ tariff. We may send you a few additional comments on attachments this weekend.

Thank you for your prompt review and responsiveness to our comments. We appreciated your feedback and incorporation of our previous comments.

Please let me know if you have any questions.

Have a nice weekend,
Erika

From: Doot,Erika A (BPA) - LP-7
Sent: Thursday, February 8, 2024 11:06 AM
To: Kristen Darden <kdarden@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3

<apmeyers@bpa.gov>; Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Subject: RE: [EXTERNAL] RE: Additional BPA Comments on Draft M+ Tariff

Hi Kelli & Kristen,

I will have another set of comments for you on Attachment A section 6.2 and after. I am waiting to finalize with my SMEs just after the MDWG.

Thanks,
Erika

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, February 8, 2024 6:31 AM
To: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Subject: [EXTERNAL] RE: Additional BPA Comments on Draft M+ Tariff

Erika –

I apologize for the delay. Thank you for sending over BPA's comments. We have responded within the attached. We did incorporate a portion of the comments. We noted within the document which comments were incorporated. We will also address these during the meeting today. Please let us know if you have any questions on our responses.

Thank you.

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Sent: Tuesday, February 6, 2024 7:08 PM
To: Kristen Darden <kdarden@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel, Russ <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby, Libby <eakirby@bpa.gov>; Eaton, Sara <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong, Mai <mntruong@bpa.gov>
Subject: **External Email** Additional BPA Comments on Draft M+ Tariff

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Hi Kristen, Kelli, Chris & Rachel,

Based on Kristen's email today, I thought you would appreciate BPA sending comments on the draft tariff for MDWG discussion.

We will likely have another set or two, but I thought it would be helpful if you could start running them down.

Please let me know if you have any questions.

Thanks,
Erika

Erika Doot
Attorney-Advisor
Bonneville Power Adminstration
(503) 230-4329

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From: Schlekeway, Lindsey (NV Energy) <lindsey.schlekeway@nvenergy.com>
Sent: Monday, November 27, 2023 11:58 AM
To: Kristen Darden; Mantifel,Russell (BPA) - MTM-3; Detmer, Nick
Cc: Rubin, David (NV Energy)
Subject: [EXTERNAL] RE: [INTERNET] RE: 11/28 Meeting

Thank you so much, Kristen!

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, November 27, 2023 11:52 AM
To: Schlekeway, Lindsey (NV Energy) <lindsey.schlekeway@nvenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>
Cc: Rubin, David (NV Energy) <David.rubin@nvenergy.com>
Subject: [INTERNET] RE: 11/28 Meeting

THIS MESSAGE IS FROM AN EXTERNAL SENDER.
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Hey Lindsey –

The language will be posted today. We had a lot of people out for Thanksgiving last week. Yes, I am good with relocating the 4E (scarcity pricing) agenda item. We can discuss at the beginning of the meeting, the modified agenda. I will also ensure that David is promoted during the meeting so that he is able to unmute himself.

Thanks!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Schlekeway, Lindsey (NV Energy) <Lindsey.Schlekeway@nvenergy.com>
Sent: Monday, November 27, 2023 1:13 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>
Cc: Rubin, David <David.rubin@nvenergy.com>
Subject: **External Email** 11/28 Meeting

STOP! This is **NOT** an SPP email.
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Please click the "Report Phish" button if you are unsure about this email.

Good Morning.

I will be out for about 1 hour during tomorrow's Market Design call and would like to add David Rubin as my proxy during this time. I will be out around 9:45 AM – 11:00 AM PST and will let you know in the chat when I am out and back.

One other item, I have not seen the proposed tariff language for agenda item 4E (scarcity pricing, market award, and reliability backstop). If we are voting on this item tomorrow, then could we move this item to the end of Agenda item 4?

Lindsey Schlekeway
Market Policy Manager
(702) 235-3566

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From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Thursday, August 3, 2023 4:33 PM
To: Dan Williams; Kochheiser,Todd W (BPA) - TOI-DITT-2; Aaron Shipley; Clint Savoy; Morelock, Kevin; Blair, Twyana; Conn, Stephanie; Gruesner, Brett; Johnson,Kevin M (TFE) (BPA) - TOO-DITT-1; Jerry Stone; Hakala, Tuuli; Wendy Weaver; Carman Ruder; Ken Quimby; Brad Johnston; Shari Brown; Russell, Derek
Cc: Kirby,Elizabeth A (BPA) - BT-3; Mantifel,Russell (BPA) - PGL-5
Subject: Re: [EXTERNAL] M+ Transmission Flow Priority Meeting 2

Follow Up Flag: FollowUp
Flag Status: Completed

Thanks Dan

Get Outlook for iOS

From: Dan Williams <dwilliams2@teainc.org>
Sent: Thursday, August 3, 2023 3:19:10 PM
To: Holman, Mark <Mark.Holman@powerex.com>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Aaron Shipley <ashipley@spp.org>; Clint Savoy <csavoy@spp.org>; Morelock, Kevin <kmorelock@utilicast.com>; Blair, Twyana <Twyana.Blair@aps.com>; Conn, Stephanie <stephanie.conn@srpnet.com>; Gruesner, Brett <Brett.J.Gruesner@xcelenergy.com>; Johnson,Kevin M (TFE)(BPA) - TOO-DITT-1 <kmjohnson@bpa.gov>; Jerry Stone <Jastone@spp.org>; Hakala, Tuuli <tuuli.hakala@chelanpud.org>; Wendy Weaver <wweaver@spp.org>; Carman Ruder <cruder@spp.org>; Ken Quimby <kquimby@spp.org>; Brad Johnston <bjohnston@spp.org>; Shari Brown <SBrown@spp.org>; Russell, Derek <derek.russell@powerex.com>
Cc: Kirby,Elizabeth A (BPA) - BT-3 <eakirby@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] M+ Transmission Flow Priority Meeting 2

Caution: External Email

Mark and others, I grabbed this from the chat just now and wanted to share so we remembered to address it in the next session(s).

> from Kathy Anderson to everyone: 2:58 PM
> where does an IPP that is in markets+ footprint trying to export outside fall in this? If it is an RA resource for someone outside the footprint, it should not be PL2
> from Dan Williams - TEA to everyone: 3:02 PM
> @Kathy, do you see that as PL1? Does the relationship w the host BAA matter?
> Maybe we can pick that up at the next discussion.
> from Kathy Anderson to everyone: 3:03 PM
> @Dan, I think it needs discussed more but my initial though is yes.

To put it to an example:

> IPP-Wind-A has 100MW capacity, DA forecast of 90MW for a specific hour, and 100MW of Firm Tx leaving M+ :: Is their export schedule considered PL2 or PL1? Does it matter what relationship the resource has with it's BAA for GI capacity under their OATT and whether any "balancing service" was included in the host BAA's aggregate

MOO [..tricky since the MOO is at the LSE?]? Would we have rules limiting their DAM export offer to 90MW? Who's forecast would set that limit? Would the resource have to be a price-taker for all 90MW? If they are awarded 90MW from the DAM, are they required to adjust their RTBM export offer to match the RTBM forecast? When? (ex., T-XX) If we have a DAM Imbalance Product, would the resource be assigned uncertainty and allocated costs? What if the Imbalance Product has an undersupply infeasibility but the energy supply/demand still clears without an infeasibility? I'll stop.

I think that general line of questioning is what Kathy was getting at. And apologies if it has already been asked and answered.

Dan

Dan Williams
Principal Advisor, Western Markets

Mobile: (b)(6)
Email: dwilliams2@teainc.org

The Energy Authority®

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Thursday, August 3, 2023 7:06 AM
To: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Aaron Shipley <ashipley@spp.org>; Clint Savoy <csavoy@spp.org>; Morelock, Kevin <kmorelock@utilicast.com>; Blair, Twyana <Twyana.Blair@aps.com>; Conn, Stephanie <stephanie.conn@srpnet.com>; Gruesner, Brett <Brett.J.Gruesner@xcelenergy.com>; Johnson,Kevin M (TFE)(BPA) - TOO-DITT-1 <kmjohnson@bpa.gov>; Jerry Stone <Jastone@spp.org>; Hakala, Tuuli <tuuli.hakala@chelanpud.org>; Wendy Weaver <wweaver@spp.org>; Carman Ruder <cruder@spp.org>; Ken Quimby <kquimby@spp.org>; Brad Johnston <bjohnston@spp.org>; Shari Brown <SBrown@spp.org>; Russell, Derek <derek.russell@powerex.com>; Dan Williams <dwilliams2@teainc.org>
Cc: Kirby,Elizabeth A (BPA) - BT-3 <eakirby@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] M+ Transmission Flow Priority Meeting 2

Good morning,

Todd, thanks for all of the feedback and thoughts. Leaves us all lots to talk about when you're back.

A couple of quick thoughts on your notes below from my perspective - to ponder while you're enjoying some time off (or not!)

I agree the conversation should be about priority of awards (when the market run can't award all price taker demand) as you describe. That was a helpful clarification - my apologies for any confusion caused by using the term "flow priority". It is market award priority that is an input/determinate into ultimate flow priority.

I think the penalty price hierarchy needs to be applied to all SCED runs, not just DA, as the market software needs to have a way of deciding which price taker demand to award if there are insufficient supply offers (physical or virtual) in each SCED run, including insufficient (physical) offers in the real time market run(s) to meet all price taker physical demand.

I think the day ahead must offer is likely to include net forward sales commitments made ahead of the day ahead market run, at least as I understand it from current stakeholder discussions; I think the real time must offer is still in early development (?), so I don't know yet where day ahead awards fit into that real time must offer requirement.

As for the "out-and-In" using third party tx, I do think we need a day 1 approach for use of oatt tx and a day 1 approach for use of organized market tx (eg CAISO wheel through). It was helpful for you to clarify and highlight these two different types on the last call. Having said that, the day 1 approach for the narrow issue of market software award priority in both these cases may be relatively straight forward once we have the relative award priority generalized framework agreed to - of course more implementation details will be needed before go live.

It may be that a collaborative solution is achieved sooner or later - hard to tell, but I think we'll need a default approach for the market to operate.

Anyway, looking forward to tomorrow's discussion and picking this back up when you're back!

Regards

Mark

Mark Holman | Managing Director | Powerex Corp. | Direct (b)(6)

From: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>
Sent: Wednesday, August 2, 2023 5:10 PM
To: Aaron Shipley <ashipley@spp.org>; Clint Savoy <csavoy@spp.org>; Morelock, Kevin <kmorelock@utilicast.com>; Blair, Twyana <Twyana.Blair@aps.com>; Conn, Stephanie <stephanie.conn@srpnet.com>; Gruesner, Brett <Brett.J.Gruesner@xcelenergy.com>; Johnson,Kevin M (TFE)(BPA) - TOO-DITT-1 <kmjohnson@bpa.gov>; Jerry Stone <Jastone@spp.org>; Holman, Mark <Mark.Holman@powerex.com>; Hakala, Tuuli <tuuli.hakala@chelanpud.org>; Wendy Weaver <wweaver@spp.org>; Carman Ruder <cruder@spp.org>; Ken Quimby <kquimby@spp.org>; Brad Johnston <bjohnston@spp.org>; Shari Brown <SBrown@spp.org>; Russell, Derek <derek.russell@powerex.com>; Williams, Dan <dwilliams2@teainc.org>
Cc: Kirby,Elizabeth A (BPA) - BT-3 <eakirby@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] M+ Transmission Flow Priority Meeting 2

⚠ **Caution: External Email**

Hello,

As is often the case after a meeting has ended, and in the interest of collaboration, I've been pondering our conversation from Monday and have a few thoughts that I wanted to share with the team that may be worth discussing at our next meeting. Of course I must include the obligatory disclaimer that these are the ramblings of Todd and don't necessarily reflect an official BPA position (grin). First, I appreciated that we decided to frame the concern on Monday not in terms of "priority of flow", but rather "priority of awards" and specifically awards for demand (i.e., LSE load and market exports). I think that's useful context and clearly scopes the conversation to the DA market clearing process (demand only bids in DA) and not any of the other market processes (e.g., RUC, RTBM, Settlements, etc.).

Here are some general thoughts:

- Virtuals were not discussed but they represent an additional source of bids and offers (i.e., supply and demand) in the DA market clearing process

- As I understand it, Virtuals contribute to DA market flow (virtual congestion?) just like any other physical resource in the DA market clearing process

- Loads may not receive a DA award if they bid too low and/or there are a higher priced virtual offers that exceed supply. This doesn't seem like a market defect but rather a feature and self-correcting. Related, during periods of limited supply or scarcity, price formations should provide a signal for additional supply to offer into the market

- LSEs with transmission rights would be eligible for Congestion Revenue (CR) to help financially hedge risk (Case 2).

  - In WRAP, LSE's are required to have transmission for 75% of their FS capacity requirement (P50 + PRM). Given this is 7-months in advance, the transmission service is likely to be LT (e.g., LTF, NT, CF, etc.) and eligible for CR

  - Since WRAP is a presumed requirement for M+, both LSE's in Zone B would presumably have transmission rights and a potential CR hedge

- It is proposed (I believe) that a DA export from the footprint by a M+ participant would be included in the DA must offer requirements, presumably with associated transmission (potentially tagged?) – the supply and associated transmission has presumably been covered by the M+ participant in that case and offered into the DA market (increased supply)

- Prior to RT, but after DA market clearing, the various RUC processes (e.g., DA, Intra-Day, and Short-Term) would attempt to remedy any physical supply issue to insure physically feasible RTBM dispatches

Having a policy for determining the priority of market awards in DA when price-based bids and offers are insufficient to make this determination is useful, but I do wonder if the DA market running out of supply to meet demand would be self-correcting, especially if virtual bids/offers are allowed and there is a reasonable must offer requirement and the various RUC processes. Also, some of these topics/concerns raised are also being discussed in the MDWG and MRATF (e.g., Virtuals and MOO). Food for thought…

Regarding the CAISO scenario in the presentation, that's certainly an interesting and important market-to-market seam, but I'm not sure we're going to have any easy answers at this point or the ability to bring the CAISO to the table. My soft suggestion is that it might be out of scope for this sub-group. If we can identify an adequate or simple policy suggestion as a bridge, that might be our best path forward between now and phase 2.

As I've mentioned before on our calls, discussing post DA concerns such as the physical priority of M+ Transfers (BAA-BAA), physical priority of Market Flows (i.e., flowgate flows), considerations for the use of 3rd party transmission, and congestion management processes/procedures, are topics we have yet to discuss. I'm hopeful this group, or perhaps a different sub-group, can begin to make traction on those items in the near future.

These ramblings are generally my own and thank you for making it to the end of this email!

Best and collaboratively,
Todd

PS: I'm out of the office Thursday-Monday. I've copied Libby as my proxy; she will also be participating in Thursday's WTWG.

29332539

-----Original Appointment-----
From: Aaron Shipley <ashipley@spp.org>
Sent: Friday, July 28, 2023 6:56 AM
To: Aaron Shipley; Clint Savoy; Morelock, Kevin; Blair, Twyana; Conn, Stephanie; Gruesner, Brett; Kochheiser,Todd W (BPA) - TOI-DITT-2; Johnson,Kevin M (TFE)(BPA) - TOO-DITT-1; Jerry Stone; Holman, Mark; Hakala, Tuuli; Wendy Weaver; Carman Ruder; Ken Quimby; Brad Johnston; Shari Brown; Russell, Derek; Williams, Dan
Subject: [EXTERNAL] M+ Transmission Flow Priority Meeting 2
When: Monday, July 31, 2023 11:00 AM-1:00 PM (UTC-06:00) Central Time (US & Canada).
Where: WebEx

Sub Group meet for second time. Should consider context of action item in terms of Service Offering and needs for Phase 1 Tariff drafting compared to Phase 2 further detail development.

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From: Doot,Erika A (BPA) - LP-7
Sent: Wednesday, February 14, 2024 10:14 AM
To: Kelli Schermerhorn; Kristen Darden; Chris Nolen; Rachel Kane; Carman Ruder; Carrie Simpson
Cc: Miller,Todd E (BPA) - LP-7; Mantifel,Russell (BPA) - MTM-3; Chong Tim,Marcus H (BPA) - L-7; Kirby,Elizabeth A (BPA) - MTM-3; Eaton,Sara L (BPA) - PTMA-5; Chan,Allen C (BPA) - LT-7; Meyers,Andrew P (BPA) - MTM-3; Truong,Mai N (BPA) - TSB-TPP-2
Subject: RE: [EXTERNAL] RE: Additional BPA Comments on Draft M+ Tariff

Thanks, Kelli. No problem just wanted them to be included like the other comments.

From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Wednesday, February 14, 2024 9:58 AM
To: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Kristen Darden <kdarden@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>; Carman Ruder <cruder@spp.org>; Carrie Simpson <csimpson@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Subject: [EXTERNAL] RE: Additional BPA Comments on Draft M+ Tariff

Hi Erika,

Apologies for the oversight. We are working on One Big Update to the posting, which will include both sets of comments received from you as well as the comments receive from Todd Miller. Please let us know if you notice anything is missing once we have this update complete!

Kelli Schermerhorn
Lead Analyst, Market Design West
Staff Secretary, M+ Resource Adequacy Task Force

From: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Sent: Tuesday, February 13, 2024 4:11 PM
To: Kristen Darden <kdarden@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel, Russ <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby, Libby <eakirby@bpa.gov>; Eaton, Sara <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong, Mai <mntruong@bpa.gov>
Subject: **External Email** RE: Additional BPA Comments on Draft M+ Tariff

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Hi SPP,

We'd like the first and second sets of general comments from BPA posted with the MDWG materials as well. Currently only earlier GHG comments and Attachment I,J, and O comments are posted.

Thanks for your consideration and incorporation of many of our comments.

- Erika

From: Doot,Erika A (BPA) - LP-7
Sent: Friday, February 9, 2024 4:55 PM
To: Kristen Darden <kdarden@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Subject: RE: Additional BPA Comments on Draft M+ Tariff

Hi Kristen, Kelli, Rachel and Chris,

Attached is a second set of BPA comments on the draft M+ tariff. We may send you a few additional comments on attachments this weekend.

Thank you for your prompt review and responsiveness to our comments. We appreciated your feedback and incorporation of our previous comments.

Please let me know if you have any questions.

Have a nice weekend,
Erika

From: Doot,Erika A (BPA) - LP-7
Sent: Thursday, February 8, 2024 11:06 AM
To: Kristen Darden <kdarden@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Subject: RE: [EXTERNAL] RE: Additional BPA Comments on Draft M+ Tariff

Hi Kelli & Kristen,

I will have another set of comments for you on Attachment A section 6.2 and after. I am waiting to finalize with my SMEs just after the MDWG.

Thanks,
Erika

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, February 8, 2024 6:31 AM
To: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Subject: [EXTERNAL] RE: Additional BPA Comments on Draft M+ Tariff

Erika –

I apologize for the delay. Thank you for sending over BPA's comments. We have responded within the attached. We did incorporate a portion of the comments. We noted within the document which comments were incorporated. We will also address these during the meeting today. Please let us know if you have any questions on our responses.

Thank you.

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C (b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Sent: Tuesday, February 6, 2024 7:08 PM
To: Kristen Darden <kdarden@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel, Russ <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby, Libby <eakirby@bpa.gov>; Eaton, Sara <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong, Mai <mntruong@bpa.gov>
Subject: **External Email** Additional BPA Comments on Draft M+ Tariff

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Hi Kristen, Kelli, Chris & Rachel,

Based on Kristen's email today, I thought you would appreciate BPA sending comments on the draft tariff for MDWG discussion.

We will likely have another set or two, but I thought it would be helpful if you could start running them down.

Please let me know if you have any questions.

Thanks,
Erika

Erika Doot
Attorney-Advisor
Bonneville Power Adminstration
(503) 230-4329

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From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Friday, October 6, 2023 4:40 PM
To: Spires, Jeff; Willis, Wendy; Holman, Mark; Aitken, Meredith; Marr, Garrison; Shawn Smith; Eaton,Sara L (BPA) - PTMA-5; Mantifel,Russell (BPA) - BT-3; Suzanne Cooper (sbcoooper@bpa.gov); Johnson, Ray; Zyskowski, Jason; Fina, Joe; Applegate, Rick; Kochheiser,Todd W (BPA) - TOI-DITT-2; Van Calcar, Pamela M (BPA) - PGS-5; Doot,Erika A (BPA) - LP-7; Bellcoff,Steve (BPA) - PGPR-5; Jaspers, Janet; Liechty, Joy
Cc: Truong,Mai N (BPA) - TSB-TPP-2; Tuuli Hakala; Mike Bradshaw; Lauren Tenney Denison; Michael Linn; Irene Scruggs
Subject: [EXTERNAL] RE: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

Thanks Jeff. I agree that it makes sense to refine the approach to uneconomic production if needed after we have some more clarity on the Hydro mitigated offer and we are fine with leaving that discussion as-is for this initial sharing with SPP.

We should be able to provide any feedback on the draft email Monday morning.

Have a great weekend all!

-Adam

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, October 6, 2023 4:30 PM
To: Cornelius, Adam <ACCornelius@Snopud.com>; Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Marr, Garrison <GBMarr@Snopud.com>; Shawn Smith <Shawn.Smith@chelanpud.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; rxmantifel@bpa.gov; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Fina, Joe <GFina@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser (BPA), Todd <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; srbellcoff@bpa.gov; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Michael Linn <mlinn@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: RE: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

Hi Adam

Thanks to all of you for the quick turnaround on providing your feedback on the document. We are good with the edits. We also have a preference for Option 2 regarding data sharing and propose we use that version for purposes of sharing with SPP, subject to BPA's confirmation that they are comfortable with the edits and with using Option 2.

With respect to uneconomic production, we agree that there is likely some additional work required in that area, including defining potential guardrails around 4.6.1 (a) (1), or adding language that the section it is not applicable to hydro resources. That said, the solution might be more clear depending on the outcome of the Hydro DEB discussion, so we would propose sharing the document as is, pending future evaluation of the specific refinements needed to address this concern as the discussion continues.

Lastly, below is draft joint email to Antoine and Jim Gonzalez for this group's review and feedback. Ideally we would send this first thing Monday (or Tuesday given the holiday).

Regards,
Jeff

Draft email:

Antoine and Jim,

Please see attached a paper from a group of Markets+ stakeholders that have worked together to establish a set of principles and draft tariff language focused on topics related to the future participation of hydro resources in Markets+. We are hoping to follow up with you to discuss next steps, once you have had the opportunity to read the paper and discuss it internally.

On a separate note, we would also like to encourage SPP, and its MMU, to support stakeholders' ability to discuss important Markets+ topics prior to SPP or its market monitor developing and presenting policy positions and associated draft tariff language as the starting point for such discussions. We believe it will be a much more constructive and efficient process for SPP and its MMU to comment on policy proposals and draft tariff language that is developed collectively by the stakeholders in each group or sub-group (with input from SPP and its MMU during that development process).

This email and the attached paper is a joint communication from BPA, Chelan County PUD, Powerex Corp, Public Power Council, Snohomish County PUD and Tacoma Public Utilities.

From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Friday, October 6, 2023 3:42 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Marr, Garrison <GBMarr@Snopud.com>; Shawn Smith <Shawn.Smith@chelanpud.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; rxmantifel@bpa.gov; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Fina, Joe <GFina@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser (BPA), Todd <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; srbellcoff@bpa.gov; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Michael Linn <mlinn@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: RE: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

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Thank you to Powerex and BPA for your efforts on pulling together this document on a short time frame. Attached are a few relatively minor suggestions from Snohomish (Tacoma and Chelan had no further edits). As for data sharing, Snohomish and Tacoma both prefer Option 2, but can live with Option 1. Chelan is fine with either.

One consideration that I noted in comments is whether we should make some more specific recommendations when it comes to uneconomic production. I appreciate that the paper mentions that when legitimate water management activities require an increased volume of water be released that it shouldn't be considered uneconomic production. However, unlike in CAISO, one of the flags for uneconomic production in SPP is a resource offering below its mitigated offer. We may want to consider at some point whether any specific guardrails around 4.6.1 (a) (1) below are needed in light of the proposed mitigated offer for hydro.

4.6.1 Uneconomic Production

The Market Monitor will monitor for cases where uneconomic production by a Resource causes congestion on transmission facilities or price separation between Reserve Zones that is not justified by reliability concerns. For an MSR, both charging and discharging are considered production. The provisions of this Section 4.6.1 do not apply to Demand Response Resources.

(a) Potential uneconomic production will be indicated, and subject to further analysis as described in (b) of this Section 4.6.1, when the Resource has a positive Resource-to-Load Distribution Factor and any of the following conditions are met:

(1) a Resource is identified with an incremental energy offer price less than 50 percent of its mitigated offer as shadow calculated by the Market Monitor; or

(2) a Resource is determined to be generating outside of its Operating Tolerance; or

(3) a Resource is subject to a time-based or other resource offer parameter (non-time and non-dollar based) that appears to facilitate production that is otherwise uneconomic.

(b) For any Resource meeting the conditions described in (a) of this Section 4.6.1, the Market Monitor will determine whether: (i) the MW impact from uneconomic production associated with such Resource is exacerbating the transmission congestion or binding a Reserve Zone; and (ii) the uneconomic production is not obviously justified by reliability or other operational concerns.

The Market Monitor will conduct evaluations as specified above and other related assessments to determine if there is sufficient credible information to justify referral to FERC.

Thanks,

Adam Cornelius
Principal Utility Analyst | Power Supply | Snohomish County PUD
2320 California St, Everett, WA 98201
cell: (b)(6) | office: (b)(6)
ACCornelius@snopud.com

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Thursday, October 5, 2023 3:21 PM
To: Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Marr, Garrison <GBMarr@Snopud.com>; Shawn Smith <Shawn.Smith@chelanpud.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; rxmantifel@bpa.gov; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Fina, Joe <GFina@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser (BPA), Todd <twkochheiser@bpa.gov>; Cornelius, Adam <ACCornelius@Snopud.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; srbellcoff@bpa.gov; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Michael Linn <mlinn@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

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Good afternoon,

Please see attached an updated draft of the confidential "Principles For Storage Hydro Participation in Markets+" document (in clean and redline) that reflects collaboration between Powerex and BPA on refinements to the initial draft for the group's review.

We look forward to the discussion tomorrow morning.

Regards,
Jeff

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From: Kristen Darden <kdarden@spp.org>
Sent: Monday, May 20, 2024 9:29 AM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] May 14th MDWG Summary of Motions, Action Items, and Future Meetings
Attachments: 5 14 MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx

Good morning!

I apologize for the delay in sending over the Summary of Motions, Action Items, and Future Meetings from our 5/14 meeting. Thank you again to Kelli and Carman for running the meeting and doing a great job at it!

Once again, I want to say it has been such a pleasure and joy to work with you all over the past year. I hope that one day I will see you all again. I'm grateful to have met each one of you, while working towards creating the Markets+ Tariff and Protocols (and special thanks for putting up with all the "Yalls" ☺). Russ and Nick are great leaders and will continue to provide solid guidance. I know that that it will continue to be successful given this awesome group of individuals and amazing SPP staff working together.

I will be keeping up with the Markets+ project from the sidelines, rooting you all on!

Don't be a stranger! Feel free to reach out anytime and if you make it to AR, holler and we will grab some sweet tea and queso.

Cell: (b)(6)
Email: (b)(6)
LinkedIn: Kristen Darden

Cheers to YOU and Markets+!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C (b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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SPP Southwest Power Pool

MARKETS+

SOUTHWEST POWER POOL, INC.
MARKETS+ DESIGN WORKING GROUP MEETING
5/14/2024
Net-Conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

1. **Agenda Item 3 – Consent Agenda: 4/9 MDWG Minutes & MCRTF Public Power Nomination Seat**

   Motion: Russ Mantifel (BPA) motioned to approve the consent agenda, including the 4/9/2024 MDWG Minutes and Markets+ Congestion Rent Task Force (MCRTF) Public Power Nomination. Jeff Spires (Powerex) provided the second. Motion carried unanimously.

2. **Agenda Item 5a – Markets+ Protocols: Section 7 Market Transmission Use Rate**

   Motion: Laura Trolese (TEA) motioned to approve Markets+ Protocols, Section 7 (Market Transmission Use Rate) as presented. Nick Detmer (Xcel) provided the second. Motion carried with one abstention (RNW).

ACTION ITEM:

Action Item: SPP staff will work to update Markets+ Protocol Sections 2-3 (Overview) and provide updated language for review and approval during the June MDWG meeting.

Action Item: SPP staff will provide mapping of Markets+ Working Groups and Task Forces vacancies to the sector representation needed for the vacancies, while showing what entities are available for a vacant seat at a WG and/or TF.

Action Item: SPP staff will work internally to create and provide analysis to determine if it is possible to optimize Resource minimums in the Day-Ahead Market and Real-Time Balancing Market (RTBM).

FUTURE MEETINGS:

MDWG Future Meeting
Date: June 11th, 2024
Location: Net-Conference
Time: 11:00 a.m. – 5:00 p.m., CPT / 9:00 a.m. – 3:00 p.m., PT / 10:00 a.m. – 4:00 p.m., MT

MDWG Future Meeting
Date: July TBD

29332581

Location: Net-Conference
Time: 11:00 a.m. – 5:00 p.m., CPT / 9:00 a.m. – 3:00 p.m., PT / 10:00 a.m. – 4:00 p.m., MT

DRAFT

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, July 18, 2023 11:16 AM
To: Mantifel,Russell (BPA) - PGL-5; Detmer, Nick
Subject: RE: [EXTERNAL] RE: Upcoming MDWG Meetings

Perfectly captured, Nick. These are the four options we are going to propose for the MDWG to choose from (given the 7/12 discussion). See what you think:

1. Virtuals effective at M+ go-live with limited SPP intervention
2. Virtuals effective at M+ go-live with expanded SPP intervention
3. Virtuals effective at a delayed implementation date with limited SPP intervention
4. Virtuals effective at a delayed implementation date with expanded SPP intervention

---

From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Tuesday, July 18, 2023 1:10 PM
To: Detmer, Nick <nick.detmer@xcelenergy.com>; Kristen Darden <kdarden@spp.org>
Subject: **External Email** RE: [EXTERNAL] RE: Upcoming MDWG Meetings

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I like that. Feels about right.

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Tuesday, July 18, 2023 11:06 AM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Kristen Darden <kdarden@spp.org>
Subject: RE: [EXTERNAL] RE: Upcoming MDWG Meetings

If virtuals discussion gets wonky, I promise to throw out the 6 month contingent motion.

From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Tuesday, July 18, 2023 12:02 PM
To: Detmer, Nicholas J <nick.detmer@xcelenergy.com>; Kristen Darden <kdarden@spp.org>
Subject: RE: [EXTERNAL] RE: Upcoming MDWG Meetings

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Ok, thanks. I'll get us ready to go on the cost allocation. And on virtuals that's feeling like where we're going to end up.

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Tuesday, July 18, 2023 10:59 AM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Kristen Darden <kdarden@spp.org>
Subject: RE: [EXTERNAL] RE: Upcoming MDWG Meetings

For cost allocation Mr. white presented options to allocate uplift costs (RNU) should it be market foot print or limited to the BA. We hit the time limit so the discussion we had was limited, but I sensed a leaning to the BAA assignment

method because if we were to change to marketwide – that would be easier then setting up the BAA option at a later date. But the discussion was limited.

I think if we have quick flyover of the issue to refresh anyone's memory – then discussion – then vote I think we can reach a resolution.

For virtuals – the positions were all over the place, some are concerned we are voting on virtuals without details on circuit breakers, limits, MMU rules etc. I think we may want to vote on a delay of virtuals into the market (lets say 6 months after go live) contingent rules, circuit breakers, limits, etc are approved.

From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Tuesday, July 18, 2023 10:54 AM
To: Kristen Darden <kdarden@spp.org>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Subject: RE: [EXTERNAL] RE: Upcoming MDWG Meetings

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Thanks Kristen, a few questions/thoughts on the approval items.

1. What specific cost allocation elements are we approving?
2. On virtuals, I got the impression there might be more work on this effort (discussion of circuit breakers, etc.). I'm happy for to be approved if that's how it goes, but I worry about folks feeling it's premature. But I might also be overthinking it or missing something.

Best,
Russ

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, July 18, 2023 9:44 AM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: RE: [EXTERNAL] RE: Upcoming MDWG Meetings

Sounds great. I will make the changes. Thank you both!

Also, a draft agenda is attached for your review. Please let me know if you'd like for me to schedule a call to talk through the agenda. The highlighted is a reminder for me to add in the hyperlink once it's available to register for.

From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Tuesday, July 18, 2023 11:32 AM
To: Detmer, Nick <nick.detmer@xcelenergy.com>; Kristen Darden <kdarden@spp.org>
Subject: **External Email** RE: [EXTERNAL] RE: Upcoming MDWG Meetings

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That makes sense to me as well. Thanks both

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Tuesday, July 18, 2023 9:26 AM

To: Kristen Darden <kdarden@spp.org>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Subject: [EXTERNAL] RE: Upcoming MDWG Meetings

I think extend an hour for now. I know MWG in the east pretty much goes all day – but that is once per month.

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, July 18, 2023 10:16 AM
To: Detmer, Nicholas J <nick.detmer@xcelenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: Upcoming MDWG Meetings

EXTERNAL - STOP & THINK before opening links and attachments.

Nick and Russ –

Given how the past 2 MDWG meetings have gone, I was thinking about restructuring the upcoming MDWG meetings, given the robust discussions we have been having. For the 7/26 meeting (since it's next week), I was wanting to see your thoughts on adding an additional hour to the meeting? Extend to 3 p.m. PT/4 p.m. MT/5 p.m. CPT? The next net-conference after that is 8/29. We have a couple of options for that one and moving forward:

1) Extend an hour (end at 3 p.m. PT/4 p.m. MT/5 p.m. CPT)
2) Keep the same time plus add another 3-hour session the following morning: Wednesday, 8/30/2023 – 8:30 a.m. PT/9:30 a.m. MT/10:30 a.m. CPT?

Thoughts?

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From: Gentry Crowson <gtcrowson@spp.org>
Sent: Tuesday, October 31, 2023 12:55 PM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] Draft Version of Congestion Rent Tariff Language
Attachments: Markets+ Congestion Rent Working Draft.docx

Market+ Congestion Rent Task Force,

Attached is a draft version of the Congestion Rent Tariff language. SPP's internal team is still reviewing this language and will have the latest draft to be used in the 11/09/23 MCRTF Meeting posted to spp.org by 11/02/2023.

Thanks,
Gentry Crowson
MCRTF Staff Secretary

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Section 7.16: Congestion Rent Eligible Transmission Service Reservation Verification

The Market Operator, in collaboration with Markets+ Transmission Service Providers and Market Participants within the Markets+ Footprint, will use the following procedure to verify each Market Participant's Congestion Rent Eligible Transmission Service Reservations.

1) Markets+ Transmission Service Providers will make available on their OASIS each Market Participant's firm transmission service reservation information for service increments that are monthly, yearly, or longer, that span the upcoming operational month including:
    a) MW Quantity;
    b) Markets+ Transmission User;
    c) Term;
    d) Type (Firm Point-to-Point Transmission Service, Conditional Firm Point-to-Point Transmission Service, Network Integration Transmission Service, Legacy Transmission Service);
    e) Source;
    f) Sink;
    g) Point-of-Receipt (POR); and
    h) Point-of-Delivery (POD).
2) If a Markets+ Transmission Service Provider is unable to provide information related to Legacy Transmission Service on its OASIS, the Markets+ Transmission Service Provider will notify the Market Operator and the Markets+ Transmission User, and the Market Operator will coordinate the exchange of Legacy Transmission Service information.
3) The Market Operator will obtain the transmission service reservation information as specified under subsections (1) and (2) above during the month preceding the operating month as defined in the Market+ Protocols and:

a) Provide such information to each identified Market Participant for verification/correction.

b) Unless the Market Participant communicates a suspected error during the verification period as defined in the Markets+ Protocols, the Market Operator will deem the transmission service reservation information provided to be valid.

c) If a Market Participant identifies a suspected error with the transmission service reservation information, the Market Participant will contact the Market Operator. The Market Operator will communicate its determination of the validity of the transmission service reservation to the Market Participant, including the correction of any error.

4) For Firm Point-to-Point Transmission Service TSR Holders, the TSR MW is equal to the Point-to-Point Service Distribution Cap.

5) For Network Integration Transmission Service (NITS) TSR Holders, the total TSR MWs from each Designated Network Resource (DNR) to Network Load is calculated by the Market Operator based upon the Network Service Distribution Cap using the following procedure:

a) To the extent that DNR MW capacity and POR and/or the Network Load POD cannot be obtained from the Markets+ Transmission Service Provider's OASIS as described under Subsection 1) above, the Market Operator, through coordination during the verification period with the applicable Markets+ Transmission Service Provider and NITS TSR Holders, will obtain and maintain a record of each Designated Network Resource's MW capacity and Point-of–Receipt and associated Network Load's Point-of-Delivery for that NITS TSR Holder. For Designated Network Resources that are located outside of the Transmission Service Provider's system that is serving Network Load inside of the Transmission Service Provider's system, the Point-of-Receipt will be at the import location of delivering energy to the Transmission Service Provider's system.

b) Based on the information obtained in Subsection 5(a) and for each hour of the Operating Day, the Market Operator will systematically select each NITS TSR Holder's source to sink paths from its DNRs to its Network Loads as follows;

i. A merit order stack is created from the lowest cost DNRs to the highest cost DNRs, where the DNR cost is equal to the total cost, in $/MWh, to operate each DNR at its maximum MW capacity offered into the Day-Ahead Market. Such total cost shall be calculated using the submitted Mitigated Energy Offer Curve used to clear the Day-Ahead Market for each DNR as described in the Markets+ Protocols. DNRs with a Commit Status of Self or Reliability Must Run will have their DNR total cost set equal to zero.

ii. Starting with the lowest cost DNR in the merit order stack created in Subsection i above, the Market Operator will select DNRs to Network Load from the merit order stack until the total MW capacity of the DNRs selected is equal to the NITS TSR Holder's Network Service Nomination Cap. Such selected DNR to Network Load paths shall be used for Congestion Rent allocation purposes as described under Section 9.2.13 of this Attachment A.

Section 9.2.13: Congestion Rent Allocation Amount

The Market Operator calculates the Congestion Rent on each binding transmission constraint for each hour in the Day-Ahead Market and distributes the Congestion Rent collected to each TSR Holder and distributes any excess Congestion Rent collected to the applicable Markets+ Transmission Service Providers as follows:

1) The Congestion Rent Available For Allocation on each binding transmission constraint in each hour is calculated as follows:

Congestion Rent Available for Allocation =
(Hourly Transmission Constraint Shadow Price of that constraint)

* (Hourly Day-Ahead Market Flow).

a) Hourly Day-Ahead Transmission Constraint Shadow Price is calculated by the Day-Ahead Market solution and is defined in the Markets+ Tariff.

b) Hourly Day-Ahead Market Flow is the hourly Day-Ahead Market Flow quantity calculated by the Day-ahead Market solution associated with that binding Transmission Constraint.

2) A TSR Holder's Total Congestion Rent Allocation in an hour is calculated as follows:

TSR Holders Total Congestion Rent Allocation = the sum of that TSR Holder's Congestion Rent Allocations for all binding transmission constraints.

a) TSR Holder Congestion Rent Allocation = TSR Holder Congestion Rent Allocation Factor multiplied by the Congestion Rent Available for Allocation for that binding transmission constraint.

b) If the Total of all TSR Holders' Positive MW Impacts in the Binding Flow Direction on that binding transmission constraint is greater than or equal to the Hourly Day-Ahead Market Flow on that binding transmission constraint,

Then

TSR Holder Congestion Rent Allocation Factor =

(TSR Holder's Positive MW Impact in the Binding Flow Direction on that binding transmission constraint) /

(Total of all TSR Holders' Positive MW Impacts in the Binding Flow Direction on the same binding transmission constraint).

c) If the Total of all TSR Holders' Positive MW Impact in the Binding Flow Direction on that binding transmission constraint is less than the Hourly Day-Ahead Market Flow on that binding transmission constraint

Then

TSR Holder Congestion Rent Allocation Factor =

(TSR Holder's Positive MW Impact in the Binding Flow Direction on that binding transmission constraint /

Hourly Day-Ahead Market Flow on that binding transmission constraint).

d) TSR Holders' Positive MW Impact in the Binding Flow direction on the binding constraint =

TSR Holder's Reserved MW Quantity *

percentage flow impact in the binding flow direction on the binding constraint, calculated as part of the Day-Ahead Market solution, for that TSR Holder's Congestion Rent Eligible Transmission Service Reservation.

i. For PTP TSR Holders, TSR Reserved MW Quantity is equal to the Point-To-Point Service Distribution Cap;

ii. For NITS TSR Holders, TSR Reserved MW Quantity is equal to the MW amounts identified under Section 7.1.6(5)(b)(ii) of this Attachment A.

3) A Markets+ Transmission Service Provider's Total Congestion Rent Allocation in an hour is calculated as follows:

Markets+ Transmission Service Provider's Total Congestion Rent Allocation = the sum of that Markets+ Transmission Service Provider's Congestion Rent Allocations for all binding transmission

constraints associated with that Markets+ Transmission Service Provider.

a) Markets+ Transmission Service Provider's Congestion Rent Allocation = Excess Congestion Rent for that binding transmission constraint associated with the Markets+ Transmission Service Provider.

b) Excess Congestion Rent = [Maximum of 0, or (Congestion Rent Available for Allocation, Minus

(the sum of all TSR Holder Congestion Rent Allocations for that binding constraint associated with the Markets+ Transmission Service Provider))]

i. Congestion Rent Available for Allocation is equal to the value calculated under Section 9.2.13(1) of this Attachment A.

ii. TSR Holder Congestion Rent Allocation is equal to the value calculated under Section 9.2.13(2)(a) of this Attachment A.

Definitions

Congestion Rent

Revenue collected by the Market Operator resulting from binding transmission constraints in the Day-Ahead Market that will be allocated to Transmission Service Reservation Holders.

Conditional Firm Point-To-Point Transmission Service

The reservation and transmission of capacity and energy on a firm basis from a Point(s) of Receipt to a Point(s) of Delivery. This service is equivalent to Firm Point-To-Point Transmission Service except that, under certain system conditions in real-time, this service will be curtailed ahead of Firm Point-To-Point Transmission Service, as further defined in FERC Order 890.

Congestion Rent Eligible Transmission Service Reservation

The MW reservation quantity of Firm Point-to-Point Transmission Service, Conditional Firm Point-To-Point Transmission Service, Network Integration Transmission Service and/or Legacy Transmission Service of at least monthly increment, spans at least a calendar month, and is available for use by Markets+.

Designated Network Resource

Any designated generating resource owned, purchased or leased by a Network Customer for the purposes of serving Network Load, as further defined in each Transmission Service Provider's OATT.

Firm Point-To-Point Transmission Service

The reservation and transmission of capacity and energy on a firm basis from a Point(s) of Receipt to a Point(s) of Delivery, as further defined in each Transmission Service Provider's OATT.

Legacy Transmission Service

Transmission service that existed on a Transmission Service Provider's system prior to the effective date of that Transmission Service Provider's Open Access Transmission Tariff.

Network Customer

An entity receiving Network Integration Transmission Service under each Transmission Service Provider's OATT.

Network Integration Transmission Service

The reservation and transmission of capacity and energy on a firm basis between Designated Network Resources and Network Load, as further defined in each Transmission Service Provider's OATT.

Network Load

The load that a Network Customer designates for Network Integration Transmission Service the Transmission Provider's tariff. The Network Customer's Network Load shall include all load served by the output of any Designated Network Resources identified by the Network Customer.

Network Service Distribution Cap

The monthly eligible MW cap for a NITS TSR Holder is equal to the actual load used for Network Integration Transmission Service monthly billing for the applicable Congestion Rent allocation month. Markets+ Transmission Service Providers that bill on a 12 coincident peak or similar basis may use the monthly coincident peak value for each month.

Point-to-Point Service Distribution Cap

The monthly eligible MW cap for a Market Participant is equal to the Firm Point-to-Point Service reserved for Markets+ usage for the month.

Transmission Constraint Shadow Price

The reduction in production cost, in $/MWh, that is realized by increasing the MW limit of a binding transmission constraint by 1 MW.

Markets+ Transmission Service Provider (Definition approved by MTWG)

Any transmission service provider in the Markets+ Footprint that executes the agreement for a Transmission Service Provider in Markets+ and contributes Markets+ Transmission Capability.

Markets+ Transmission User

Any Market Participant offering or bidding load, generation, interchange, or virtual transactions within Markets+.

(MTWG, MDWG already approved)

Transmission Service Reservation (TSR) Holder

A Market Participant with a Congestion Rent Eligible Transmission Service Reservation.

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, September 28, 2023 11:51 AM
To: Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] October MDWG Agenda Topics
Attachments: Upcoming October MDWG Items.docx

Good morning/afternoon MDWG stakeholders and participants –

Please see attached document overviewing the MDWG agenda topics for the upcoming month of October. We have a total of 3 meetings: 10/10, 10/11, and 10/26.

Please do not hesitate to reach out to me and/or the chairs (Russ Mantifel, rxmantifel@bpa.gov / Nick Detmer, nick.detmer@xcelenergy.com) with any questions or comments you may have.

Thank you all for your continued dedication!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, February 13, 2024 2:57 PM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] 2/13 MDWG Summary of Motions, Action Items, and Future Meetings
Attachments: 2 13 MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx

Good evening MDWG stakeholders and participants –

Attached is the 2/13 MDWG summary of motions, AIs, and future meetings.

New meeting registration: 2/15/2024 MDWG

Thank you!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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MARKETS+ DESIGN WORKING GROUP MEETING
2/13/2024
Net-Conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

1. **Agenda Item 2 - Tariff**

   Motion: Adam Cornelius (SCPUD) motioned to approve Markets+ Tariff language as presented and modified during the meeting, as the result from the Holistic Tariff review and stakeholder feedback. Justin Thompson (APS) provided the second. Motion carried with one abstention (WPTF).

ACTION ITEM:

Action Item: SPP will add to the Markets+ Parking Lot the discussion an enhancement of MPs to submit MP-derived forecast in place of the SPP-derived forecast.

FUTURE MEETINGS:

Meeting: February 15th, 2024 MDWG Meeting Registration
Date: February 15th, 2024
Location: Net-conference
Time: 11:00 a.m. –2:00 p.m., CPT (9:00 a.m. – 12:00 p.m., PT/10:00 – 1:00 p.m., MT)

Meeting: March 12th, 2024 MDWG Meeting Registration
Date: March 12th, 2024
Location: Net-conference
Time: 11:00 a.m. – 5:00 p.m., CPT (9:00 a.m. – 3:00 p.m., PT/10:00 – 4:00 p.m., MT)

Meeting: April 9th, 2024 MDWG Meeting Registration
Date: April 9th, 2024
Location: Net-conference
Time: 11:00 a.m. – 5:00 p.m., CPT (9:00 a.m. – 3:00 p.m., PT/10:00 – 4:00 p.m., MT)

Meeting: May 14th, 2024 MDWG Meeting Registration
Date: May 14th, 2024
Location: Net-conference
Time: 11:00 a.m. – 5:00 p.m., CPT (9:00 a.m. – 3:00 p.m., PT/10:00 – 4:00 p.m., MT)

29332644

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, September 28, 2023 5:31 PM
To: Schlekeway, Lindsey; Mantifel,Russell (BPA) - PGL-5; Detmer, Nick
Cc: Rubin, David; Chris Nolen; Jim Gonzalez; Emon Mahony; Kelli Schermerhorn
Subject: [EXTERNAL] RE: MDWG 10/10 Meeting

Hey Lindsey –

Thank you for sending this over. I've documented David Rubin as your proxy for the 10/10 MDWG.

I've looped in my team for review on the Scarcity Pricing language. I know we were waiting to see what the Must-Offer Obligation design looked like with the MRATF's guidance. I'll make sure that side of the team knows as well.

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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From: Schlekeway, Lindsey (NV Energy) <Lindsey.Schlekeway@nvenergy.com>
Sent: Thursday, September 28, 2023 2:42 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>
Cc: Rubin, David <David.rubin@nvenergy.com>
Subject: **External Email** MDWG 10/10 Meeting

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Hi Kristen, Russ and Nicholas.

David Rubin will be my proxy for the 10/10/23 meeting. Also, I would like to propose the following redline for the groups consideration in the scarcity pricing tariff section. We are proposing to add in a hard cap into the tariff language.

-Lindsey

3.6 Pricing during Scarcity Conditions

If capacity is insufficient to meet the Energy requirements on a system-wide basis, Energy requirements are reduced to meet available capacity and LMPs are calculated as described under Section 3.6.1.

3.6.1 Impact of Scarcity Pricing on Locational Marginal Prices and Market Clearing Prices

(1) Demand Curves are applied independently in the dispatch solution and pricing solution. The Market Operator shall use Demand Curves to reflect Scarcity Prices in both the Day-Ahead Market and RTBM during times of Energy and/or Flexibility Reserve Product shortages, either on a system-wide and/or Reserve Zone basis.

(2) Scarcity Prices are reflected in MCPs using the following Demand Curves:

(a) [Flexibility Reserve Product Up] – The Market Operator calculates and posts [Flexibility Reserve Product Up] Scarcity Pricing in accordance with the following rules:

(i) The maximum Scarcity Price is calculated as the average cost per MW for all eligible Resources to recover their qualified cold Start-Up Offer, No-Load Offer, and Energy at minimum cost at their Maximum Normal Operating Limit. Eligible Resources are Resources which offer a cold start-up time of 10 minutes or less, a Minimum Run Time of 60 minutes or less, and are not on outage. The maximum Scarcity Price is equal to the cold Start-Up Offer plus the product of the Minimum Run Time and the No-Load Offer plus the Energy at minimum cost all divided by the Resource's Maximum Normal Capacity Operating Limit or Maximum Discharge Limit as applicable.

(ii) The maximum Scarcity Price will be calculated each month using the previous three months offer data. The maximum Scarcity Price will be capped to the energy offer cap of $1,000/MWh when there are no cost verified bids above $1,000/MWh or to $2,000/MWh when there are cost verified bids above $1,000/MWh.

(iii) The Demand Curve levels for [Flexibility Reserve Product Up] will be equal to:

1. Shortages up to or equal to 5% of the requirement will equal, to the nearest dollar, 1/6 of the maximum Scarcity Price.
2. Shortages greater than 5% but less than or equal to 10% of the requirement will equal, to the nearest dollar, 1/3 of the maximum Scarcity Price.
3. Shortages greater than 10% but less than or equal to 15% of the requirement will equal, to the nearest dollar, 1/2 of the maximum Scarcity Price.
4. Shortages greater than 15% but less than or equal to 25% of the requirement will equal, to the nearest dollar, 2/3 of the maximum Scarcity Price.
5. Shortages greater than 25% but less than or equal to 40% of the requirement will equal, to the nearest dollar, 5/6 of the maximum Scarcity Price.
6. Shortages greater than 40% of the requirement will equal, to the nearest dollar, the maximum Scarcity Price.

(iv) The minimum amount for the [Flexibility Reserve Product Up] Demand Curve prices will be limited to $10.

(b) [Flexibility Reserve Product Down] – The Market Operator calculates and posts [Flexibility Reserve Product Down] Scarcity Pricing in accordance with the following rules:

(i) The maximum Scarcity Price is calculated as the average cost per MW for all eligible Resources to recover their qualified cold Start-Up Offer, No-Load Offer, and Energy at minimum cost at their Maximum Normal Operating Limit. Eligible Resources are Resources which offer a cold Start-Up Time of 10 minutes or less, a Minimum Run Time of 60 minutes or less, and are not on outage. The maximum Scarcity Price is equal to the cold Start-Up Offer plus the product of the Minimum Run Time and the No-Load Offer plus the Energy at minimum cost all divided by the Resource's Maximum Normal Capacity Operating Limit or Maximum Discharge Limit as applicable.

(ii) The maximum Scarcity Price will be calculated each month using the previous three months offer data.

(iii) The Demand Curve levels for [Flexibility Reserve Product Down] will be equal to:

1. Shortages up to or equal to 5% of the requirement will equal, to the nearest dollar, 1/6 of the maximum Scarcity Price.
2. Shortages greater than 5% but less than or equal to 10% of the requirement will equal, to the nearest dollar, 1/3 of the maximum Scarcity Price.
3. Shortages greater than 10% but less than or equal to 15% of the requirement will equal, to the nearest dollar, 1/2 of the maximum Scarcity Price.
4. Shortages greater than 15% but less than or equal to 25% of the requirement will equal, to the nearest dollar, 2/3 of the maximum Scarcity Price.
5. Shortages greater than 25% but less than or equal to 40% of the requirement will equal, to the nearest dollar, 5/6 of the maximum Scarcity Price.
6. Shortages greater than 40% of the requirement will equal, to the nearest dollar, the maximum Scarcity Price.

(iv) The minimum amount for the [Flexibility Reserve Product Down] Demand Curve prices will be limited to $0.

(3) Scarcity Prices will be reflected in LMPs when serving an incremental MW of energy worsens the Flexibility Reserve Product capacity shortage condition.

(4) During Flexibility Reserve Product shortage conditions on a system wide basis and/or zonal basis, Market Clearing Prices are impacted by Demand Curves as follows:

(a) If there is a shortage of [Flexibility Reserve Product Up], the [Flexibility Reserve Product Up] MCP will be set equal to the [Flexibility Reserve Product Up] Demand Curve price. The [Flexibility Reserve Product Up] Demand Curve price will be reflected in the LMP.

(b) If there is a shortage of [Flexibility Reserve Product Down], the [Flexibility Reserve Product Down] MCP will be set equal to the [Flexibility Reserve Product Down] Demand Curve price. The [Flexibility Reserve Product Down] Demand Curve price will be reflected in the LMP.

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From: Antoine Lucas <alucas@spp.org>
Sent: Monday, June 17, 2024 8:23 AM
To: Mantifel,Russell (BPA) - MTM-3; Spires, Jeff
Subject: RE: [EXTERNAL] Re: Markets+ Status Update

Thanks Russ and Jeff. The note was intended to help Markets+ participants refute much of the negative press we've recently received, so feel free to use it as needed. Also, let me know if you have thoughts on other ways we can support the effort.

Regards,

Antoine Lucas
Phone: *501-614-3382*
Email: *alucas@spp.org*

From: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Sent: Sunday, June 16, 2024 1:29 PM
To: Spires, Jeff <jeff.spires@powerex.com>; Antoine Lucas <alucas@spp.org>
Subject: **External Email** RE: [EXTERNAL] Re: Markets+ Status Update

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Please click the "Report Phish" button if you are unsure about this email.

Same here, Antoine. I think it's appropriately direct and very clear. I think this will help.

Russ

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, June 14, 2024 8:21 PM
To: Antoine Lucas <alucas@spp.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: [EXTERNAL] Re: Markets+ Status Update

Very timely and clear communication Antoine. Thanks for sharing.

Jeff

Get Outlook for iOS

From: Antoine Lucas <alucas@spp.org>
Sent: Friday, June 14, 2024 7:24:57 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: FW: Markets+ Status Update

⚠ **Caution: External Email**

Fyi,

Antoine Lucas
Phone: *501-614-3382*
Email: *alucas@spp.org*

From: Antoine Lucas
Sent: Friday, June 14, 2024 9:24 PM
Subject: Markets+ Status Update

Markets+ Leaders,

Please see the attached communication including SPP's perspective on the status of Markets+ amid recent happenings. I hope you find this information useful. Don't hesitate to each out with any questions you may have.

Thank you for your continued support!
Antoine Lucas
Vice President, Markets
Southwest Power Pool
Phone: *501-614-3382*
Email: *alucas@spp.org*

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From: Rachel Kane <rkane@spp.org>
Sent: Thursday, August 10, 2023 3:14 PM
To: Fina, Giuseppe (Joe); Chris Nolen; Pettit, David E; Gorlin@WAPA.GOV; Alaine Ginocchio; Jason.Kuzma@pse.com; Engelby, Ben; Charles.VonReis@chelanpud.org; Miller,Todd E (BPA) - LP-7; 'Karilee S Ramaley'; Irene Scruggs; Gilhen, Jonathan; Sabers, Cathy; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7; Lee Engel; Davis,Thomas E (BPA) - LT-7; Kallstrom, Jeffrey
Cc: Emon Mahony; Joseph Ghormley; Kristen Darden; Carrie Simpson; Mantifel,Russell (BPA) - PGL-5; Michael Riley
Subject: [EXTERNAL] RE: Markets+ Legal Group Meeting - August 10, 2023
Attachments: Integrated Marketplace Protocols 98.pdf

All,

Attached is a copy of SPP's IM protocols, per the group's conversation.

Rachel Hildebrand Kane | Attorney, Markets & Regulatory Policy
rkane@spp.org | (b) (6)

Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Fina, Joe <GFina@SNOPUD.com>
Sent: Wednesday, August 9, 2023 10:54 AM
To: Chris Nolen <cnolen@spp.org>; Pettit, David E <David.E.Pettit@xcelenergy.com>; Gorlin@WAPA.GOV; Alaine Ginocchio <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; Todd Miller <temiller@bpa.gov>; 'Karilee S Ramaley' <Karilee.Ramaley@srpnet.com>; Irene Scruggs <iscruggs@ppcpdx.org>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; Lee Engel <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>
Cc: Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Michael Riley <michael.b.riley@spp.org>
Subject: **External Email** Markets+ Legal Group Meeting - August 10, 2023

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All,

Here is our agenda for tomorrow afternoon's Markets+ Legal Group meeting:

I. Common Service Provisions
   a. Regulatory Filings
   b. Force Majeure and Indemnification
   c. Creditworthiness

d. Dispute Resolution Procedures

II. Attachment H, Credit Policy

III. Update on Governance Document (see attached presentation and clean and redline versions)

I encourage you all to review the revisions and comments to the documents under I and II on the SharePoint Site.

Talk to you all tomorrow.

Joe

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From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, July 19, 2024 6:10 AM
To: Holman, Mark; Josh Robertson; Martin Marcie L; Zahnow, Jessica Lynn; Phil Haines; Mantifel,Russell (BPA) - MTM-3; Dibble,Rachel L (BPA) - PT-5; Hayes,Matthew C (BPA) - MTM-3; Brian.Cole@aps.com; Hakala, Tuuli; Jaspers, Janet; Egge, Eric; dan.walter@tristategt.org; Robinson, Chris; Ray Johnson; Zyskowski, Jason; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan; Joe Taylor; Bakken, Erik; Rugel, Sam
Cc: Kent.Walter@aps.com; Aitken, Meredith
Subject: [EXTERNAL] Confidential: Markets+ Issue Alerts
Attachments: Issue Alert 1 Governance DRAFT_7_18.docx

Good morning all,

Last week during the Monday Markets+ funding party executive call there was discussion followed by general consensus on the call for developing a series of "Issue Alerts" that could be shared publicly by Markets+ funding entities, with one Issue Alert released every two weeks or so, to provide some balance to the recent industry dialogue that has been narrowly focused on seams issues and the Pathways initiative. The objective is to publicly issue (to Clearing Up and possibly elsewhere) these short summaries (one on governance and then 5-6 on specific market design topics) that details the benefits of Markets+ relative EDAM/EIM in each of these areas to better explain the continued support for Markets+.

A smaller group (PWX, CHPD, BPA, PSE, APS, and SRP) have worked together on the first paper on governance (see attached). We expect each of those entities will sign on except for BPA based on certain limitations they have related to their ongoing public process.

Please keep this letter **confidential** for now. We request that each of you confirm whether you will sign on by the ***end of the day on Monday.***

This effort is being coordinated by Kent Walter (APS) and myself so please feel free to reach out to us with any questions. Please note I am on vacation starting next week; Meredith Aitken will be the Powerex point of contact on this while I am away.

Regards,
Jeff

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Markets+ Phase 1 Funding Parties To Publish "Issue Alerts" To Inform Public Dialogue On Day-Ahead Market Choices

In recent months, there has been considerable industry dialogue focused on the market seams that will exist between EDAM/EIM and Markets+, as well as the EDAM/EIM governance enhancements being pursued through the Pathways Initiative. While both topics are important, the Markets+ Phase 1 Funding Parties believe this dialogue is incomplete without also considering the numerous governance and market design differences between Markets+ and EDAM/EIM that are driving continued support for Markets+. To address this information gap, the Markets+ Phase 1 Funding Parties will be issuing a series of "Issue Alerts" to identify and explain the key governance and market design elements that differ between Markets+ and EDAM/EIM and why these differences have important consequences for customers in terms of reliability, economic value, and environmental objectives.

The Markets+ Phase 1 Funding Parties will share a new Issue Alert every few weeks covering the following topics:

1. Governance
2. Reliability
3. Fair and Accurate Market Pricing
4. Seams Issues
5. Support for Clean Resources
6. Market Operator Actions & Modeling
7. Durable Customer Benefits

Field Code Changed

Issue Alert 1:
The Markets+ Governance Framework Is The Best Option For A Multi-State Day-Ahead Organized Market

Governance is a key consideration in the selection of a day-ahead market. It determines how key decisions are made in a market where participants and regions sometimes have different interests. A governance framework establishes market design, tariffs, business practices and operating protocols – determining initial rules and how they will adapt over time. Governance affects the daily actions of market operators and the values against which market performance is measured. Consequently, governance has a major influence on market outcomes, including the determination of market prices, how costs are allocated, the extent and allocation of reliability risks during stressed grid conditions, and the success of environmental programs.

The governance framework of a western day-ahead market has the potential to affect $25 billion or more in annual trade. This is because the transition to a full day-ahead and real-time organized market (whether EDAM/EIM or Markets+) is expected to replace much of the bilateral day-ahead and real-time transactions that occur today while also impacting forward transactions and the utilization of the western transmission grid.



Sound governance is a foundational requirement for a day-ahead organized market to provide the benefits of increased efficiency and enhanced reliability while also ensuring equitable outcomes for all participants and all western sub-regions. Key features include a durable, effective, and independent governance structure which provides fair representation to all market participants and stakeholders, and in which participants take a regional view. Stakeholders initiate, develop, and own outcomes. Decision making and stakeholder engagement occurs in a transparent and inclusive manner.

The Markets+ Governance framework fully achieves this objective through these key features:

1. A geographically diverse board / panel fully independent of market participants and stakeholders with authority over all aspects of the market;
2. A transparent and consensus-based market development process led by stakeholders, with stakeholder voting rights to determine whether each specific market design proposal moves forward;

Field Code Changed

3. A fully independent and impartial market operator that does not also act as one of the participating balancing authorities with its own interests; and
4. A participation framework where all generators, load and BAAs are participating in the same manner with equivalent rules, rights, and responsibilities.

Importantly, the Markets+ governance framework is already up and running, and it provided the decision-making framework for developing the Markets+ initial market design and proposed tariff. The stakeholder-led approach fostered collaboration for consensus, and the proposed Markets+ tariff concluded with its separate sections passing through the highest-level stakeholder committee at a greater than 90 percent approval rate.

While the Pathways Initiative has proposed incremental improvements to the governance of EDAM and EIM, it cannot result in a governance framework comparable to Markets+ for several reasons:

1. The starting point for EDAM and EIM is a market design and tariff developed under the California ISO's existing governance framework. The Pathways Initiative does not propose to replace this initial market design with a stakeholder-driven design.
2. Both EDAM and EIM were built as extensions of a legacy institutional framework with embedded dependencies on, and obligations to, California state agencies, which the Pathways initiative does not propose to eliminate.
3. The Pathways Initiative has not proposed a framework in which stakeholders with formal voting rights—rather than California ISO staff—will determine how the market design will evolve over time.
4. The Pathways Initiative does not ensure that the California ISO, as a market operator, will balance the interests of all stakeholders and avoid undue influence from California interests.
5. EDAM/EIM is an extension of the CAISO's existing market, with CAISO BAA having different rules, rights, and responsibilities, as well as different settlement practices. There are no current plans to enable an equivalent participation framework for all entities, including CAISO, within the Pathways Initiative governance model.
6. The Pathways Initiative remains in development, with an evolving scope and an uncertain outcome. Changes to the CAISO governance structure require action at the California legislature. Previous attempts to amend the structure—the most recent one appeared in the 2023 legislative session—have failed to receive broad support in the state and did not advance out of committee. A fully independent governance framework will not realistically be achieved until well after most western entities will have made their market participation decisions, even if the significant and numerous uncertainties are ultimately overcome.

The stakeholder-driven Markets+ development process has resulted in a market design that is substantially different from the EDAM/EIM design in several key respects. Production cost models—including the models used in the multiple studies published comparing Markets+ and EDAM/EIM—are generally unable to reflect and quantify these important market design differences. This is because these models assume the two markets are largely identical in important aspects when in fact they are not. The models incorrectly assume:

- Both markets are always fully resource adequate/resource sufficient, and thus there is no material reliability risk or undue leaning;

Field Code Changed

- Scarcity events rarely or never occur in either market (and no scarcity pricing);
- There are few, if any, differences in how prices are calculated between the two markets;
- Congestion rent is allocated similarly in both markets;
- Environmental programs, including GHG attribution, are similar in both markets;
- There are no operator actions such as load biasing or changing import/export limits in either market; and
- Substantive hurdle rates and inefficiencies severely limit trade between markets.

Not only do these studies make the above incorrect simplifying assumptions, they also incorrectly assume that each distinct market design will have no impact on:

1. the extent to which entities participate in the day-ahead market (versus transacting in forward and day ahead bilateral markets); and
2. future investments in generation or transmission

In reality, differences in the design of a voluntary day ahead market can drive increased or decreased participation, while also encouraging or discouraging generation and transmission investments. For example, a market that inaccurately suppresses peak prices will discourage flexible generation and storage solutions. Similarly, a market that has a history of misallocating congestion rent will generally discourage transmission investments.

Finally, experience in the East demonstrates that the ongoing existence of two or more competing organized markets provides the opportunity for participants to continuously evaluate which organized market provides the best value for its customers. This places ongoing competitive pressure on each organized market to continuously evolve to deliver value to all of its participants and all of its sub-regions, driving immeasurable value for consumers while also reducing risk.

Future Issue Alerts will focus on key market design differences, which have the potential to greatly impact real-world economic, reliability and environmental outcomes for customers.

Field Code Changed

From: Schlekeway, Lindsey (NV Energy) <lindsey.schlekeway@nvenergy.com>
Sent: Friday, August 25, 2023 8:20 AM
To: Kristen Darden; Mantifel,Russell (BPA) - PGL-5
Cc: Jim Gonzalez; Chris Nolen
Subject: [EXTERNAL] RE: [INTERNET] RE: MDWG

Thank you! These responses are very helpful!

-Lindsey

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, August 24, 2023 1:39 PM
To: Schlekeway, Lindsey (NV Energy) <lindsey.schlekeway@nvenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Jim Gonzalez <jgonzalez@spp.org>; Chris Nolen <cnolen@spp.org>
Subject: RE: [INTERNET] RE: MDWG

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Hey Lindsey –

I've attached a copy of NVE's comments with SPP's responses. I will also include this in the materials for the 8/29 MDWG meeting. Please review and let me know if you have any additional questions or modifications.

Thank you!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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From: Schlekeway, Lindsey (NV Energy) <lindsey.schlekeway@nvenergy.com>
Sent: Wednesday, August 23, 2023 10:12 AM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: [INTERNET] RE: MDWG

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Okay, thanks for that information. I will do my best to do just that. ☺

From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, August 23, 2023 7:44 AM

To: Schlekeway, Lindsey (NV Energy) <lindsey.schlekeway@nvenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: [INTERNET] RE: MDWG

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Hey Lindsey –

Thank you for sending these over. If you could send your comments 1-week following the meeting the language is posted in materials, that would be great, but also we are super flexible. I'll forward these on to my internal team and start review of them. I'll forward you the responses to your questions at that time.

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Schlekeway, Lindsey (NV Energy) <Lindsey.Schlekeway@nvenergy.com>
Sent: Tuesday, August 22, 2023 5:29 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** MDWG

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Hi Kristen and Russ.

Sorry, I think I am a bit behind. I wanted to send this tariff language feedback to you. There is a proposed redline and a few questions in the document. As a matter of process, when do I need to get these to you in the future? I would like to make sure I am being timely and responsive to the tariff review process.

-Lindsey

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From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Thursday, May 16, 2024 12:19 PM
To: Mantifel,Russell (BPA) - MTM-3
Subject: RE: [EXTERNAL] Confidential Draft - Powerex Reply Comments re: Markets+ Transmission Contributor Framework

OK great, thanks Russ. I appreciate the feedback.

Jeff

From: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Sent: Thursday, May 16, 2024 12:16 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>
Subject: RE: [EXTERNAL] Confidential Draft - Powerex Reply Comments re: Markets+ Transmission Contributor Framework

⚠ **Caution: External Email**

Hi Jeff. Not much. I think it focuses on some technical aspects that we don't dive into, we will be focusing a lot on how we currently make things work and the expectation of reciprocal treatment. So I think the filings will work well together in the docket.

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Thursday, May 16, 2024 12:15 PM
To: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] Confidential Draft - Powerex Reply Comments re: Markets+ Transmission Contributor Framework

Hi Russ

Did you have any feedback with the draft comments I shared a week or so ago? We have not changed it much since then but it will now be a joint filing with SRP and I want to make sure we aren't saying anything inconsistent with what BPA intends to file.

Jeff

From: Spires, Jeff
Sent: Monday, May 13, 2024 3:21 PM
To: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] Confidential Draft - Powerex Reply Comments re: Markets+ Transmission Contributor Framework

We haven't decided either and we are trying to weigh the pros and cons. Our concerns are most specifically related to their statements proposing that hydro aggregation rules should more restrictive, and that SHOC should incorporate

multiple measures of usable storage at specific reservoirs within a single aggregation, as if the individual projects can be operated independently from the others.
That said, our preference would be to avoid commenting if we don't think it is really necessary so we are currently leaning toward not doing so. I'll let you know if that changes. Thanks for getting back to me.

Jeff

From: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Sent: Monday, May 13, 2024 11:01 AM
To: Spires, Jeff <Jeff.Spires@powerex.com>
Subject: RE: [EXTERNAL] Confidential Draft - Powerex Reply Comments re: Markets+ Transmission Contributor Framework

⚠ **Caution: External Email**

We haven't decided. I don't think we read those as a serious concern. More just what MMU's do. You guys?

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Monday, May 13, 2024 10:15 AM
To: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] Confidential Draft - Powerex Reply Comments re: Markets+ Transmission Contributor Framework

Hi Russ,

On a related note, is BPA planning to respond to any of MMU's comments related to hydro aggregation, SHOC, etc?

Jeff

From: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Sent: Wednesday, May 8, 2024 8:52 AM
To: Spires, Jeff <Jeff.Spires@powerex.com>
Cc: Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Confidential Draft - Powerex Reply Comments re: Markets+ Transmission Contributor Framework

⚠ **Caution: External Email**

Thank you Jeff. We are also working on a response. I'll check to see if that is something we can share. Thank you for letting us see this.

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Wednesday, May 8, 2024 6:19 AM
To: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: [EXTERNAL] Confidential Draft - Powerex Reply Comments re: Markets+ Transmission Contributor Framework

Good morning Russ,

As discussed in Phoenix, attached is our confidential working draft answer to the comments of Idaho Power, PGE, NV Energy and PacifiCorp related to the Markets+ Transmission Contributor framework. Please keep this confidential as it is an early draft and subject to change prior to filing. We are aiming to file around May 14th.

Please let me know when you might have a few minutes to discuss.

Regards,
Jeff

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From: Kristen Darden <kdarden@spp.org>
Sent: Friday, January 12, 2024 2:09 PM
To: Mantifel,Russell (BPA) - MTM-3; Detmer, Nick
Subject: RE: [EXTERNAL] MDWG Next Week

I am just here to really make sure we kick off the new year on the right foot!

From: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Sent: Friday, January 12, 2024 2:56 PM
To: Kristen Darden <kdarden@spp.org>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: **External Email** RE: [EXTERNAL] MDWG Next Week

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Please click the "Report Phish" button if you are unsure about this email.

Sounds...fun? Thanks Kristen

From: Kristen Darden <kdarden@spp.org>
Sent: Friday, January 12, 2024 12:36 PM
To: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: [EXTERNAL] MDWG Next Week

Hey there –

Just a head's up on what next week will look like for MDWG (it's a busy one):

- **Tuesday, 1/16 – 11:00 a.m. – 3:00 p.m., CST = MDWG Meeting**
  - Agenda Items: Outs-Ins/Internals, Settlements, Billing, Internals, Outage Reporting, TSP Agreement, BA Agreement, Special Rules
- **Friday, 1/19 – 11:00 a.m. – 3:00 p.m., CST = MDWG Meeting (this is newly added; will be posted on SPP.org shortly)**
  - Agenda Items: whatever we don't cover 1/16

We've been trying to get through settlements today. I'm going to have a material posting for the 1/16 MDWG meeting shortly. We are closed Monday, in observance of MLK Jr. Day.

Please let me know if you have any questions or concerns. I'm glad to help!

Stay warm!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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From: Carrie Simpson <csimpson@spp.org>
Sent: Tuesday, March 12, 2024 12:39 PM
To: Chang,Elsa (BPA) - MTM-3; Kirby,Elizabeth A (BPA) - MTM-3
Cc: Mantifel,Russell (BPA) - MTM-3
Subject: RE: [EXTERNAL] RE: Contract Vendors

Yes. I intentionally did not include actual market participants who perform services . . . as we don't know commercial relationships/sensitivities, for example. There are lots of those entities – power marketers with different roles.

TEA
ACES
Gridforce
AEP
Clearway Energy
Invenergy

From: Chang,Elsa (BPA) - MTM-3 <eichang@bpa.gov>
Sent: Tuesday, March 12, 2024 2:10 PM
To: Carrie Simpson <csimpson@spp.org>; Kirby, Libby <eakirby@bpa.gov>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] RE: Contract Vendors

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Understood. Thank you for the sub-list. Do you know if other SPP entitles used TEA for consulting services? I notice that TEA is not on your list.

Thanks,

Elsa

From: Carrie Simpson <csimpson@spp.org>
Sent: Tuesday, March 12, 2024 11:36 AM
To: Chang,Elsa (BPA) - MTM-3 <eichang@bpa.gov>; Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>
Subject: RE: [EXTERNAL] RE: Contract Vendors

That's a tricky question because many software vendors also perform consulting services separately.

From that list below, I am aware of OATI, Utilicast, PCI, PSI and Customized Energy Solutions performing consulting work.

From: Chang,Elsa (BPA) - MTM-3 <eichang@bpa.gov>
Sent: Tuesday, March 12, 2024 1:30 PM
To: Carrie Simpson <csimpson@spp.org>; Kirby, Libby <eakirby@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] RE: Contract Vendors

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Hi Carrie,

Thank you so much for the info. We are currently in a process of hiring a consulting company to help plan the DAM implementation. Could you please share a sub-list that includes consulting vendors only?

Thanks,

Elsa

From: Carrie Simpson <csimpson@spp.org>
Sent: Tuesday, March 12, 2024 10:56 AM
To: Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>
Cc: Chang,Elsa (BPA) - MTM-3 <eichang@bpa.gov>
Subject: RE: [EXTERNAL] RE: Contract Vendors

Here's a list:

MCG Energy Solutions
Customized Energy Solutions
Physical System Integration, LLC
Integ
OATI
GE
Open Systems Internations (OSI)
Survalent
Power Cost (PCI)
Ventyx
Utilicast
Adapt2 Solutions
SISCO
LiveData
Siemens
ABB
Triangle MicroWorks
Hartigen
Allegro

From: Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>
Sent: Monday, March 11, 2024 1:10 PM
To: Carrie Simpson <csimpson@spp.org>
Cc: Chang,Elsa (BPA) - MTM-3 <eichang@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] RE: Contract Vendors

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Either works for us, thanks Carrie!

From: Carrie Simpson <csimpson@spp.org>
Sent: Monday, March 11, 2024 10:41 AM
To: Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>
Cc: Chang,Elsa (BPA) - MTM-3 <eichang@bpa.gov>
Subject: [EXTERNAL] RE: Contract Vendors
Importance: High

Hi Libby,
I'll check if we have a list. If not, I could probably rattle off a list for you.

Carrie

From: Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>
Sent: Monday, March 11, 2024 11:32 AM
To: Carrie Simpson <csimpson@spp.org>
Cc: Chang,Elsa (BPA) - MTM-3 <eichang@bpa.gov>
Subject: **External Email** Contract Vendors

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Hey Carrie,

We're planning to put out a request for a vendor to help with our DAM implementation planning pretty soon. Are you guys able to share a list of the vendors that have helped your RTO and WEIS participants prepare to join those markets?

Thanks,

Libby Kirby | Electrical Engineer
Bonneville Power Administration | BTO – Market Initiatives
Desk: (503) 230-4286 | Mobile: (b)(6) [redacted]

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From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Thursday, July 11, 2024 2:00 PM
To: Walter, Kent C; Josh C Robertson; Mantifel,Russell (BPA) - MTM-3; Zahnow, Jessica Lynn; Hakala, Tuuli
Subject: [EXTERNAL] RE: Markets+ Issue Alerts

Thanks all. I added a call for 9 am Monday which seems to work for most of the group and hopefully works for Russ as well.

Jeff

From: Walter, Kent C <Kent.Walter@aps.com>
Sent: Thursday, July 11, 2024 10:38 AM
To: Josh C Robertson <Josh.Robertson@srpnet.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>
Subject: RE: Markets+ Issue Alerts

⚠ **Caution: External Email**

Thanks for taking the pen Jeff. Monday 9-12 works for me. I am not available on Friday

Kent

From: Josh C Robertson <Josh.Robertson@srpnet.com>
Sent: Thursday, July 11, 2024 10:15 AM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>
Subject: RE: Markets+ Issue Alerts

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Friday 9-10am and Monday between 9am-12 would work on my end.

Thanks,

Josh

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Wednesday, July 10, 2024 4:15 PM
To: Kent.Walter@aps.com; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Josh C Robertson

<Josh.Robertson@srpnet.com>
Subject: Markets+ Issue Alerts

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Hi all,

This email is a follow up to the discussion on Monday's Markets+ funding party executive call in which there was agreement to develop a series of "Issue Alerts" that could be shared publicly by Markets+ funding entities over the coming weeks, as a means to provide more proactive messaging about Markets+. I am reaching out to this smaller group based on the entities that expressed interest in helping with development of the documents. If you are aware of others that would like to be involved, please let me know and we can include them going forward.

The high level topics that were identified during the call are below. It was also discussed that ideally all 6 documents would be published by the end of August which means timelines are tight and we will need a cadence of nearly weekly to achieve that.

Topics:

1. Governance
    - Markets+ vs Pathways
2. Reliability
    - Markets+ (WRAP, Must Offer) vs EDAM Resource Sufficiency
3. Price Formation
    - Fast Start, Scarcity, Market Power Mitigation
4. Seams Issues
    - Determining Priority to Flow
    - Congestion Revenue Allocation
    - Seams Agreements
5. GHG Attribution
6. Operator Actions & Modelling

In an effort to help move forward quickly, we put together an initial draft of the first paper on governance for your review and feedback (see attached). Ideally the first paper would be finalized by next Wednesday so that it could make Clearing Up on Friday. This will likely require that we have a near-final version by midday Monday so we can share it with the larger group of funding entities for review and approvals by Wednesday. If possible, it would be really helpful to get your feedback and edits by the end of this week or early Monday.

A call would be useful to discuss the first paper and to determine how to proceed on future topics. I've list a few potential times in the short-term, please let me know if any of these are workable. If we can't find a time on such short notice, an alternative is to share feedback on the first paper by email and look to find time for a call later next week.

- Thursday 12 pm – 2 pm
- Friday 9 – 10 am or 12 pm – 1 pm
- Monday 8 am – 12 pm

Regards,
Jeff

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From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, July 26, 2023 6:58 AM
To: Mantifel,Russell (BPA) - PGL-5; Detmer, Nick
Cc: Jim Gonzalez; Chris Nolen
Subject: [EXTERNAL] RE: Today's MDWG 7/26/23

Oh and I almost forgot. Scott Miller (WPTF) was approved to be the new Independent Sector MDWG seat. Next steps – we will inform the MPEC during their 8/9 meeting of this update. This is the update we will provide during Agenda Item 4 (now 5 given changes below).

From: Kristen Darden
Sent: Wednesday, July 26, 2023 8:54 AM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>
Cc: Jim Gonzalez <jgonzalez@spp.org>; Chris Nolen <cnolen@spp.org>
Subject: Today's MDWG 7/26/23

Good morning –

Here are some notes going into today's meeting.

- **Proxies:**
  - Jessica Lam (PSE) for Vincent Ching (PSE)
  - Mark Holman (Powerex) for Jeff Spires (Powerex)
- **Logistics:**
  - This meeting goes to 5CPT/4MT/3PT instead of the originally scheduled 4CPT/3MT/2PT. We ended up extending an hour since it seems the 4 hours hasn't been enough. I am still allowing for a 30 min lunch during the meeting.
  - Following last meeting, Nick and I talked offline about having questions being held until once a presentation is complete. That way we can ensure we are making it through our presentations, and their answers may potentially be answered during a later slide.
- **New Agenda Item: Agenda Item 3 - Markets+ Service Offering Stoplight**
  - This spreadsheet keeps track of all items to address within the Service Offering. Kevin discussed this during a previous MDWG meeting. We discussed internally about having this as a standing agenda item moving forward so that we can keep everyone updated on the status of those items. This will also be posted publicly on SPP.org here. I do not mind presenting this, unless one of you would like to.
- **Agenda Item 6: Liaison Reports**
  - A – MCRTF Update: No update this month. Jeff is out.
  - ***New*** B – MGHGTF Update: We received feedback that this would be good to have an update from the GHG TF as well. Thoughts on this? I will probably not have this for today, unless someone within the MDWG would be able to provide that update. I'll bring awareness to it and see if anyone would like to provide an update.
- **Agenda Item 9a: Policy Education – Resource Participation Types**
  - This is the education we were supposed to have last meeting and ran out of time. The language was in materials last month so we technically have the ability to approve the language this

meeting. Thoughts on bringing the language up immediately after the education and see if there are any questions or if the group is comfortable approving the language at that time?
    - We did receive APS Comments on this tariff language (Resource Participation Types) yesterday. Their proposed changes are related to Long Lead Resources. I will bring these up during the meeting today.
- **Agenda Item 13: Open Discussion**
    - Reminder to the group to register for the Settlements Workshop. Hoping to send a draft agenda out within the week.
    - Proposed standing agenda item: At the end of the agenda, have a standing agenda item where we will have any tariff language that will contain clean-up items from previously approved tariff language. That way we have a running list of those items and the group will be able to see those as well.

Thank you both and look forward to our meeting!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, September 5, 2023 8:14 AM
To: Detmer, Nick; Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] RE: 11/8 MDWG Meeting Reschedule

Good morning!

11/10 won't work. I didn't realize that will be the Friday before Veteran's Day and a lot of companies will be recognizing that as a day off. SPP does not, so it didn't even register for me.

What about Friday, 11/3?

From: Kristen Darden
Sent: Thursday, August 31, 2023 2:32 PM
To: Detmer, Nick <nick.detmer@xcelenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: RE: 11/8 MDWG Meeting Reschedule

Thank you so much!

Russ – does the 11/10 date work in place of the 11/8, and 10/4, for you?

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Thursday, August 31, 2023 2:21 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: 11/8 MDWG Meeting Reschedule

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I can make that work

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, August 31, 2023 1:16 PM
To: Detmer, Nicholas J <nick.detmer@xcelenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: RE: 11/8 MDWG Meeting Reschedule

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Thank you, Nick.

Let me go ahead and ask ya'll about adding another meeting to the calendar as well: **Wednesday, 10/4, 11:00-5:00, CPT**? I'm looking at the schedule and with everything coming our way, we are going to need some additional meetings to accommodate the tariff policies coming.

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Thursday, August 31, 2023 8:46 AM

To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: 11/8 MDWG Meeting Reschedule

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I am ok with it.

From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, August 30, 2023 12:26 PM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Subject: 11/8 MDWG Meeting Reschedule

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Hey there –

Looking at the calendar, we have an MDWG meeting 11/8. The MPEC is meeting Tuesday, 11/7 and the MPEC/IMIP is meeting Wednesday, 11/8 in Phoenix. We need to reschedule the 11/8 MDWG meeting due to this conflict. Thoughts on rescheduling the net-conference to **Friday, 11/10**? 10:30-5:00, CPT (8:30-3:00, PT/9:30-4:00, MT)?

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, January 10, 2024 11:57 AM
To: Fina, Giuseppe (Joe); Mantifel,Russell (BPA) - MTM-3
Cc: Chris Nolen; Rachel Kane; Christine Dillard
Subject: [EXTERNAL] RE: Special Rules

Hey Joe –

I am good with Option 2 as well, if Russ and Chris are. If we go that route, when would you have you MLEG meeting? 1/16 MDWG approval pending MLEG review; with the MLEG meeting still this Friday?

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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From: Fina, Joe <GFina@SNOPUD.com>
Sent: Wednesday, January 10, 2024 12:54 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>; Christine Dillard <cdillard@spp.org>
Subject: **External Email** Special Rules

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Kristen and Russ,

We've had some delay in getting the legal group to review the BPA and WAPA Special Rules provisions of the tariff. I am hoping that we will at least have the draft provisions available for the lawyers to start reviewing by the end of today. Here are some options to think about:

1. We can try to have the legal group meet this Friday and then have the Special Rules on the MDWG agenda for 1/16 (assuming the lawyers give their green light).
2. The MDWG can share the draft Special Rules with its members for discussion on 1/16 subject to final review by the legal group. This way the Special Rules can go straight from the legal group to MPEC.
3. MDWG schedules another meeting maybe on Wednesday to consider the Special Rules. We can schedule the legal group meeting for Tuesday afternoon.

My preference is option 2, but we can make work any of the options. Also, SPP is preparing a draft Stakeholder Agreement that the legal group will also need to review.

Joe

Giuseppe "Joe" Fina

Senior FERC Counsel
Public Utility District No. 1 of Snohomish County

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From: Kristen Darden <kdarden@spp.org>
Sent: Monday, October 16, 2023 7:18 AM
To: Mantifel,Russell (BPA) - BT-3
Subject: [EXTERNAL] 10/10 & 10/11 MDWG Summary of Motions, Action Items, and Future Meetings
Attachments: 10 11 MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx; 10 10 MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx

Good morning MDWG stakeholders and participants –

Attached are the 10/10 and 10/11 MDWG Summary of Motions, Action Items, and Future Meetings. Please let me know if you have any edits.

***Reminder to please register for the 10/26 Joint MDWG & MTWG meeting to be held at APS in Phoenix, if you plan to attend in person.**

Thank you!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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MARKETS+ DESIGN WORKING GROUP MEETING
10/11/2023
Net-conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

1. **Agenda Item 2a – Attachment A, Sec. 4-4.2.8 Resource Participation Types**

   Motion: Russ Mantifel (BPA) motioned to approve Sections 4-4.2.8, with the exception of 4.1(9) to be discussed targeting the November 1st MDWG meeting. Scott Miller (WPTF) provided the second. Motion carried with two abstentions (RNW and WRA).

2. **Agenda Item 2b – Attachment A - Flexibilty Reserve**

   Motion: Nick Detmer (PSCo) motioned to approve updates in Attachment A, Sections 2.1.1, 2.1.2, 2.1.2.1, 2.1.2.2, 2.1.3, 2.2.1, 2.2.2, 2.3.1, 2.3.1.1, 2.3.1.3, 3.1, 3.4, 7.3, 7.6, 7.6.1, 7.8, 7.9, 7.10, 7.11.1, and 7.11.2, as incorporating Flexibility Reserve Products. Russ Mantifel (BPA) provided the second. Motion carried unanimously.

ACTION ITEMS:

No new action items were taken.

FUTURE MEETINGS:

Meeting: October 26th MDWG Meeting
Date: October 26th, 2023
Location: Arizona Public Service, Phoenix, AZ; Net-Conference
Time: 8:30 a.m. – 5:00 p.m., PT / 9:30 a.m. – 6:00 p.m., MT / 10:30 a.m. – 7:00 p.m., CPT

Meeting: November 1st MDWG Meeting
Date: November 1st, 2023
Location: Net-conference
Time: 12:00 p.m. – 5:00 p.m., CPT / 10:00 a.m. – 3:00 p.m., PDT / 11:00 a.m. – 4:00 p.m., MT

Meeting: November 1st MDWG Meeting
Date: November 3rd, 2023
Location: Net-conference
Time: 10:30 a.m. – 5:00 p.m., CPT / 8:30 a.m. – 3:00 p.m., PDT / 9:30 a.m. – 4:00 p.m., MT

DRAFT

29332898

SPP Southwest Power Pool

MARKETS+

SOUTHWEST POWER POOL, INC.
MARKETS+ DESIGN WORKING GROUP MEETING
10/10/2023
Net-conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

1. **Agenda Item 4 – Consent Agenda: 9/15/2023 MDWG Minutes and 9/20/2023 MDWG Minutes**

   Motion: Nick Detmer (PSCo) motioned to approve the Consent Agenda as presented. Laura Trolese (TEA) provided the second. Motion carried unanimously.

ACTION ITEMS:

No new action items were taken.

FUTURE MEETINGS:

Meeting: October 11th MDWG Meeting
Date: October 11th, 2023
Location: Net-conference
Time: 10:30 a.m. – 2:00 p.m., CPT / 8:30 a.m. – 12:00 p.m., PDT / 9:30 a.m. – 1:00 p.m., MT

Meeting: October 26th MDWG Meeting
Date: October 26th, 2023
Location: Arizona Public Service, Phoenix, AZ; Net-Conference
Time: 8:30 a.m. – 5:00 p.m., PT / 9:30 a.m. – 6:00 p.m., MT / 10:30 a.m. – 7:00 p.m., CPT

Meeting: November 1st MDWG Meeting
Date: November 1st, 2023
Location: Net-conference
Time: 12:00 p.m. – 5:00 p.m., CPT / 10:00 a.m. – 3:00 p.m., PDT / 11:00 a.m. – 4:00 p.m., MT

DRAFT

From: Eaton,Sara L (BPA) - PTMA-5
Sent: Thursday, February 8, 2024 2:31 PM
To: Kristen Darden; Kirby,Elizabeth A (BPA) - MTM-3; Mantifel,Russell (BPA) - MTM-3; Doot,Erika A (BPA) - LP-7; Miller,Todd E (BPA) - LP-7
Cc: Emon Mahony; Kelli Schermerhorn
Subject: RE: [EXTERNAL] FW: Additional BPA Comments on Draft M+ Tariff

Hi Kristen,

Thanks so much for getting back to us with that language revision.
The changes below align with our understanding of the intended language and are clearer than our suggested change.
*Minus the extra B before "pursuant" 😉

Thanks!
Sara

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, February 8, 2024 1:26 PM
To: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Cc: Emon Mahony <emahony@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>
Subject: [EXTERNAL] FW: Additional BPA Comments on Draft M+ Tariff

Here's what we updated in Attach. C, 4.6.4.1, given BPA feedback:

4.6.4.1 Thresholds for Identifying Physical Withholding of Resource C

A Market Participant is deemed to be physically withholding capacity ~~capacity~~ ~~Participant is not deemed to be not physically withholding~~ if none of the condit pursuant to Section 4.6.4(2) and all of the following conditions exist:

We agreed it led to some confusion as well so we tried to change it up to clarify. Thoughts from our BPA friends?

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Kristen Darden
Sent: Thursday, February 8, 2024 8:31 AM

To: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel, Russ <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby, Libby <eakirby@bpa.gov>; Eaton, Sara <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong, Mai <mntruong@bpa.gov>
Subject: RE: Additional BPA Comments on Draft M+ Tariff

Erika –

I apologize for the delay. Thank you for sending over BPA's comments. We have responded within the attached. We did incorporate a portion of the comments. We noted within the document which comments were incorporated. We will also address these during the meeting today. Please let us know if you have any questions on our responses.

Thank you.

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Sent: Tuesday, February 6, 2024 7:08 PM
To: Kristen Darden <kdarden@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Cc: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Mantifel, Russ <rxmantifel@bpa.gov>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Kirby, Libby <eakirby@bpa.gov>; Eaton, Sara <sleaton@bpa.gov>; Chan,Allen C (BPA) - LT-7 <acchan@bpa.gov>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Truong, Mai <mntruong@bpa.gov>
Subject: **External Email** Additional BPA Comments on Draft M+ Tariff

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - eadoot@bpa.gov
and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Hi Kristen, Kelli, Chris & Rachel,

Based on Kristen's email today, I thought you would appreciate BPA sending comments on the draft tariff for MDWG discussion.

We will likely have another set or two, but I thought it would be helpful if you could start running them down.

Please let me know if you have any questions.

Thanks,
Erika

Erika Doot
Attorney-Advisor
Bonneville Power Adminstration

(503) 230-4329

From: Eaton,Sara L (BPA) - PTMA-5
Sent: Friday, September 29, 2023 10:11 AM
To: 'Spires, Jeff'
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2; Bellcoff,Steve (BPA) - PGPR-5; Van Calcar, Pamela M (BPA) - PGS-5; Mantifel,Russell (BPA) - PGL-5; Doot,Erika A (BPA) - LP-7
Subject: FW: [EXTERNAL] RE: Draft and Confidential Document for Storage Hydro Participation In Markets+

Hi Jeff,

I'm pretty sure you have BPA's email addresses for this already, but just to be sure—they're cc'd here.

Best,
Sara

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Tuesday, September 26, 2023 3:42 PM
To: Marr, Garrison <GBMarr@Snopud.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Fina, Joe <GFina@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Cornelius, Adam <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Willis, Wendy <wendy.willis@powerex.com>; Shawn Smith <Shawn.Smith@chelanpud.org>
Subject: [EXTERNAL] RE: Draft and Confidential Document for Storage Hydro Participation In Markets+

Good afternoon,

Powerex has prepared a **draft and confidential "Principles For Storage Hydro Participation in Markets+"** document to advance the discussion on Friday, in consideration of the tight timelines of Markets+ and the substantive nature of this topic. We expect this will be modified with group input to hopefully get to a document that reflects the group's consensus and can be shared with the broader stakeholder community.

This is an early draft that expresses our thoughts on the key principles that are needed, draft potential tariff language, as well as supporting references from the Western EIM and WRAP (relevant tariff provisions, relevant statements in CAISO and WPP transmittal letters to FERC, and relevant quotes from Western EIM and WRAP participation agreements).

We hope this is helpful.

Best regards,

Mark Holman | Managing Director | Powerex Corp. | Direct (b)(6)

From: Holman, Mark
Sent: Monday, September 25, 2023 6:39 AM

To: Marr, Garrison <GBMarr@Snopud.com>; 'Eaton,Sara L (BPA) - PTMA-5' <sleaton@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Fina, Joe <GFina@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Cornelius, Adam <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Willis, Wendy <wendy.willis@powerex.com>; Shawn Smith <Shawn.Smith@chelanpud.org>
Subject: RE: [External Sender] RE: [EXTERNAL] Storage Hydro Participation In Markets+

Good morning,

It looks like the best time is Friday 8:30-10am (I'll extend it by ½ hour for those that can stay, as it is likely hard to schedule additional meetings and we have tight timelines).

We'll send out an invite to this list later this morning, and hopefully you can forward it to others internally, if I missed anyone.

We'll also send out today/tomorrow:

1. Our draft comments due Thursday on Attachment B and C (includes MMU proposed tariff language for Market Power Mitigation Plan and Market Monitoring Plan)
2. A document of potential principles for hydro participation in Markets+, and references of language applied in WRAP and WEIM.

Regards,

Mark Holman | Managing Director | Powerex Corp. | Direct (b)(6)

From: Marr, Garrison <GBMarr@Snopud.com>
Sent: Friday, September 22, 2023 4:47 PM
To: 'Eaton,Sara L (BPA) - PTMA-5' <sleaton@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Holman, Mark <Mark.Holman@powerex.com>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Fina, Joe <GFina@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Cornelius, Adam <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Willis, Wendy <wendy.willis@powerex.com>; Shawn Smith <Shawn.Smith@chelanpud.org>
Subject: RE: [External Sender] RE: [EXTERNAL] Storage Hydro Participation In Markets+

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Snohomish can likely make either of Shawn's times below.

Garrison Marr
Senior Manager, Power Supply
Snohomish County PUD | (b)(6)
2320 California Street | Everett, WA | 98201

From: Shawn Smith <Shawn.Smith@chelanpud.org>
Sent: Friday, September 22, 2023 2:16 PM
To: 'Eaton,Sara L (BPA) - PTMA-5' <sleaton@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Holman, Mark <Mark.Holman@powerex.com>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Fina, Joe <GFina@SNOPUD.com>
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Cornelius, Adam <ACCornelius@Snopud.com>; Jeff Spires <jeff.spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Willis, Wendy <wendy.willis@powerex.com>
Subject: [External Sender] RE: [EXTERNAL] Storage Hydro Participation In Markets+

CAUTION: THIS EMAIL IS FROM AN EXTERNAL SENDER.
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I have Monday, Sept 25th available from 8-10am and Friday, Sept 29th available 8:00-9:30am.

-Shawn

From: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Sent: Friday, September 22, 2023 2:14 PM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Holman, Mark <Mark.Holman@powerex.com>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Ray Johnson <crjohnson@cityoftacoma.org>; Shawn Smith <Shawn.Smith@chelanpud.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Jeff Spires <jeff.spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Willis, Wendy <wendy.willis@powerex.com>
Subject: RE: [EXTERNAL] Storage Hydro Participation In Markets+

PAUSE TO CONSIDER: The actual sender address for this email is sleaton@bpa.gov.
Do you trust this message and any contents within?
If not, please forward it to our Phishing Hole for analysis. Thank You!

Hi Mark,

Recognizing that schedules are tight, BPA could have at least 1-2 attend for either time slot and date.
Monday would present a conflict for our representative from legal and Friday would likely be a challenge for our hydro manager.
But we could make either work.

Thanks,

Sara Eaton (she/her)
Senior Markets Policy Analyst | Market Policy and Pricing | PTMP
Bonneville Power Administration
C: (b)(6) | W: 503-230-5222 | sleaton@bpa.gov

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Thursday, September 21, 2023 3:44 PM

To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Ray Johnson <crjohnson@cityoftacoma.org>; Shawn Smith <Shawn.Smith@chelanpud.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Willis, Wendy <wendy.willis@powerex.com>
Subject: RE: [EXTERNAL] Storage Hydro Participation In Markets+

Good afternoon,

I understand several of you are on the road next week Tues-Thursday.

With that in mind, Jeff and I can make ourselves available:

Monday (Sept 25):	8 - 11am
Friday (Sept 29):	Anytime before 2pm

Please respond with your availability during these times, and we'll pick the 1 hour time slot that seems to work best for most.
If that doesn't work for at least 1-2 people from each entity, we'll send times for the following week.

Thanks,

Mark Holman | Managing Director | Powerex Corp. | Direct (b)(6)

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Wednesday, September 20, 2023 8:24 AM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Ray Johnson <crjohnson@cityoftacoma.org>; Shawn Smith <Shawn.Smith@chelanpud.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Willis, Wendy <wendy.willis@powerex.com>
Subject: Re: [EXTERNAL] Storage Hydro Participation In Markets+

Thanks everyone - I'm just on the road (and Jeff is out of the office too) so we'll send out potential time slots and/or a doodle poll tomorrow.

Thanks

Mark

Get Outlook for iOS

From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Tuesday, September 19, 2023 11:18:45 AM
To: Holman, Mark <Mark.Holman@powerex.com>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Ray

Johnson <crjohnson@cityoftacoma.org>; Shawn Smith <Shawn.Smith@chelanpud.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com <GFina@SNOPUD.com>
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Subject: RE: [EXTERNAL] Storage Hydro Participation In Markets+

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For us I'll try to make it. Todd K, Sara Eaton, Erika Doot, Pam Van Calcar as well.

Russell Mantifel (he/him/his)
Director | Market Initiatives
BONNEVILLE POWER ADMINISTRATION
rxmantifel@bpa.gov | P 503-230-4372

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Thursday, September 14, 2023 9:41 AM
To: Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Ray Johnson <crjohnson@cityoftacoma.org>; Shawn Smith <Shawn.Smith@chelanpud.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: [EXTERNAL] Storage Hydro Participation In Markets+

Good morning,

From our discussions with SPP's senior management on this topic, we have concluded that the nature of storage hydro participation in Markets+ should be set forth in the tariff. Based on those discussions, I am reaching out to you to arrange a call to kick-off a group discussion on identifying and drafting the necessary Markets+ tariff elements to facilitate storage hydro participation in Markets+. While work on some of these elements is already underway (e.g., hydro aggregation), it has become clear to us that there are several other elements that will need to be incorporated into the tariff to make Markets+ workable for storage hydro. These topics include:

- Hydro aggregation
- Hydro reference price (Default Energy Bid) for market power mitigation
- Hydro data sharing (a confined list of what data will be shared)
- Hydro operator autonomy over dispatch of individual facilities
- Hydro operator autonomy over reservoir and river management (water management)
- Hydro participant autonomy over offer quantity and offer price (while still being subject to must-offer obligations and related financial charges and to offer price mitigation)

Given the fundamental nature of these issues and their broad applicability to participating storage hydro resources, it seems critical that tariff provisions do not result in a gap in expectations of how storage hydro will participate. We are

generally not seeking to carve out new approaches, but rather seeking to adopt standards that are consistent with storage hydro operations, and where possible "port over" the hydro components from the Western EIM and WRAP (Hydro DEB, voluntary nature of participation, data sharing items, etc.).

SPP has encouraged us to work with other hydro stakeholders and "use the governance process" to achieve the tariff language necessary from the outset of Markets+.

The first call is to make sure senior leaders at each of your organizations are aware of the issue and support the direction and elements to be covered in the tariff.

Please 'reply all' with a list of people to attend, and we'll set up a doodle poll for time slots.

Best regards,

Mark Holman
Managing Director | Powerex Corp.
1300 - 666 Burrard Street | Vancouver, BC | V6C 2X8
Direct 604.895.7084 | Fax 604.891.5045 | Cell (b)(6)

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From: Kevin Morelock <kmorelock@utilicast.com>
Sent: Tuesday, October 3, 2023 11:06 AM
To: Mantifel,Russell (BPA) - BT-3; Carrie Simpson; Jim Gonzalez
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2; Kristen Darden; Kelli Schermerhorn
Subject: RE: [EXTERNAL] RE: M+ Day in the life example
Attachments: M+ DA-RT Must Offer process flow.pdf

Sorry, that's what happens when I do a reply all. Here you go.

Kevin

From: Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>
Sent: Tuesday, October 3, 2023 2:04 PM
To: Kevin Morelock <kmorelock@utilicast.com>; Carrie Simpson <csimpson@spp.org>; Jim Gonzalez <jgonzalez@spp.org>
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Kristen Darden <kdarden@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>
Subject: RE: [EXTERNAL] RE: M+ Day in the life example

[WARNING: External Email]

Where is the document?

From: Kevin Morelock <kmorelock@utilicast.com>
Sent: Tuesday, October 3, 2023 10:45 AM
To: Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>; Carrie Simpson <csimpson@spp.org>; Jim Gonzalez <jgonzalez@spp.org>
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Kristen Darden <kdarden@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>
Subject: [EXTERNAL] RE: M+ Day in the life example

Hi Russ

Carrie asked me to resend this to you. Please let me know if you have any questions.

Kevin

Utilicast

Kevin Morelock
Cell: (b)(6)
Email: kmorelock@utilicast.com

From: Kevin Morelock
Sent: Wednesday, September 13, 2023 4:24 PM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Carrie Simpson <csimpson@spp.org>; Jim Gonzalez <jgonzalez@spp.org>
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Kristen Darden <kdarden@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>
Subject: M+ Day in the life example

Russ

Carrie asked me to send this over to you to see if this is what you had in mind when you asked for a Day in the Life type example. Keep in mind this is an initial draft and only for the DA/RT Must offer process related to MRATF and how WRAP, Flex Requirements, Must offer calcs work. If this works as an example we can continue to build this out in more detail for a full DITL. This can also be used to develop details for the protocols and then more in-depth training materials.

If you want to discuss in more detail feel free to give me a call.

Kevin

Utilicast

Kevin Morelock
Cell: (b)(6)
Email: kmorelock@utilicast.com

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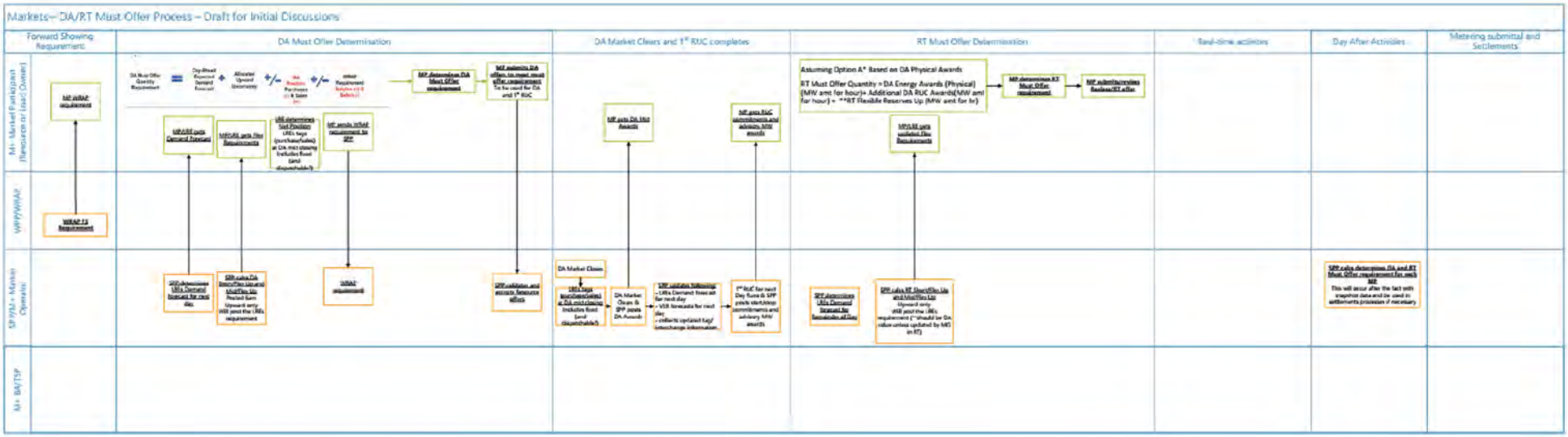
Markets – DA/RT Must Offer Process – Draft for Initial Discussions
Forward Showing Requirement
DA Must Offer Determination
DA Market Clears and 1st RUC completes
RT Must Offer Determination
Real-time activities
Day After Activities
Metering submittal and Settlements
M+ Market Participant (Resources or Load Owner)
WP/PWRAP
SPP/MU – Market Operator
M+ BA/TSP
Assuming Option A* Based on DA Physical Awards
RT Must Offer Quantity = DA Energy Awards (Physical) (MW amt for hour)+ Additional DA RUC Awards(MW amt for hour) + **RT Flexible Reserves Up (MW amt for hr)
DA Market Closes
Legend

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Monday, November 20, 2023 7:39 AM
To: Kristen Darden; Mantifel,Russell (BPA) - MTM-3; csimpson@spp.org
Subject: [EXTERNAL] Powerex edits to Attachment B & C
Attachments: 04cd-Attachment B_C_SPP_MMU Combined Edits_Clean_110123 - PWX Nov 20 Comments.docx

Good morning,

Please see attached Powerex's edits to Attachment B & C, redlined to the clean version shared during the Nov 3 meeting.

The SHOC section is very similar to the version we discussed on Friday, with a couple of minor tweaks to Section 3.4M(11) to incorporate the concept of "usable storage" as we discussed during the meeting.

Thanks
Jeff

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ATTACHMENT B
Market Power Mitigation Plan

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1. Purpose and Objective
2. Definitions
   - 2.1 Measures
   - 2.2 Performance Factor
   - 2.3 Resource-to-Load Distribution Factor (RLDF)
3. Mitigation Measures for Economic Withholding – Market Power in Energy and Flexibility Reserve Products
   - 3.2 Market Power Test
   - 3.3 Mitigated Offer Calculation Methodology
   - 3.4 Mitigation Measures for Energy Offer Curves
   - 3.5 Mitigation Measures for Start-Up Offers and No-Load Offers
     - 3.5.1 Mitigation Measures for Transition State Offers
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1. Purpose and Objective

The Market Mitigation Measures (the "Measures") contained within this Market Power Mitigation Plan provide for mitigation of the exercise of horizontal and vertical market power by Market Participants in certain specified circumstances. The Market Operator will implement the Market Power Mitigation Plan as defined.

2. Definitions

For purposes of this Market Power Mitigation Plan, capitalized terms have the meanings specified below:

2.1 Measures

SPP's Market Mitigation Measures set forth in this document.

2.2 Performance Factor

The calculated ratio of actual fuel burn to either theoretical fuel use (design heat input) or the most recent heat rate performance test, consistent with the Markets+ Protocols.

2.3 Resource-to-Load Distribution Factor (RLDF)

The simulated impact of incremental power output from a specific Resource ("source") on the loading of a specific flowgate based on delivery to a representation of the locational weighting of all loads within all Settlement Locations ("sink").

3. Mitigation Measures for Economic Withholding – Market Power in Energy and Flexibility Reserve Products

This section sets forth the market power mitigation measures that are applied in the Day-Ahead Market, Reliability Unit Commitment processes and the Real-Time Balancing Energy Markets, collectively referred to as Markets+.

3.2 Market Power Test

A Resource satisfying at least one of the following conditions is determined to have market power:

(1) The Resource:

(a) has a Resource-to-Load-Distribution factor less than or equal to negative five percent (-5%) relative to a binding transmission constraint; or

(b) is located in a binding Reserve Zone;

(2) The Resource is committed, or the Multi-Configuration Resource ("MCR") is transitioned, as a Reliability Must Run; or

(3) Within a ~~Balancing Authority~~Reserve Zone, the total Supplier Capacity plus unused deliverable import capacity is not sufficient to meet the Market Adjusted Obligation without a Market Participant's Supplier Capacity in a Dispatch Interval.

(a) Supplier Capacity is the sum of Maximum Output Limits of each Supplying Resource.

(i) The Maximum Output Limit is defined by Resource type:

(1) For a forecasted VER, the Maximum Output Limit is the greater of its (i) output forecast or (ii) its Maximum Economic Capacity Operating Limit.

(2) For an MSR with a commitment that allows it to be dispatched above zero megawatts, the Maximum Output Limit is its Maximum Discharge Limit. For an MSR with a commitment that allows it to charge only, the Maximum Output Limit is zero megawatts.

(3) For a Resource type that is not specified above, the Maximum Output Limit is the Resource's Maximum Economic Capacity Operating Limit for that interval;

(ii) A Supplying Resource is a Resource that is both:

(1) Registered under that Market Participant or its Affiliate(s), unless the Market Monitor allows an exclusion as described below, where "Affiliate" is defined in 18 CFR § 35.36(a)(9); and

(i) The Market Monitor may authorize the exclusion of the capacity associated with the Affiliate(s) of the Market Participant from that Market Participant's Supplier Capacity calculation upon a showing to the satisfaction of the Market Monitor that the relevant entities maintain safeguards and corporate controls to prevent coordinated or collusive market activity.

(2) Available for dispatch because the Resource:

(i) Has a Commitment; or

(ii) Is an off-line fast-start resource that is eligible to be dispatched above zero megawatts; or

(iii) Is a Variable Energy Resource that has a Commitment Status other than 'Outage' or 'Not Available'.

(b) The Market Adjusted Obligation is equal to (i) the forecasted obligation adjusted by (ii) the Net Scheduled Interchange plus (iii) the sum of Maximum Charge Limits of MSRs with a commitment that allows them to charge.

3.3 Mitigated Offer Calculation Methodology

Market Participants must submit a mitigated offer calculation methodology, including accurate cost data ~~and~~or verifiable supporting documentation sufficient to replicate the mitigated energy offer curve, to the Market Monitor for approval for each Resource. Market Participants must keep the methodology up to date. Mitigated offers must be calculated according to the approved methodology.

For a new Market Participant registering a new Resource in the market, the Market Participant must submit the methodology no less than 120 days before its first offer. For an existing Market Participant registering a new Resource, the Market Participant must submit the methodology no less than thirty (30) calendar days before its first offer.

If the Market Monitor communicates to a Market Participant that a methodology is not approved, the Market Monitor will identify the reasons, and the Market Participant must re-submit as soon as practicable. The methodology is effective beginning on the Operating Day following Market Monitor approval. If the Market Monitor does not respond to a submitted methodology in fifteen (15) calendar days, then the submitted methodology is allowed until the Market Monitor communicates otherwise.

3.4 Mitigation Measures for Energy Offer Curves

A. A Market Participant must submit Mitigated Energy Offer Curves daily in accordance with the mitigated offer development guidelines in the Markets+ Protocols.

1) For MCRs, for which a single configuration allows physical units to be swapped (e.g., Combustion Turbine 2 for Combustion Turbine 1), the costs used in the mitigated offer development for that configuration must be those of the least cost physical unit that is available and can be swapped in such configuration.

2) The mitigated Energy Offer Curve may be updated up to the close of the Day-Ahead Market for use in the Day-Ahead Market.

   i. For any period a Resource is not committed by the Day-Ahead Market, the mitigated Energy Offer Curve for that period may be updated until the RUC begins.

   ii. For Resources committed by the Day-Ahead Market, the mitigated Energy Offer Curve submitted as of the close of the Day-Ahead Market will apply to the Day-Ahead Market on the day before the Operating Day and the RTBM on the Operating Day unless an exception is allowed in Section 3.4 (J) of this Attachment B;

   iii. For all other Resources, the mitigated Energy Offer Curve submitted at the time the RUC begins will apply to the RUC on the day before the Operating Day, and the RUC processes and the RTBM on the Operating Day.

3) For the pricing Simultaneous Co-optimization Methodology, the composite Energy Offer Curve and mitigated composite Energy Offer Curve will be calculated and used by the Market Operator for FSRs in the Day-Ahead Market and RTBM. ~~The conduct threshold is a 10% increase above the mitigated Energy Offer Curve.~~

~~B.~~ B. The conduct threshold is a 10% increase above the mitigated Energy Offer Curve. The Market Operator applies mitigation measures by placing a cap on the Energy Offer Curve of 10% above the mitigated Energy Offer Curve if:

(1) The Resource's Energy Offer Curve exceeds the mitigated Energy Offer Curve by the conduct threshold; and

(2) The Resource has market power as determined in Sections 3.2(1) or 3.2(3); and

(3) The Resource fails the Market Impact Test as described in Section 3.7.

C. For a Resource that has market power as determined in Section 3.2(2), the Market Operator applies mitigation measures by placing a cap on the Energy Offer Curve of 10% above the mitigated Energy Offer Curve.

D. Except for Resources following the Seasonal Hydroelectric Offer Curve methodology outlined in ~~this~~ Section 3.4M, the mitigated Energy Offer Curve must be the Resource's short-run marginal cost of producing energy as determined by the unit's heat rate or similar production efficiency ratio; fuel costs and the costs related to fuel usage, such as transportation and emissions costs ("total fuel related costs"); and Energy Offer Curve ("EOC") variable operations and maintenance costs ("VOM").

E. For Resources that are not ESRs that are not eligible or do not elect the Seasonal Hydroelectric Offer Curve methodology outlined in this Section 3.4M, opportunity cost must be an estimate of Markets+ revenues net of short run marginal costs for the marginal forgone run time during the timeframe when the Resource experiences the run-time restrictions.

The forecasted Locational Marginal Prices are based on (i) the relationship between (a) the monthly average on-peak and off-peak system LMP and (b) the expected price of natural gas and (ii) hourly deviations between (a) the LMP at the Resource Settlement Location and (b) the system LMP, as determined by the Market Monitor. The formulas and instructions in the price forecast model are determined by the Market Monitor and published in the Markets+ Protocols as part of the Mitigated Offer Development Guidelines, updated, as needed, by the Market Monitor. Historic LMPs are considered for the three-year period immediately preceding the period of time in which the Resource is bound by the referenced restrictions. The forecasted costs to generate energy at the Resource's Settlement Location are subtracted from the forecasted Locational Marginal

Prices, as specified in more detail in Appendix G of the Markets+ Protocols. If the difference between the forecasted Locational Marginal Prices and forecasted costs to generate energy is negative, the resulting opportunity cost is zero. The Market Monitor will verify all Market Participants' opportunity cost calculations for consistency and accuracy. When the Market Monitor determines that the market price for any period was not competitive, it will adjust the LMP forecasting process used in the opportunity cost calculations to ensure that forecasted LMPs do not reflect non-competitive market conditions.

~~The~~ Except for Resources that elect the Seasonal Hydroelectric Offer Curve methodology, the following formula applies to all mitigated Energy Offer Curves unless specified otherwise in this Section 3.2(E) of this Attachment B:

Mitigated Energy Offer ($/MWh) = HeatRate (mmBtu/MWh) *
Performance Factor * Total Fuel Related Costs ($/mmBtu) + EOC VOM ($/MWh) + Opportunity Costs ($/MWh) + [Schedule 1-A3 Charge ($/MWh) + Schedule 1-A4 Charge ($/MWh)]

The run-time restrictions must be updated more frequently as fewer hours remain available. The Market Participant may include in the calculation of its mitigated Energy Offer Curve an amount reflecting the resource-specific opportunity costs expected to be incurred under the following circumstances:

(1) Externally imposed environmental run-hour restrictions as verified by the Market Monitor; or

(2) Physical equipment limitations on the number of starts or run-hours, as verified by the Market Monitor and determined by reference to the manufacturer's recommendation or bulletin, or a documented restriction imposed by the applicable insurance carrier; or

(3) Fuel supply or transportation limitations, for up to one year, resulting from an event of force majeure or other circumstances as verified by the Market Monitor.

F. For Resources that are not eligible or do not elect the Seasonal Hydroelectric Offer Curve Methodology outlined in Section 3.4 M, the Market Participant must submit heat rate

curves, descriptions of how spot fuel prices and/or contract prices are used to calculate fuel costs, if applicable, variable fuel transportation and handling costs, emissions costs, and VOM to the Market Monitor. All cost data and cost calculation descriptions are subject to the review and approval of the Market Monitor to ensure reasonableness and consistency across Market Participants. The submitted information must be sufficient for replication of the mitigated Energy Offer Curve and must include, among other data, the following information:

(1) For fuel costs, Market Participants must provide the Market Monitor with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants must submit VOM costs, calculated in adherence with the Appendix G of the Markets+ Protocols, reflecting short-run marginal costs, exclusive of fixed costs.

Further details associated with the development, validation, and updating of these costs are included in Appendix G of the Markets+ Protocols.

G. For Demand Response Resources utilizing Behind-The-Meter Generation, the mitigated Energy Offer Curve methodology must be developed in the same manner as a generating Resource as described above. For load reduction Demand Response Resources, the mitigated Energy Offer Curve methodology must include the quantifiable opportunity costs associated with the reduction, net of related offsetting increases in usage.

H. For Dispatchable Variable Energy Resources, the mitigated Energy Offer Curve methodology may include, but must not exceed, any calculation of quantifiable costs that vary by MWh output, including short-run incremental VOM. Mitigation does not apply to Non-Dispatchable Variable Energy Resources in the Real-Time Balancing Market.

I. For an ESR, the mitigated Energy Offer Curve methodology may include, but must not exceed, (i) charging cost and (ii) opportunity cost, both adjusted for round-trip efficiency.

Charging cost is the cost at which the ESR charged, and opportunity cost is the average profit in the next hour forgone by charging or discharging in the current hour. The sum of the charging cost and opportunity cost is the average LMP that is expected for the next Operating Hour. This expected average LMP for the next Operating Hour is the unweighted average of the LMPs for the most recent forty-five (45) days comparing like Operating Hours. The mitigated Energy Offer Curve for MSRs must have at least two breakpoints: one for charging and another for discharging. More breakpoints may be added to the extent that other costs vary.

The following formula applies to mitigated Energy Offer Curves for ESRs:

Charging Mitigated Energy Offer ($/MWh) =

Performance Factor * Average LMP Expected for the Next Hour ($/mmBtu) * Round-Trip Efficiency - EOC VOM ($/MWh)

Discharging Mitigated Energy Offer ($/MWh) =

Performance Factor * Average LMP Expected for the Next Hour ($/mmBtu) / Round-Trip Efficiency + EOC VOM ($/MWh)

J. Intra-day changes to the mitigated Energy Offer Curve are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past their initial commitment period by the Day-Ahead Market or a RUC process, the Market Participant may submit an updated mitigated Energy Offer Curve that reflects the procurement of higher cost fuel; or

(2) A Resource must switch fuels due to unforeseen operating conditions; or

(3) The Resource is an ESR; or

(4) As approved by the Market Monitor during periods of high intraday fuel price volatility.

Intra-day changes to the mitigated Energy Offer Curve must follow the mitigated offer development guidelines in Appendix G of the Markets+ Protocols and will be validated by the Market Monitor.

K. A Market Participant that has a Resource with short-run marginal costs greater than the Safety-net Energy Offer Cap may submit an Energy Offer Curve using the same

guidelines for development of the Resource's Mitigated Energy Offer Curve established in Appendix G of the Markets+ Protocols. The Energy Offer Curve above $1,000/MWh must be equal to the Mitigated Energy Offer Curve and may include an adder with a maximum of $100/MWh due to the uncertainty of expected costs. For purposes of LMP calculation, the Energy Offer Curve will be limited to a maximum of $2,000/MWh and must be verified by the Market Monitor prior to the start of the applicable market clearing process. If the Energy Offer Curve cannot be verified prior to the start of the applicable market clearing process, then the Resource may be eligible to receive make-whole payments for its actual costs after verification by the Market Monitor. The default value is $1,000/MWh for any offer above $1,000/MWh until the offer can be verified. If the verified Energy Offer Curve is greater than $2,000/MWh, the Energy Offer Curve will be capped at $2,000/MWh in the applicable market clearing process, and the Resource may be eligible for make-whole payments for actual costs exceeding $2,000/MWh. Market Participants must submit evidence of actual costs to the Market Monitor. The Market Monitor must verify the actual costs for use in make-whole payments. In order to include the costs in the make-whole payments of the S120 Settlement Statement, the submission must occur within 75 calendar days after the Operating Day and the verification must be complete no later than noon on the business day prior to 105 calendar days after the Operating Day.

L. Cost data submitted for the development of mitigated offers, including opportunity cost data, are subject to the confidentiality provisions set forth in Section 10 of Attachment A of this Tariff.

M. Market Participants ~~with hydroelectric Resources, with more than 30 days of storage,~~ may elect to use the Seasonal Hydroelectric Offer Curve calculation (SHOC) ~~if approved by the Market Monitor~~for hydroelectric Resources with storage capability, including Aggregate Resources, as defined in this Section 3.4.

(1) Market Participants electing the SHOC will calculate that curve in the following manner for all hours of every Operating day, ~~with the exception of the spring melt period, , when they will use the day-ahead peak price at the applicable electric pricing hub as their mitigated offer curve. .~~ except as provided in Section

3.4M(11). For each Operating Day, the Market Participant will calculate the Seasonal Hydroelectric Offer Curve as the maximum of the (a) gas floor, (b) short-term component, and (c) long-term-/geographic component, which are all calculated as specified below.

(3) The Market Participant will calculate the gas floor as the most recent average heat rate for a typical natural gas turbine generator, as defined in the Markets+ Protocols, multiplied by the natural gas price for the fuel region applicable to the location of the hydroelectric resource, multiplied by 1.1.

(4) The Market Participant will calculate the short-term component as 1.4 multiplied by the maximum of:

(a) the most recent day-ahead peak price at the applicable electric pricing hub;

(b) the on-peak balance of the month futures price for the current month at the applicable electric pricing hub; and

(c) the on-peak monthly index futures price at the applicable electric pricing hub for one (1) month after the current month.

(5) The Market Participant will calculate the long-term-/geographic component calculated based on multiple electric pricing hubs in addition to the default electric pricing hub consistent with Section 3.4 of this Attachment B. The Market Participant will calculate the long-term-/geographic component as 1.1 multiplied by the maximum of:

(a) the most recent day-ahead on-peak price at the applicable electric pricing hub(s);

(b) the on-peak balance of the month futures prices for the current month at the applicable electric pricing hub(s); and

(c) the on-peak monthly index futures price at the applicable electric pricing hub(s) for all future months up to the maximum storage horizon after the current month.

(6) As part of its request for a Seasonal Hydroelectric Offer Curve, the Market Participant must submit to the Market Monitor:

(a) For each month and for each electric pricing hub requested that is not the default electric pricing hub, the Market Participant must (1) demonstrate

that it holds firm transmission rights to enable delivery from the hydroelectric resource's default market region to the requested electric pricing hub or to a delivery point that is similarly priced location; or (2) provide documentation that supports a historical practice of acquiring monthly firm transmission rights to the requested electric pricing hub(s) or similarly priced location. Market Participants may demonstrate transmission rights to multiple locations and, based on the Market Monitor's evaluation of such information, the Market Participant may include multiple electric pricing hubs, in addition to the default electric pricing hubs, in the long-term-/geographic component of the SHOC for the affected resources. The Market Participant will attest through its submission that it reasonably expects it will be able to use the demonstrated transmission rights to deliver incremental sales from the hydroelectric resource because the rights are not fully committed and that there is an actual opportunity to use these rights. If the Market Participant includes multiple electric pricing hubs in the long-term-/geographic component, the SHOC calculation will use the maximum of the electric price indices published for each electric pricing hub as determined for each Operating Day. On Operating Days for which there are no relevant published electric price indices at an electric pricing hub, the Market Participant will use the most recently published index for the applicable electric pricing hub.

(b) For Resources that the Market Participant demonstrates a quantity of firm transmission rights to a requested electric pricing hub or similarly priced location that is less than the hydro Resource's capacity, the Market Participant will include the requested electric pricing hub up to the quantity of demonstrated transmission rights, and apply a proportional weighting of the Resource's transmission rights to calculate a weighted average of those bilateral electric pricing hub prices when calculating the value of the long-term-/geographic component of the SHOC.

(c) In the absence of Market Monitor approved supporting transmission rights information when calculating the long-term/geographic component of the SHOC, the Market Participant will ~~multiply the long-term, geographic component by zero and rely on~~ revert to the ~~gas floor and the short-term component to calculate the SHOC.~~default bilateral electric hub price specified in Section 3.4M(8).

(d) If during the term of the annual period the Market Participant no longer has the firm annual transmission rights previously demonstrated, or can no longer continue a historical practice of acquiring monthly firm transmission rights, the Market Participant must inform the Market Monitor within five (5) Business Days of no longer holding such firm transmission rights.

(e) The Market Monitor may ~~audit the Market Participant and~~ request additional information in support of the Market Participant's assertions.

(f) If the Market Monitor determines the Market Participant has submitted substantively inaccurate information, the Market Monitor will take actions to require the Market Participant to change which electric pricing hub it uses in the SHOC calculation ~~or other actions it deems necessary to correct the calculation.~~.

(7) The maximum hydroelectric Resource storage horizon submitted by the Market Participant must:

(a) Reflect the typical storage duration of a hydroelectric Resource's reservoir, defined as the length of time between which the reservoir cycles from a maximum elevation to a new maximum elevation during a hydro cycle. The Market Participant will compute the reservoir's cycling time based on multiple years of reservoir elevation data. For purposes of calculating the maximum storage horizon for a hydroelectric Resource (including an Aggregate Resource) with multiple reservoirs, the Market Participant will use data from the reservoir with the longest storage duration.

(b) Be supported by (1) a written attestation by a representative who has the authority to bind the ~~company~~Market Participant stating that the value used by the Market Participant as the maximum storage horizon is consistent with the requirements specified in this Section 3.4 or (2) corroborating information submitted to the Market Monitor, which may include several years of historic reservoir levels for the specific hydroelectric Resource and regulatory filings related to the operations of the hydroelectric Resource.

(8) The default electric pricing hub will be as specified in the Markets+ Protocols, which will also include a process for modifying or adding electric pricing hubs to the list of default electric pricing hubs.

(9) Run-of-river hydroelectric ~~units~~Resources, as defined ~~in~~under the ~~Market Protocols,~~WRAP tariff, will use the greater of (a) the most recent day-ahead peak price at the applicable electric pricing hub, and (b) $0/MWh, as their mitigated offer curve for all hours of the year.

(10) Hydroelectric ~~units~~Resources with a maximum hydroelectric Resource storage horizon of 30 days or less shall not include the price for the first month after the current month in the calculation of the SHOC until such hydroelectric Resource's maximum storage horizon extends into such month, as measured from the Operating Day.

(11) Notwithstanding the maximum hydroelectric Resource storage horizon, any hydroelectric Resource for which the hydro operator reasonably expects no usable storage, which will be defined as a combination of high inflows and limited available storage that ~~are not Run-of-river, but also do not have more than 30 days of storage, will use the Opportunity Cost Calculator as detailed in Section 3.4.E to calculate their mitigated offer curve, except during the spring melt period when they will use the~~collectively are anticipated to directly cause the hydroelectric Resource to spill energy at each reservoir of the hydroelectric Resource and such spill cannot be avoided even if the hydroelectric Resource were to generate at maximum output at all available units for all intervals of the Operating Day, then its Hydroelectric Offer Curve shall be the greater of (a) the most recent day-

ahead peak price at the applicable electric pricing hub ~~as their mitigated offer curve~~, and (b) $0/MWh.

~~(11) The spring melt period will be a defined by the market participant for every hydroelectric unit using the SHOC. The market participant will notify the market operator when they are in spring melt conditions, as well as when they are no longer in spring melt conditions. .~~

3.5 Mitigation Measures for Start-Up Offers and No-Load Offers

A Market Participant must submit a mitigated Start-Up Offer and a mitigated No-Load Offer for each resource in accordance with the mitigated offer development guidelines in the Markets+ Protocols. The mitigated Start-Up and No-Load Offers may be updated up to the close of the Day-Ahead Market for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead Market, the Start-Up and No-Load Offers may be updated until the RUC begins. The mitigated Start-Up and No-Load Offers submitted at the time the RUC begins will apply to the RUC on the day before the Operating Day unless an exception is allowed in Section 3.3(G) of this Attachment B.

A. The Start-Up and No-Load Offer conduct threshold is a 10% increase above the mitigated Start-Up or mitigated No-Load Offer, as applicable.

B. The Market Operator applies mitigation measures by placing a cap on the Start-Up or No-Load Offer of 10% above the applicable mitigated Start-Up or No-Load Offer if:

(1) The Resource's Start-Up or No-Load Offer exceeds the mitigated Start-Up or mitigated No-Load Offer, as applicable, by the applicable conduct threshold; and

(2) The Resource has market power as determined in Sections 3.2(1) or 3.2(3); and

(3) The Resource fails the Market Impact Test as described in Section 3.7(b)

C. For a Resource that has market power as determined in Section 3.2(2), the Market Operator applies mitigation measures by placing a cap on the Start-Up Offer or

No-Load Offer of 10% above the mitigated Start-Up Offer or No-Load Offer, as applicable.

D. The mitigated Start-Up Offer must represent the cost per start as determined from start fuel usage and the costs related to that fuel usage, Performance Factor, cost of electricity for station use to start ("Station Service"), start-up VOM cost, start major maintenance cost, and start additional labor costs, if required above normal station staffing levels. Further guidelines for the mitigated Start-Up Offer are documented in Appendix G of the Markets+ Protocols.

The mitigated Start-Up Offer for Demand Response resources must be:

1) For load that is shut down or curtailed, the cost to shut down or curtail the load for a given period, which varies with the number of deployments rather than the amount of response, and
2) For load that is not shut down or curtailed, the start cost of Behind-The-Meter Generation utilizing the mitigated Start-Up Offer calculation applicable to other generation Resources as defined above.

The mitigated Start-Up Offer for Variable Energy Resources must be zero.

E. The mitigated No-Load Offer must be the hourly fixed cost, represented in $/hr, required to operate the Resource at zero electricity output to the grid. The mitigated No-Load Offer can be calculated using either (1) the no-load fuel approach that includes no-load fuel (mmBtu/hour), Performance Factor, no-load VOM cost ($/mmBtu), total fuel related cost ($/mmBtu), and no-load major maintenance cost ($/hr); or (2) calculated using the no-load cost approach that includes heat input at Minimum Economic Capacity Operating Limit (mmBtu), Performance Factor, total fuel related cost ($/mmBtu), no-load VOM cost ($/mmBtu), incremental cost up to Minimum Economic Capacity Operating Limit ($/MWh), Minimum Economic Capacity Operating Limit (MW), and no-load major maintenance cost ($/hr). Further guidelines for the mitigated No-Load Offer are documented in Appendix G of the Markets+ Protocols.

The mitigated No-Load Offer for Demand Response Resources utilizing Behind-The-Meter Generation must adhere to the same definition above as a generating

Resource. For Demand Response Resources utilizing load reduction, the mitigated No-Load Offer must not exceed the quantifiable ongoing hourly costs associated with load reduction.

The mitigated No-Load Offer for Variable Energy Resources shall be zero.

F. The Market Participant must submit all inputs used in calculating mitigated Start-Up and mitigated No-Load Offers to permit the Market Monitor to verify submitted offers. Required information includes: heat rate curves, descriptions of how spot fuel prices and/or contract prices are used to calculate fuel costs, variable fuel transportation and handling costs, emissions costs, and VOM cost. All cost data and cost calculation descriptions are subject to the review and approval of the Market Monitor to ensure reasonableness and consistency across Market Participants. Information to be provided by the Market Participant must include the following:

(1) For fuel costs, Market Participants must provide the Market Monitor with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants must submit VOM costs reflecting short-run marginal costs, exclusive of fixed costs.

(4) For start and no-load major maintenance cost, Market Participants may include these costs as a component of the mitigated Start-Up Offer and the mitigated No-Load Offer. Such cost must be based solely on resource-specific information derived from actual variable maintenance costs, when available, or estimated variable maintenance costs. The maintenance period for start major Maintenance cost must be tied to the number of

starts, and the maintenance period for no-load major maintenance cost must be tied to the number of Resource run hours.

Further details associated with the development, validation and updating of these costs are included in Appendix G of the Markets+ Protocols.

G. Intra-day changes to the mitigated Start-Up and mitigated No-Load Offers are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past their commitment period, the Market Participant may submit updated mitigated Start-Up and mitigated No-Load Offers that reflect the procurement of higher cost fuel;

(2) A Resource must switch fuels due to unforeseen operating conditions; or

(3) The Resource is an ESR.

Intra-day changes to the mitigated Start-Up and mitigated No-Load offers must follow the mitigated offer development guidelines Appendix G of in the Markets+ Protocols and will be validated by the Market Monitor.

H. In all cases under this Section 3.3, cost data submitted for the development of mitigated offers, including opportunity cost data, is subject to the confidentiality provisions set forth in Section 10 of Attachment A of this Tariff.

3.5.1 Mitigation Measures for Transition State Offers

The mitigation measures in this section apply only to MCRs. A mitigated Transition State Offer must be submitted daily by the Market Participant in accordance with the mitigated offer development guidelines specified in the Markets+ Protocols for each potential transition state changes. The mitigated Transition State offer may be updated up to the close of the Day-Ahead Market before the Operating Day as defined in Section 3.4 of Attachment B of this Tariff for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead Market, the mitigated Transition State Offer may be updated until the Day-Ahead RUC process begins. The mitigated Transition State Offer submitted at the time the Day-Ahead RUC process begins will apply to the Day-Ahead RUC process on the day before the Operating Day and Intra-Day RUC processes on the Operating Day.

A. The Transition State Offer conduct threshold is a 10% increase above the mitigated Transition State Offer.

B. The Market Operator applies mitigation measures by placing a cap on the Transition State Offer of 10% above the mitigated Transition State Offer if:

(1) The Resource's Transition State Offer exceeds the mitigated Transition State Offer by the applicable conduct threshold; and

(2) The Resource has market power as determined in Sections 3.2(1) or 3.2(3); and

(3) The Resource fails the Market Impact Test as described in Section 3.7(b).

C. For an MCR that has market power as determined in Section 3.2(3), the Market Operator applies mitigation measures by placing a cap on the Transition State Offer of 10% above the mitigated Transition State Offer.

D. The mitigated Transition State Offer for an MCR must represent the costs of moving from the current configuration to another configuration as determined from the fuel costs incurred during the transition, the costs related to that fuel usage, Performance Factor, and additional maintenance and labor costs incurred during the transition, including transition VOM cost and transition major maintenance cost. Further guidelines for the mitigated Transition State Offer are documented in Appendix G of the Markets+ Protocols.

The Market Participant must submit documentation of the method and any cost data for calculating the mitigated Transition State Offer that is necessary to allow the Market Monitor to validate submitted offers. Further details associated with the development of these costs are included in the Markets+ Protocols.

E. Intra-day changes to the mitigated Transition State Offers are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource remain online past their commitment period, the Market Participant may submit an updated mitigated Transition State Offer that reflects the procurement of higher cost fuel; or

(2) A Resource must switch fuels due to unforeseen operating conditions.

Intra-day changes to the mitigated Transition State Offers must follow the mitigated offer development guidelines in Appendix G of the Markets+ Protocols and will be validated by the Market Monitor.

F. In all cases under this Section 3.5.1, cost data submitted for the development of mitigated offers, including opportunity cost data, is subject to the confidentiality provisions set forth in Section 10 of Attachment A of the Tariff.

3.6 Mitigation Measures for Flexibility Reserve Product Offers

For each Flexibility Reserve Product offered, a mitigated offer must be submitted by the Market Participant in accordance with the mitigated offer development guidelines in the Markets+ Protocols. For MCRs for which a single configuration allows physical units to be swapped (e.g., Combustion Turbine 2 for Combustion Turbine 1), the costs used in the mitigated offer development for that configuration must be those of the least cost physical unit that is available and can be swapped in such configuration. The mitigated Flexibility Reserve Product Offers may be updated up to the close of the Day-Ahead Market for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead Market, the mitigated Flexibility Reserve Product Offers may be updated until the Day-Ahead RUC begins. For Resources committed by the Day-Ahead Market, the mitigated Flexibility Reserve Product Offers submitted as of the close of the Day-Ahead Market will apply to the Day-Ahead Market on the day before the Operating Day and the RTBM on the Operating Day unless an exception is allowed in Section 3.4(G) of this Attachment B; for all other Resources, the mitigated Flexibility Reserve Product Offers submitted at the time the Day-Ahead RUC begins will apply to the RTBM on the Operating Day.

For each Flexibility Reserve Product offered, the conduct threshold is a 10% increase above the mitigated offer for the applicable Flexibility Reserve Product Offer.

A. The Market Operator applies mitigation measures by placing a cap on the Flexibility Reserve Product Offer of 10% above the applicable mitigated Flexibility Reserve Product Offer if:

(1) The Resource's Flexibility Reserve Product Offer exceeds the applicable mitigated offer by the conduct threshold; and

(2) The Resource has market power as determined in Sections 3.2(1) or 3.1(3); and

(3) The Resource fails the Market Impact Test as described in Section 3.7(b) is manually committed by the Markets+ Transmission Service Provider, Balancing Authority, or Reliability Coordinator.

B For a Resource that has market power as determined in Section 3.2(2), the Market Operator applies mitigation measures by placing a cap on the Flexibility Reserve Product Offer of 10% above the applicable mitigated Flexibility Reserve Product Offer.

C. [Intra-day changes to the mitigated Flexibility Reserve Product Offers are allowed under the following conditions:

(1) In the event that the Market Operator requests that a Resource that is supplying Flexibility Reserve Products remain online past their commitment period by the Day-Ahead Market or a RUC process, the Market Participant may submit an updated mitigated Flexibility Reserve Product Offer that reflects the procurement of higher cost fuel;

(2) A Resource must switch fuels due to unforeseen operating conditions; or

(3) Intra-day changes to the mitigated Offers are allowed after the RUC clears on the day before the Operating Day under the following condition:

a. The Resource incurs the uncompensated cost in Section 3.4(E)(3) of this Attachment B, for which the mitigated offer calculation is described in Appendix G of the Markets+ Protocols.

Intra-day changes to the mitigated Flexibility Reserve Product Offer must follow the mitigated offer development guidelines in Appendix G and Section 8.2.2 of the Markets+ Protocols and will be validated by the Market Monitor.

D. The Market Participant may include in the calculation of its mitigated Flexibility Reserve Product Offer an amount reflecting the Resource-specific opportunity costs if the Market Participant is able to demonstrate to the satisfaction of the Market Monitor that such costs are legitimate and verifiable and not otherwise included in market outcomes. To the extent such costs include run-time restrictions, such run-time restrictions must be updated as specified in the Markets+ Protocols, with more frequent updating to occur the fewer hours that remain available, consistent with the Markets+ Protocols. The formulas and instructions in the price forecast model for any such opportunity costs are determined by the Market Monitor and published in the Markets+ Protocols as part of the Mitigated Offer Development Guidelines, updated, as needed, by the

Market Monitor. Opportunity costs for mitigated Flexibility Reserve Product Offers must not include Energy and Flexibility Reserve Product Markets revenues associated with forgone Energy or other types of Flexibility Reserve Product production to the extent that such costs are included in market outcomes.]

E. All cost data and cost calculation descriptions are subject to the review and approval of the Market Monitor to ensure reasonableness and consistency across Market Participants. The information must be sufficient for replication of the mitigated Flexibility Reserve Product Offers and must include, among other data, the following information:

(1) For fuel costs, Market Participants must provide the Market Monitor with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants must report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants must submit VOM costs, calculated in adherence with the Appendix G of the Markets+ Protocols, reflecting short-run marginal costs, exclusive of fixed costs.

F. In all cases under this Section 3.4, cost data submitted for the development of mitigated offers, including opportunity cost data, is be subject to the confidentiality provisions set forth in Section 10 of Attachment A of this Tariff.

3.7 Validation of Mitigated Resource Offers

If the Market Monitor determines that the Market Participant has incorrectly applied the formulas and definitions in Sections 3.4A to 3.4L, 3.5, 3.5.1, and 3.6 of this Attachment B and in the Markets+ Protocols or determines that a mitigated offer is otherwise ~~unacceptable~~calculated incorrectly, the Market Participant must submit the mitigated offer calculated by the Market Monitor going forward. The Market Monitor calculated mitigated offer must continue to be submitted until any dispute is resolved. The procedures for submitting and processing disputes related to mitigated offers are specified in the Markets+ Protocols. The Market Operator

remedies mitigated offer disputes resolved in favor of the Market Participant by providing make whole payments, as necessary, to the Market Participant whose mitigated offer was improperly determined by the Market Monitor.

Each Market Participant is obligated to provide to the Market Monitor any cost data necessary to allow the Market Monitor to validate its mitigated Resource Offer.

The Market Monitor will keep such data confidential, and all cost data submitted under this Section 3.5, including any opportunity cost data, are subject to the confidentiality provisions set forth in Section 10 of Attachment A of this Tariff. The Market Monitor maintains the mechanism and procedures to allow Market Participants to submit such cost data on the Market Operator's website.

Additional Mitigation Measures for Resource Offer Parameters

The mitigation measures in this section apply to all Resource Offer parameters expressed in non-currency-based units and apply only in the presence of market power. A reference level for each applicable Resource Offer parameter that reflects the physical capability of the Resource is determined prior to the start of Markets+ by one or both of the following methods: (i) consultation between the Market Participant and the Market Monitor; and/or (ii) based on averages of Resource Offer parameters from similar Resources. This methodology for setting reference levels for Offer parameters applies to all Resources at the start of Markets+ and to all Resources that register subsequent to the start of Markets+. The Market Operator's output forecast for a wind and solar-powered Variable Energy Resource is used as the reference maximum output limit for the wind and solar-powered Variable Energy Resource.

The following thresholds are used by the Market Monitor to identify Resource Offers that may warrant mitigation and are determined with respect to the corresponding reference level:

1. Time-based Resource Offer parameters: An increase of three (3) hours, or an increase of six (6) hours in total for multiple time-based Resource Offer parameters.
2. Resource Offer parameters expressed in units other than time or dollars: One hundred percent (100%) increase for Resource Offer parameters that are

minimum values, or a fifty percent (50%) decrease for Resource Offer parameters that are maximum values.

3. Minimum Economic Capacity Operating Limit, Minimum Discharge Limit, or Maximum Charge Limit, as applicable, threshold for Resources committed to address a Local Reliability Issue: twenty-five percent (25%) increase.

4. Maximum Charge Limit, as applicable, threshold for Resources committed to address a Local Reliability Issue: twenty-five percent (25%) decrease.

In the case that a Resource Offer fails the thresholds described above, the Market Monitor will determine the impact on prices or make whole payments. If an impact exceeds the LMP, MCP or make whole payment thresholds in Section 3.8, the Market Monitor will initiate a discussion with the Market Participant concerning an explanation of the parameter changes. The Market Monitor will inform the Market Operator of any potential issue. If the Market Operator, in consultation with the Market Monitor, concludes that the Market Participant has demonstrated the validity of the submitted Resource Offer parameter, no further action will be taken. If not, the Market Operator will replace the Resource Offer parameter with the corresponding reference level. Mitigation measures will remain in place until such time that the Market Participant demonstrates the validity of the Resource Offer parameter or the Market Participant notifies the Market Monitor that the Resource Offer parameter has been changed to a value that is within the tolerance range as described above, and the Market Monitor has verified that this change has occurred. In the event that the Market Participant submits a dispute, the mitigation measure will remain in place until the resolution of the dispute.

In all cases under this Section 3.8, cost data submitted for the development of mitigated offers, including opportunity cost data, is subject to the confidentiality provisions set forth in Section 10 of Attachment A of this Tariff.

3.9 Market Impact Test

If any Resource meets the conditions in Section 3.2 of this Attachment B, then the Market Operator compares a market solution with no mitigation measures to a market

solution with mitigation measures applied. The Market Operator will apply mitigation measures to all such Resources when:

(1) An LMP or MCP at a Settlement Location exceeds the corresponding price from the market solution with mitigation measures applied by the applicable impact test threshold, or

(2) A make whole payment for any Resource exceeds the corresponding make whole payment from the market solution with mitigation measures applied by make whole payment impact test threshold.

The LMP, MCP, and make whole payment impact threshold is calculated as the product of (i) the MEC from the market solution with mitigation measures applied and (ii) the Slope Factor, where the impact threshold is between the minimum and maximum impact thresholds, inclusive.

(1) The Slope Factor determines how much the MEC affects the impact threshold between the minimum impact threshold and maximum impact threshold. The Slope Factor is 0.5; and

(2) The minimum impact threshold is $5 and the maximum impact threshold is $100.

4 Miscellaneous Provisions

4.1 Rights and Remedies

The Market Power Mitigation Plan does not restrict the Market Operator and Market Participants from asserting any rights they may have under state and federal regulation and laws, including initiating proceedings before the FERC regarding any matter which is subject to this Market Power Mitigation Plan.

Except as otherwise stated in this Market Power Mitigation Plan, disputes as to the implementation of, or compliance with, this Market Power Mitigation Plan are subject to the dispute resolution procedures under this Tariff or the SPP Bylaws as applicable or may be raised with the FERC.

ATTACHMENT C
Market Monitoring Plan

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1. Purpose and Objective

1.1 Purpose of the Plan

This plan is intended to provide for the monitoring of Markets and Services and submissions of recommendations to the FERC and the SPP Board of Directors.

1.2 Market Monitoring Plan ("Plan")

The Plan is developed, implemented and maintained by SPP's Market Monitor. The Market Monitor has the responsibility for implementing the Plan by (a) continuously monitoring Markets and Services, (b) recommending compliance and corrective actions per this Tariff, (c) collecting and retaining the data and information necessary for the performance of the Plan, (d) recommending updates to the monitoring plan contained within Attachment C to this Tariff, and (e) periodically reporting on Markets and Services.

1.3 Mission Statement and Objectives of the Market Monitor

1.3.1 Mission Statement

The mission of the Market Monitor is to (a) monitor and report on possible abuses of horizontal and vertical market power and gaming in Markets and Services by any Market Participant (b) identify market design flaws and recommend any changes in design to improve the operation of Markets and Services for the benefit of consumers and Market Participants and (c) monitor Market Participants' compliance with market rules.

1.3.2 Objectives

The Market Monitor will work to ensure that its functions and activities are implemented fairly and consistently, and that it protects and fosters competition while minimizing interference with open and competitive markets. The Market Monitor's preferred approach is to make recommendations to improve the operation of markets and to prevent the exercise of market power in advance rather than punishing offenders afterward.

The Market Monitor will evaluate existing and proposed market rules, Tariff provisions, and market design elements and recommend proposed rules and Tariff changes to the Market Operator, FERC, and other interested entities such as state commissions and Market Participants. The Market Monitor will limit distribution of its identifications and recommendations to the Market Operator and FERC in the event that the Market Monitor believes that broader

dissemination could lead to exploitation, with an explanation of why further dissemination should be avoided.

The Market Monitor will review the performance of the Markets and Services and provide an annual report on the state of the market as provided in Section 7 of this Attachment C.

The Market Monitor will recognize that entities otherwise identified as having market power may engage in conduct giving the impression of market power but, after analysis by the Market Monitor, may prove to be pro-competitive and efficient. In making this distinction, the Market Monitor will generally focus on an analysis of the identified conduct and associated market impacts, rather than seeking to determine the intent of the Market Participant (e.g., conducting profitability analyses that would require comprehensive information on all the physical and final positions of a participant).

1.4 Independence of the Market Monitor

The Market Monitor independently performs those activities necessary to provide impartial and effective market monitoring within the scope of the Plan. The Market Monitor may verify information with affected Market Participants prior to making recommendations or reports.

1.5 Resolution of Conflicts

In the event there is a conflict between this Attachment C and any other provision of this Tariff, this Attachment C will control.

2. Definitions

For purposes of this Plan, capitalized terms have the meanings specified below:

2.1 Confidential Information

The term defined under Section 1 to this Tariff.

2.2 Data and Information

Writings, documents and records of every type, including audio recordings and electronic files.

2.3 Interested Government Agencies

The FERC and any state regulatory commission or agency with relevant regulatory oversight responsibilities.

2.4 Markets and Services

The markets and services offered under the Markets+ tariff.

3. Market Monitor

The Market Monitor is responsible for implementing the Market Monitoring Plan as defined in this Tariff.

3.1 Staffing and Resources

The Market Monitor is an organization within SPP reporting to the Board of Directors, excluding any SPP management representatives serving on the Board of Directors. The Market Monitor will be comprised of employees of SPP with the necessary experience and qualifications to perform the duties of the Market Monitor. The duties and responsibilities of the Market Monitor are assigned by the Board of Directors. However, the Market Monitor's duties and responsibilities will not include purely administrative matters (e.g., enforcement of late fees and the untimely submission of outage reports and Meter Data). SPP management representatives on the Board of Directors will be excluded from the Board of Directors' oversight of the Market Monitor. SPP must establish and provide appropriate staffing and/or resources for the Market Monitor and must ensure that the Market Monitor has such adequate employees, funding and/or other resources, access to required information, and the full cooperation of SPP Staff, Organizational Groups, and other persons, as necessary, for the effective functioning of the Market Monitor and implementation of this Plan. The Market Monitor has full responsibility for implementing Attachment C.

3.2 Relationships and Notifications

As a general principle, the Market Monitor may obtain input from SPP staff, FERC, the Markets+ State Committee, and affected state regulatory authorities for the purpose of executing its duties.

In accordance with this Tariff, the Market Monitor must at any time bring any instances of market behavior that may require investigation (including, but not limited to, suspected Tariff violations, suspected violations of FERC-approved rules and regulations, suspected market manipulation, and inappropriate dispatch) to the attention of FERC's Office of Enforcement (or its successor organization) staff.

In the event the Market Monitor identifies a significant market design or policy problem that may require (a) a change to this Tariff or (b) referral to FERC, the Market Monitor must provide notification to the M+ Independent Panel Board of Directors, the President of SPP, and the

appropriate FERC staff, and other interested and relevant entities such as state regulatory commissions, as soon as practicable. In the event the Market Monitor believes broader dissemination could lead to exploitation, it may limit distribution of its identifications and recommendations to M+ Independent Panel, the Board of Directors, the President of SPP, and FERC with an explanation of why further dissemination should be avoided at that time.

The Market Monitor may also interface with FERC and other RTO and ISO market monitors in adjacent regions as needed for the purpose of addressing electricity market issues in a comprehensive manner.

3.3 Independence and Ethics Standards

The Market Monitor and its employees must abide by SPP's Standards of Conduct, which are appropriate for establishing the professional and financial independence of the Market Monitor.

Consistent with this requirement, the Market Monitor and its employees must:

(a) have no material affiliation with any Market Participant or any affiliate of a Market Participant;

(b) not serve as an officer, employee, or partner of a Market Participant;

(c) have no material financial interest in any Market Participant or any affiliate of a Market Participant (allowing for such potential exceptions as mutual funds and non-directed investments);

(d) not engage in any market transactions other than the performance of their duties under this Tariff;

(e) not be compensated, other than by SPP, for any expert witness testimony or other commercial services to SPP or to any other party in connection with any legal or regulatory proceeding or commercial transaction relating to SPP;

(f) not accept anything of value from a Market Participant in excess of a de minimis amount;

(g) advise their relevant supervisor (or, in the case of the Market Monitoring management, SPP's Board of Directors) in the event they seek employment with a Market Participant, and must disqualify themselves from participating in any matter that would have an effect on the financial interest of such Market Participant.

These restrictions are not exclusive of the other requirements specified in SPP's Standards of Conduct. In the event there is a conflict between this Attachment C and SPP's Standards of Conduct, this Attachment C will control.

The Market Monitor must certify compliance with such policies to the President of SPP. The Market Monitor must require any external consultants or experts to certify compliance with these policies.

4. Market Monitoring

4.1 Markets to be Monitored

The Market Monitor will monitor Markets and Services. The Market Monitor will not monitor bilateral energy, transmission or capacity markets and services not administered, coordinated or facilitated by SPP, except to assess the effect of these markets and services on Markets and Services, or the effects of Markets and Services on these unmonitored markets. Similarly, the Market Monitor will not monitor the energy, transmission, or capacity markets and services in regions adjacent to the Markets+ Footprint except to assess the effect of these markets and services on Markets and Services, or the effects of Markets and Services on these adjacent markets.

4.2 Market Monitoring Scope

The Market Monitor will monitor Markets and Services by reviewing and analyzing market data and information including, but not limited to:

(a) Resource registration data;

(b) Resource Offer data including non-price related offer parameters required for use in either the Day-Ahead Market, Reliability Unit Commitment processes and/or Real-Time Balancing Market;

(c) Demand Bids for the purchase of Energy in the Day-Ahead Market;

(d) Virtual Energy Bids for the purchase of Energy in the Day-Ahead Market and Virtual Energy Offers for the sale of Energy in the Day-Ahead Energy Market;

(e) Export Interchange Transaction Bids and Import Interchange Transaction Offers for the purchase and sale of Energy in the Day-Ahead Market and the Real-Time Balancing Market;

(f) Actual commitment and dispatch of Resources, including but not limited to Resource MW capability and output, MVAR capability and output, status, and outages;

(g) Locational Marginal Prices and zonal Market Clearing Prices at all Settlement Locations in or affecting any of Markets and Services;

(h) Markets+ participating Balancing Authority Area data, including but not limited to demand, area control error, Net Scheduled Interchange, actual total net interchange, and forecasts of operating reserves and peak demand;

(i) Conditions or events both inside and outside the Markets+ Footprint affecting the supply and demand for, and the quantity and price of, products or services sold or to be sold in Markets and Services;

(j) Information regarding transmission services and rights;

(k) Information regarding the nature and extent of transmission congestion in the region and, to the extent practicable, transmission congestion on any other system that affects Markets and Services, including but not limited to causes of, costs of and charges for transmission congestion, transmission facility loading, MVA capability, line status and outages;

(l) Settlement data for the Markets and Services;

(m) Any information regarding collusive or other anticompetitive or inefficient behavior in or affecting any of Markets and Services;

(n) Generation resource operating cost data for estimating resource incremental cost, including fuel input costs, heat rates where applicable, start-up fuel requirements, environmental costs and variable operating and maintenance expenses; and

(o) Any additional Resource and transmission facility outage data not otherwise provided for in this Section 4.2;

In addition to the monitoring of market Data and Information, the Market Monitor may communicate with SPP Staff and Market Participants at any time for the purpose of monitoring and assessing market conditions.

4.3 Referrals to FERC

(a) The Market Monitor will refer suspected market violations, as defined in 18 CFR 35.28(b)(8), to FERC's Office of Enforcement (or its successor organization) staff in accordance with the FERC's reporting protocols for referrals by market monitors as specified in 18 C.F.R. § 35.28(g)(3)(iv) in a timely manner. Any such referrals by the Market Monitor to FERC Staff will be on a confidential basis, and all information and documents included in such reports will not be released to any other party except to the extent FERC directs or authorizes such release, unless such information and documents are already in the public domain.

(b) The Market Monitor will refer any perceived market design flaws and recommended Tariff language changes to the Commission's Office of Energy Market Regulation or its successor office/organization.

4.4 Monitoring for Potential Market Manipulation

The Market Monitor will monitor for potential instances of market manipulation as defined in 18 C.F.R. §1c.2.. The Market Monitor will report any market manipulation to FERC in a timely manner.

4.5 Monitoring for Potential Transmission Market Power Activities

The Market Monitor will monitor Markets and Services for the exercise of transmission market power by reviewing and analyzing data and information related to the availability of transmission facilities that impact access to services under this Tariff. The Market Monitor will monitor for activities particularly with respect to the withholding of transmission facilities or transmission capacity, including activities such as but not limited to, the following:

(a) Physical withholding by Transmission Owners by providing improper information related to the availability of transmission, such as information related to the capability or other modeling data used by SPP for use in system operations;

(b) Economic withholding by Transmission Owners through the use of methods and data for estimating costs of interconnection and system upgrades that is not comparable for affiliates and non-affiliates;

(c) Unavailability of transmission facilities through planned and unplanned maintenance outages that routinely exceed historical baselines; and

(d) Withholding of transmission capacity through excess reservations that are not actually used.

The Market Monitor will refer any instance(s) of the suspected exercise of transmission market power directly to FERC's Office of Enforcement (or its successor organization) utilizing the protocols for referrals to FERC for suspected instances of the exercise of market power that may be part of a suspected market violation, such as manipulation, in accordance with 18 C.F.R. § 35.28(g)(3)(iv). Where appropriate, the Market Monitor will also provide the FERC with an estimate of damages equal to (i) the effect on prices multiplied by (ii) the affected energy produced by the Transmission/Generation Owner. The Market Monitor may also request FERC to impose additional sanctions and penalties, which may consist of a fixed dollar amount based on each instance, or an amount up to (i) the effect on prices multiplied by (ii) the affected energy produced by Market Participants other than the Transmission/Generation Owner.

4.6 Monitoring for Market Participant Behavior Possibly Warranting Mitigation

The Market Monitor will monitor Markets and Services for potential abuse associated with the following categories of Market Participant behavior: (1) economic withholding; (2) uneconomic production; (3) physical withholding; and (4) uneconomic Virtual Bids and Virtual Offers. Abuse of these types of behaviors is prohibited. The mitigation measures for each of the behaviors identified in items (1) through (4) of this paragraph are described in Attachment B. When the Market Monitor determines that there is sufficient credible information about a

specific abusive practice, the issue will be referred to the Commission's Office of Enforcement (or its successor organization). Nothing in this section limits the Market Monitor's obligation to refer other suspected market violations to the Commission's Office of Enforcement, even where suspected behavior does not fall explicitly within the abovementioned categories or descriptions.

4.6.1 Uneconomic Production

. The Market Monitor will monitor the Markets+ for uneconomic production and will impose appropriate mitigation measures if such conduct is detected. Uneconomic production ~~from an Resource that~~ is increasing the output of ~~an~~a Resource to levels that would otherwise be uneconomic in order to cause, and obtain benefits from, a transmission constraint.

4.6.2 Monitoring for Virtual Energy Bids and Virtual Energy Offers

The Market Monitor will monitor the level of divergence between the Day-Ahead Market LMPs and the Real-Time Balancing Market LMPs. Section 4.6.3 defines the monitoring metric and thresholds to be used in determining the existence of excessive LMP divergence. In the case that there is excessive LMP divergence, the Market Monitor will determine if the LMP divergence is attributable to the Virtual Energy Bid and Virtual Energy Offer behavior of one or more Market Participants. If the Market Monitor identifies one or more Market Participants as having caused the excessive LMP divergence through Virtual Energy Bid and Virtual Energy Offer behavior, then the Market Monitor will recommend that the Market Operator apply the mitigation measures described in Section 5.4 of Attachment A.

4.6.3 Metric and Threshold Specifications

The Market Monitor computes the hourly LMP deviation between the Day-Ahead Market and Real-Time Balancing Market using the following formula: $[(LMP_{RTBM} / LMP_{DA\ Market}) - 1] * 100$. The average hourly LMP deviation is computed over a rolling four (4) week period or any other period that the Market Monitor determines is appropriate. If the rolling average is below negative ten percent (-10%) or in excess of ten percent (10%), then the divergence is considered excessive and additional analysis is required.

4.6.4 Physical Withholding

(1) Physical withholding and unavailability of facilities includes but is not limited to:

(a) Declaring that a Resource has been derated, forced out of service or otherwise been made unavailable for technical reasons that are untrue or that cannot be verified;

(b) Refusing to provide offers or schedules for a Resource when it would otherwise have been in the economic interest to do so without market power;

(c) Operating a Resource in real-time to produce an output level that is less than the Dispatch Target minus the Resource's Operating Tolerance defined in Section 6.4.1 of Attachment A to this Tariff and the Resource is not exempt from URD under Section 6.4.11 of Attachment A to this Tariff;

(d) Derating a transmission facility for technical reasons that are not true or verifiable;

(e) Operating a transmission facility in a manner that is not economic and that causes a binding transmission constraint, binding reserve zone, Local Reliability Issue, or Emergency Condition; and

(f) Declaring that the magnitude of the capability of a Resource is reduced for reasons that are not true or verifiable. This capability includes but is not limited to the following:

(i) The capability to provide Energy;

(ii) The capability to provide Flexibility Reserve Products;

(iii) In the case of MSRs, the capability to charge and/or to discharge.

(2) Market Participant will ~~not~~ be deemed to not be physically withholding if:

(a) They are following the directions of the Balancing Authority, Reliability Coordinator, transmission service provider, or applicable reliability standards or managing contractual limitations;

(b) They are ~~selling~~making supply available for sale into another market ~~at a~~other than Markets+ where prices are anticipated to be potentially higher ~~price~~;

(c) The Market Participant is reducing the magnitude of the MSR's maximum capability, either charging or discharging, from its true and verifiable physical or

environmental limitations in order to provide that capability for the duration of the minimum clearable commitment period.

(d) The Market Participant satisfies the must offer requirements as detailed in Section 5.1;

(e) They are following ~~water management~~requests or directives pursuant to the legal authority and operational responsibilities of the hydro operator or hydro participant.

4.6.4.1 Thresholds for Identifying Physical Withholding of Resource Capacity

A Market Participant is deemed to be physically withholding capacity if the Market Participant is not deemed to be not physically withholding pursuant to Section 4.6.4 (2) and all of the following conditions exist:

(a) One or more transmission constraints are binding or a Reserve Zone is binding; and

(b) The Market Participant owns or controls one of more Resources that have market power as defined in Section 3.2 of Attachment B of this Tariff; and

(c) One of the following conditions apply:

(1) Such Resource(s) satisfy one of the conditions in Sections 4.6.4(a), 4.6.4(b), or 4.6.4(f) of this Attachment C and the total withheld capacity exceeds the lower of 5 percent of the total capability owned or controlled by the Market Participant or 200 MW; or

(2) Where the real-time output of each such Resource is less than the Dispatch Target minus the Resource's Operating Tolerance defined in Attachment A, Section 6.4.1 of this Tariff and the Resource is not exempt from Uninstructed Resource Deviation under Attachment A, Section 6.4.1.1 of this Tariff.

4.6.4.2 Thresholds for Screening of Potential Physical Withholding of Transmission Facilities

A transmission facility fails the physical withholding screen if either of the following conditions is met:

(a) The transmission facility satisfies a condition in Section 4.6.4(d) or 4.6.4(e) of this Attachment C; or

(b) The Market Monitor identifies a pattern of scheduling outages resulting in increased market costs compared to an alternative and lower cost impact outage schedule.

4.6.4.3 Sanctions

The Market Monitor will record instances where Market Participants have failed the screens in Sections 4.6.4.1 and 4.6.4.2 of this Attachment C. The Market Monitor will notify FERC's Office of Enforcement, or successor organization, of suspected physical withholding behavior. In the event the Market Monitor determines there is credible evidence of a market violation, the Market Monitor will make a referral to FERC as described in Section 4.3 of this Attachment C.

5. Review of Market Activity

5.1 Requests

Any Market Participant or Interested Government Agency may raise any issue with the Market Monitor and request that the Market Monitor consider the issue in its monitoring and reporting. The Market Monitor may include this issue in its monitoring or reporting if it determines it is appropriate to do so. The Market Monitor should not monitor or report on any complaint pertaining to issues not related to Markets and Services or activities not monitored and overseen by the Market Monitor.

Any requests by Market Participants and Interested Government Agencies to the Market Monitor may be made confidentially. The Market Monitor will maintain the confidentiality to the extent practicable.

6. Compliance and Corrective Actions

6.1 Compliance

The Market Monitor will administer the Market Monitoring Plan as described in this Attachment C and will report any actual or potential abuse of market power or market design inefficiencies as part of its monitoring process. However, the Market Monitor's activities are limited to matters that (i) are expressly set forth in this Tariff; (ii) involve objectively-identifiable behavior; and (iii) do not subject the Market Participant to sanctions or other consequences other than those expressly approved by FERC and set forth in this Tariff.

As part of the monitoring process, the Market Monitor may issue a demand letter requesting Market Participants causing the issue to arise to change actions as the Market Monitor deems proper to achieve compliance and the Market Monitor may also engage in discussions with persons or entities other than Market Participants as necessary as part of any investigatory or compliance process.

6.2 Corrective Actions for Market Design

If the Market Monitor discerns any weaknesses or failures in market design and market rules, including the determination that Markets and Services are not resulting in just and reasonable prices or providing appropriate incentives for investment in needed infrastructure, the Market Monitor will advise the appropriate Organizational Group of SPP, the President of SPP, the MSC, appropriate state authorities, FERC, and relevant Market Participants. In the event the Market Monitor believes providing such information could lead to exploitation, it will restrict such notification to the President of SPP, the Chairman of the SPP Oversight Committee, and FERC, and will provide a justification for such limited notification.

Should SPP not respond within 60 days, the Market Monitor may recommend changes in market design and market rules to the Board of Directors, FERC, and the MSC as needed. If SPP responds, but does not recommend changes to market design and market rules that are acceptable to the Market Monitor, the Market Monitor will report to the Board of Directors and the appropriate regulatory body or bodies as needed, and then SPP may file a petition or submission seeking appropriate action from FERC or any other appropriate enforcement agency. The Market Monitor may make recommendations for changes to this Tariff as necessary to correct weaknesses or failures in Markets and Services.

In the event that any weaknesses or failures in market design require immediate corrective action to ensure just and reasonable prices, the Market Monitor may request the President of SPP to authorize an immediate FERC filing requesting implementation of a corrective action while the appropriate Organizational Group of SPP responds to the Market Monitor's notification as described above. The requested immediate corrective action should be the method least intrusive or disruptive to Markets and Services necessary to resolve the market weakness or failure as determined by the Market Monitor. Prior to making such a request to the President of SPP, the Market Monitor will make reasonable efforts to discuss with affected Market Participants and the staff of affected Interested Government Agencies the market weakness or failure potentially requiring immediate corrective action, unless the Market Monitor determines that such discussions would lead to exploitation.

7. Periodic Reports and Updates to SPP, Government Agencies, and Market Participants

7.1 Reports and Updates to the Board of Directors

7.1.1 State of the Market Reports

(1) The Market Monitor will publish an annual state of the market report providing details on the market for the previous year. As a part of its annual reports, the Market Monitor may make recommendations regarding any matter within its purview as defined in the Tariff. The Market Monitor will submit and present on its annual state of the market report to the Oversight Committee and Board of Directors.

(2) The Market Monitor will publish a quarterly state of the market report providing details on the market for the previous quarter. As part of its quarterly reports, the Market Monitor may make recommendations regarding any matter within its purview as defined in the Tariff. The Market Monitor will post the quarterly state of the market report on the Market Operator's website.

Any such reports may be subject to confidentiality provisions consistent with Section 8.1.

7.1.2 Market Monitor Activities Report

The Market Monitor will also prepare and submit to the Oversight Committee quarterly updates on Market Monitor activities emphasizing any issues of concern to the Market Monitor.

7.1.3 Report Comments

SPP and Market Participants may comment on any public reports made pursuant to this section, through the appropriate stakeholder process or directly to the Market Monitor. The independent Market Monitor maintains discretion to disregard any comments or suggestions with which it disagrees.

7.2 Reports to Government Agencies, the Market Operator, and Market Participants

After an annual review of the performance of the wholesale markets as discussed in Section 1.3.2 of this Attachment C, the Market Monitor will provide its annual State of the Market Report to FERC, the SPP Board of Directors, the Market Operator, state commissions, Market Participants, and other interested entities. The Market Monitor will also make available, as described below, the reports provided to the Board of Directors and other such reports as may be requested by the FERC or such authorities subject to protection of confidential, proprietary and commercially sensitive information and the protection of the confidentiality of ongoing monitoring activities.

7.2.1 The Market Monitor will submit such reports to the FERC and other affected regulatory authorities, including the Markets+ State Committees.

7.2.2 These Market Monitor reports are made available on the Market Operator's website.

7.2.3 The Market Monitor will hold conference calls related to these reports. Any interested party may attend these conference calls. The Market Monitor will make one or more of its staff members available for regular conference calls. Individual entities may request meetings to discuss these reports.

8. Data Access, Collection and Retention

8.1 Confidentiality

SPP and Market Participants may designate Data and Information as Confidential Information consistent with the terms of SPP's Membership Agreement and Section 10 of Attachment A. If the designation of Confidential Information appears to be unreasonable, the Market Monitor may challenge such designation of Confidential Information consistent with Section 10 of Attachment A.

The Market Monitor will provide Confidential Information to Interested Government Agencies consistent with the terms of Section 10.4 of Attachment A.

8.2 Access to Data and Information

The Market Monitor must have access to all market impacting Data and Information. This Data and Information will be gathered or generated by the Market Operator, participating Balancing Authority, or Market Participant. This Data and Information includes, but is not limited to the operational data, listed in Section 4 of this Plan, gathered or generated by all market impacting entities which may include the Market Operator, Balancing Authority, Reliability Coordinator, and transmission service provider. All Data and Information listed in Section 4 of this Plan must be retained for a minimum period of six years.

8.3 Access to Market Participant Data and Information

Market Participants must retain Data and Information listed below, and in Section 4 of this Plan as applicable, that is in the custody and control of Market Participants, for a minimum of six years and must promptly provide any such Data and Information to the Market Monitor upon request, unless such Data and Information is not required for sharing with the Market Monitor as detailed in this section.

Market Participants must provide the Data and Information to the Market Monitor, upon request, unless explicitly exempted in a Markets+ participant agreement. Requested Data and Information must be shared in a commonly used format along with a description of the data and format. Market Participants will not continuously share data on Resources beyond what is necessary to represent the resource's generation capability in the market optimization software for the applicable period. If necessary, due to proprietary format restrictions, the Market

Participant must provide the data to the Market Monitor in a non-proprietary format, such as CSV or XML format along with a description of the data and format. Market Participants may designate such Data and Information as Confidential Information, but such Data and Information must not be redacted or modified in any manner prior to delivery to the Market Monitor by the Market Participant.

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~~Market Participants must provide the Data and Information to the Market Monitor, upon request, in a commonly used format along with a description of the data and format. If necessary, due to proprietary format restrictions, the Market Participant must provide the data to the Market Monitor in a non-proprietary format, such as CSV or XML format along with a description of the data and format. Market Participants may designate such Data and Information as Confidential Information, but such Data and Information must not be redacted or modified in any manner prior to delivery to the Market Monitor by the Market Participant.~~

Unless explicitly exempted in a Markets+ participant agreement, Market Participants must retain the following Data and Information for all parties affiliated with the Market Participant and provide it to the Market Monitor upon request:

(a) All Data and Information relating to the costs of operating a resource, including but not limited to, heat rates, start-up fuel requirements, fuel purchases, environmental costs, and operating and maintenance expenses;

(b) All Data and Information regarding opportunity costs of a resource, including but not limited to, regulatory, environmental, technical, or other restrictions that limit the run-time or other resource operating characteristics;

(c) All Data and Information relating to the operating status of a resource, including but not limited to logs showing the status of a resource, including information relating to an outage or derate;

(d) All Data and Information relating to the operating status of a transmission facility, a contingency, tap setting of a phase shifting transformer, or other operating consideration, including but not limited to an outage or derate of a transmission system component;

(f) All Data and Information relating to the ability of a Market Participant or its affiliate to determine the pricing or output level of resource capacity owned by another entity, including but not limited to any document setting forth the terms or conditions of such ability;

(g) All Data and Information used in the course of business operations in arriving at a decision by a reserve sharing group member to call an operating reserve contingency and to request assistance;

If any additional Data and Information not listed above or in Section 4 of this Plan is required from Market Participants by the Market Monitor for the purpose of fulfilling its responsibilities, the Market Monitor may request such Data and Information from Market Participants, unless such Data and Information is explicitly excluded as a sharing obligation in this Section, or exempted in a Markets+ participant agreement. Such eligible Data and Information must be provided in a timely manner by Market Participants. If a Market Participant receiving a request for Data and Information not listed above or in Section 4 of this Plan believes that production of the requested Data and Information would impose a substantial burden or expense, or would require the party to produce information that is not relevant to achieving the purposes or objectives of this Plan, the Market Participant receiving the request should promptly notify the Market Monitor. If the Market Monitor determines that the request can be narrowed or otherwise modified to reduce the burden or expense of compliance, the Market Monitor may modify the request. No party that is the subject of a data request will be required to produce any summaries, analyses, or reports of the data that do not exist at the time of the data request, other than a description of the data.

If the Market Monitor determines that the requested Data and Information has not or will not be provided in a timely manner, the Market Monitor may (a) follow the dispute resolution procedures under this Tariff or under the SPP Markets+ Bylaws as applicable or (b) make a filing with the appropriate regulatory or enforcement agency to compel the production of the requested information.

8.4 Data Created by Market Monitor

Any data created by the Market Monitor, including any reconfiguration of Data and Information under this section, will remain within the Market Monitor's exclusive control. Such data may be shared at the Market Monitor's sole discretion and on a non-discriminatory basis, subject to the confidentiality provisions specified in this Attachment C and Section 10 of Attachment A.

9. Miscellaneous Provisions

9.1 Rights and Remedies

This Plan does not restrict SPP and Market Participants from asserting any rights they may have under state and federal regulation and laws, including initiating proceedings before the FERC regarding any matter which is subject to this Plan.

9.2 Disputes

Disputes as to the implementation of, or compliance with, this Plan are subject to the dispute resolution procedures under this Tariff or under the SPP Markets+ Bylaws as applicable or subject to review by FERC.

10. Review of Market Monitor

The activities of the Market Monitor will be reviewed from time to time by the Board of Directors.

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, April 9, 2024 7:46 AM
To: Mantifel,Russell (BPA) - MTM-3; Detmer, Nick
Subject: [EXTERNAL] FW: Markets+ Design Working Group - Seeking Public Power Nominations
Attachments: MDWG Scope_040123.pdf

Good morning gentlemen –

Wanted to let you know that I have not received any submissions for this and it closes tomorrow. Do you have anyone you'd like to reach out to, to encourage to nominate either themselves or some else? Here is the current PP MDWG rostered reps:

First Name	Last Name	Company
Russell (Chair)	Mantifel	Bonneville Power Administration
Adam	Cornelius	Snohomish County Public Utilities
Alycia	Kramer	Basin Electric Power Cooperative
Jeff	Spires	Powerex Corp
Laura	Olson	Salt River Project
Paul	Dietz	Grant County Public Utility District
Rick	Applegate	Tacoma Power
Tuuli	Hakala	Chelan County Public Utility District
VACANCY	VACANCY	VACANCY

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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Working together to responsibly and economically keep the lights on today and in the future.

From: Kristen Darden
Sent: Friday, March 29, 2024 3:04 PM
To: Markets Plus Participant Executive Committee (Members Only) <MarketsPlusParticipantExecutiveCommittee@spp.org>
Cc: Markets+ Market Design Working Group (Members Only) <MarketsPlusMarketDesignWorkingGroup@spp.org>
Subject: Markets+ Design Working Group - Seeking Public Power Nominations

Greetings,

The Markets+ Design Working Group (MDWG) is seeking nominations to fill **One Public Power** vacancy for voting representation. If there are any members that would like to nominate a candidate for this vacancy, please complete the online nomination form here by **4/10/2024**.

Please find the MDWG scope statement attached. The following questions can help you determine who qualifies to fill the vacancy. When selecting members, the MDWG chair/vice-chair and secretary will consider these factors:

- Do they have the necessary expertise to represent their company in this group?
- Have they participated in the MDWG as an attendee? If not, how can they demonstrate their expertise and ability to be an effective MDWG member?
- Do you think their participation in MDWG has been viewed by others as productive?
- Do they have time to prepare for, attend, and actively engage in MDWG meetings?
- Will they be able to advocate for the region's needs in addition to their company's needs?
- Are they willing to collaborate with the MDWG to find solutions to identified issues?
- Will they positively contribute to the MDWG balance (sector representation, geographical diversity, underrepresented skillset, etc.)?

With questions, reach out to MDWG Staff Secretary, Kristen Darden, kdarden@spp.org, or 501-749-3339.

Thank you.

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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MARKETS+ DESIGN WORKING GROUP

Organizational Group Scope Statement

4/18/2023

PURPOSE

The Markets+ Design Working Group (MDWG) is responsible for the development and oversight of policies and procedures related to the Markets+ Market Tariff and Protocols that define Southwest Power Pool (SPP) administered wholesale market(s), including energy and flexibility reserve products, and Day-Ahead Market congestion rent allocation, greenhouse gas state policy, congestion management, demand response and market power mitigation with Markets+. The MDWG proposes policy additions and changes to the SPP Markets+ Tariff and other governing documents needed to implement suggested market changes. The MDWG provides recommendations and policy input to the Markets+ Participant Executive Committee (MPEC).

SCOPE OF ACTIVITIES

In carrying out its purpose, the MDWG:

1. Develops and recommends the overall Markets+ Tariff and Markets+ Market Protocols language.

2. Proposes changes to the SPP Markets+ Tariff and other applicable governing documents to implement or enhance the Markets+ wholesale market.

3. Proposes modifications to SPP processes necessary to implement any SPP administered Markets+ wholesale market.

4. Participates in oversight of any ongoing Markets+ market development process.

5. Coordinates with regulators and task forces in implementation of SPP administered Markets+ wholesale market.

6. Coordinates with other SPP Markets+ organizational groups and task forces, as appropriate, in the development of market changes.

7. Develops a recommendation for prioritization of market system changes to MPEC.

8. Works with other SPP Markets+ organizational groups and tasks forces, to prioritize all MPEC approved system and process changes.

9. Avoid activities that would result in marketing function employees of Markets+ Market Participants gaining access to non-public transmission system information.

The MDWG will record all voting and actions taken during every meeting and post documented minutes publicly on SPP.org

REPRESENTATION

The MDWG is comprised of at least nine and up to 24 Markets+ Market Participants and Markets+ Market Stakeholders, including a chair and vice-chair. The MDWG shall maintain a balance of one-third investor-owned utilities, one-third public power entities, and one-third independent entities, unless otherwise approved by the MPEC. The MDWG shall also include one non-voting ex-officio representative appointed by the Markets+ States Committee (MSC).

Representatives should have expertise in wholesale energy markets and energy policies. MDWG representatives shall represent the diversity of the Markets+ stakeholders.

REPORTING

The MDWG reports to the MPEC for all activities. As necessary, the MDWG may appoint a representative of the MDWG as a liaison to other SPP Markets+ Organizational Groups and task forces for specific issues or action items being coordinated. The MDWG shall operate in accordance with Section 2.3.4 of the Markets+ Proposed Service Offering.

From: Kristen Darden <kdarden@spp.org>
Sent: Friday, January 19, 2024 8:54 AM
To: Mantifel,Russell (BPA) - MTM-3; Detmer, Nick
Cc: Carrie Simpson
Subject: [EXTERNAL] Today's MDWG Meeting

Good morning –

Update on today's agenda and what to expect:

1. **Agenda Item 2a: Billing** - During the 1/16 MDWG, we discussed adding CPT to the invoice timing. We decided since the entire tariff is considered PPT, we adjusted the 5PM CPT to 3PM and it is understood it's PPT.
2. **Agenda Item 2b: Settlements** – During our continued holistic review this week of the tariff, we found a couple sections that were inadvertently missed from original posting. Here are the newly added that we would still like to have approval today so that it can go Tuesday to MPEC. With this, all that's lacking is GHG Settlements:
   a. 9.2.16 Day-Ahead Must-Offer Penalty Charge Amount
      9.3.22 Real-Time Combined Interest Resource Adjustment Amount
      9.3.23 Real-Time Pseudo-Tie Out Congestion Amount
      9.3.24 Real-Time Pseudo-Tie Out Loss Amount
      9.3.25 Real-Time Uninstructed Resource Deviation Amount
      9.3.25.1 Real-Time Uninstructed Resource Deviation Exemptions
      9.3.26 Real-Time Uninstructed Resource Deviation Distribution Amount
      9.3.27 Real-Time Must Offer Penalty Charge Amount
      9.3.28 Real-Time Must Offer Penalty Distribution Amount
      9.3.29 Real-Time Incremental Energy Make Whole Payment Amount
      9.3.30 Reliability Unit Commitment Self-Incremental Energy Make Whole Payment Amount
3. Newly Added Agenda Item 3a: MIESSA (internals) – Discuss the proposed location for the approved Powerex language and discuss BPA's notes.

Proxies/Attendance Notes:

- Jason Byram (BEPC) for Alycia Kramer (BEPC)
- Steve Szablya (Xcel) for our trust vice-chair Nick
- Dan Williams (TEA) for Laura Trolese (TEA)
- Laura Olson (SRP) for Barbara Cenalmor (SRP)
- Sydney Welter (WRA) for Vijay Satyal (WRA)
- Tuuli will be 30 mins late to the call

That should be it.

PS – I purchased Starlink Internet two nights ago (tootles DSL internet). I am anxious to see how the MDWG WebEx handles it.

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)

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SOUTHWEST POWER POOL, INC.
MARKETS+ DESIGN WORKING GROUP MEETING
November 17th, 2023
Net-conference
10:30 a.m. – 5:00 p.m., CPT
(8:30 a.m. – 3:00 p.m., PT)
(9:30 a.m. – 4:00 p.m., MT)

1. Administrative Items ..... Russ Mantifel (5)

   A. Call to order

   B. Statements: Notice of Recording & Anti-trust Statement

      i) **Material:** 01b-MarketsPlus_Intro Slides.pptx

      ii) **Note**: Staff Secretary (SS) read both slides (*Notice of Recording & Anti-trust*)

   C. Attendance & Agenda Review.

      i) SS/Russ call for proxies.

         (1) 2 received:

            (a) Laura Olson (SRP) for Barbara Cenalmor (SRP)

            (b) Sydney Welter (WRA) for Vijay Satyal (WRA)

2. Review of Past Action Items ..... Kristen Darden (2)

      i) **Material:** 02-MDWG_Action Item Report_111723.docx

   B. MDWG AI#10: Must-Offer Obligation Design

      i) **Recommend Closure #10** – Design to be reviewed during this meeting.

   C. MDWG AI#17: Attachments B and C Feedback Requested

      i) **Recommend Closure #17** – Any comments received are in background materials (SRP and SCPUD).

3. Liaison Report

   A. MCRTF ..... Jeff Spires (3)

      i) No materials.

ii) **Note:** Brief update from Jeff. MCRTF approving language 11/27. Will review CR language during the 11/28 MDWG.

4. Consent Agenda (Approval Items)..... Kristen Darden (3)

i) **Materials:** 04a-10 26 2023 MDWG Minutes.docx
04b-11 03 2023 MDWG Minutes.docx

ii) **Note:** Both minutes for approval. Ask if anyone wants to review either one, if none, ask for a motion, second, and call to vote.

iii) **Next steps:** Need approval.

B. 10/26/2023 MDWG Minutes

C. 11/3/2023 MDWG Minutes

5. Tariff Review (Approval Items) (315)

A. MPEC AI10 - Attachment A, Sec. 4.2.6: Resource Aggregation~~Kristen Darden~~Kelli Schermerhorn (15)

i) **Material:** 05a-MPEC AI10_Attachment A_Sec 4.2.6 Resource Aggregation.docx

ii) **Note:** Wasn't thinking and put my name down for this. Will need Kelli to cover. Very straightforward: MPEC took an AI 10/19, to send back Attachment A, Sec 4.2.6 (Resource Aggregation) final sentence, to the MDWG to update one sentence with specific verbiage, adding clarification on hydro aggregation.

iii) **Next steps:** Approval. MPEC approval 12/6.

B. Attachment A, Sec. 4.1(9), 6.2, 6.8, 6.9: Real Offer Parameters~~Kristen Darden~~Chris Nolen (15)

i) **Material:** 05b-MarketsPlus_Attachment A_Real Parameters_Sec 4.1_6.2_6.8.docx

ii) **Note**: Same deal here. Wasn't thinking and put my name. I moved to Chris, because this item is currently in the M+ legal group's hands. I forgot they want to review it 11/27. This will be back 11/28 MDWG for action. This is the language that we have gone back and forth on with MMU on specifying "actual and verifiable" outages and parameters, and duty of candor.

iii) **Next steps**: No action. 11/27 MLG Review; 11/28 MDWG Approval.

C. Attachment A: Markets+ Settlements..... Steve White (90)

i) **Material:** 05c-Attachment A_Section 9_Settlements.docx

ii) **Note**: Steve take the lead on this. Reviewing through all settlements language lots of it – DA, RT; the whole kit and caboodle.

iii) **Next steps**: Would love approval at this time, but also understand it may be a whole lot to digest. 11/28 would not be the end of the world.

D. Attachment A: Scarcity Pricing..... ~~Jim Gonzalez~~Carrie Simpson/Chris Nolen (60)

i) **Material**: 05d-Attachment A_Sec 2.1.2.1_2.3.1.2_3.6_3.6.1_5.3_Appendix 1_Price Formation_DRAFT.docx

ii) **Note:** Recap the discussion that the small group had 11/13. Need to nail down limits and approve them. Probably won't want to modify language on the fly, but will look to you all on your preference there.

iii) **Next steps:** Need approval of limits and corresponding language. 11/28 MDWG may be the next date for corresponding language, if we can get limits approved during the meeting.

E. Attachment B: Market Monitoring Plan ..... Kelli Schermerhorn/Jared Greenwalt (20)

i) **Material**: 05e-MarkestPlus_Attachment B_Market Power Mitigation Plan_111723.docx

ii) **Note:** Kelli lead. Jared can chime in from MMU perspective. Kelli is working with SRP and SCPUD to get their comments addressed. Those are the only ones we have received.

iii) **Next steps:** Approval.

F. Attachment C: Market Power Mitigation PlanKelli Schermerhorn/Jared Greenwalt (20)

i) **Material:** 05f-MarketsPlus_Attachment C_Market Monitoring Plan_111723.docx

ii) **Note:** Kelli lead. Jared chime in from MMU perspective. Kelli working with SRP to get comments addressed.

iii) **Next steps:** Approval.

G. Resource Adequacy: Must Offer Obligation..... Tyler Moore (30)

i) **Material**: 05g-Attachment A_Special Rules and Provisions_Must Offer Obligation_111723.docx

ii) **Note:** Tyler Moore (APS/Chair of MRATF) leading the discussion. Kelli support. MORWG reviewed 11/15, MSWG reviewed 11/16.

iii) **Next steps:** Endorsement/Approval from the MDWG. MRATF is the secondary; MSWG is primary. We are strictly making sure it doesn't break overall market design.

H. Partial Year..... Steve White (15)

i) **Material:** 05h-Attachment A_Appendix 2_MTU Partial Year Entry.docx

ii) **Note:** Joe Taylor (Xcel/MTWG Chair) unable to be on. Steve White to present. He worked on it at the MTWG earlier this week. It's an extra section within the MTU template protocols (Appendix 2 to Attachment A).

iii) **Next steps:** Endorsement/Approval from the MDWG. MTWG is primary. We are strictly making sure it doesn't break overall market design.

I. Section I: Common Service Provisions..... Chris Nolen (30)

i) **Material:** 05I-MarketsPlus Tariff_Section I_Common Service Provisions_111723.docx

ii) **Note:** Do not want to spend a lot of time here. Chris lead. M+ legal group thoroughly reviewed, modified, and endorsed.

iii) **Next steps:** Approval.

J. Attachment A, Addendum 1: Load Responsible Entity Attestation..... Chris Nolen (20)

i) **Material:** 05j-MarketsPlus Tariff_Attachment A Addendum_LRE Attestation_111723.docx

ii) **Note:** Do not want to spend a lot of time here. Chris lead. M+ legal group thoroughly reviewed, modified, and endorsed.

iii) **Next steps**: Approval.

6. Tariff Review..... SPP Staff (15)

A. Outs-Ins/Internals

i) **Material:** 06a1-MarketsPlus Outs_Ins_Internals_111723.pptx
06a2-MarketsPlus_Attachment A_Section 9.1.2_Outs_Ins_Internals_DRAFT.docx

ii) **Note:** Start with PPT, then move to tariff language.

iii) **Next steps**: Approval during the 11/28 MDWG meeting.

7. Summary of Motions and Action Items..... Kristen Darden (2)

8. Future Meetings ..... Kristen Darden (2)

   A. 11/28 MDWG Future Meeting Registration
      Date: November 28th, 2023
      Location: Net-Conference
      Time: 10:30 a.m. – 5:00 p.m., CPT/9:30 a.m. – 4:00 p.m., MT/8:30 a.m. – 3:00 p.m., PT

9. Open Discussion ..... All (5)

10. Adjournment ..... Russ Mantifel

From: Mantifel,Russell (BPA) - MTM-3

Sent: Thu Feb 22 08:50:36 2024

To: Kristen Darden; Markets+ Market Design Working Group (Members Only)

Cc: Laura A Olson

Subject: **External Email** RE: [EXTERNAL] MDWG Roster Update: Laura Olson with Salt River Project (SRP)

Importance: Normal

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - rxmantifel@bpa.gov and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Welcome, Laura! You've already been a great addition to the group!

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, February 22, 2024 8:10 AM
To: Markets+ Market Design Working Group (Members Only) <MarketsPlusMarketDesignWorkingGroup@spp.org>
Cc: Laura A Olson <Laura.Olson@srpnet.com>
Subject: [EXTERNAL] MDWG Roster Update: Laura Olson with Salt River Project (SRP)

Good morning MDWG members –

Please join me in welcoming Laura Olson with Salt River Project (SRP) to the MDWG (MadWagon) as a rostered Public Power representative, replacing Barbara Cenalmor with SRP. The MPEC approved her nomination during their 2/20 meeting. Laura has been super involved with the MDWG and we are thankful for her willingness to join us!

Welcome to the Madwagon, Laura!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)

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From: Truong,Mai N (BPA) - TSB-TPP-2
Sent: Tuesday, July 23, 2024 10:01 AM
To: Carman Ruder; Wolfgang, Tracy; Kelli Schermerhorn
Cc: Eaton,Sara L (BPA) - PTMA-5; Mantifel,Russell (BPA) - MTM-3
Subject: RE: [EXTERNAL] RE: Market Timelines Section 9.5

Sounds good. Thanks, Carmen!

From: Carman Ruder <cruder@spp.org>
Sent: Tuesday, July 23, 2024 9:51 AM
To: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Wolfgang, Tracy <twolfgang@utilicast.com>; Kelli Schermerhorn <kschermerhorn@spp.org>
Cc: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Subject: [EXTERNAL] RE: Market Timelines Section 9.5

Hey there –

All of section 9 is currently being drafted. We have section 9 tentatively on the 8/15-16 MDWG agenda.

Thanks!

Carman

From: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Sent: Monday, July 22, 2024 1:19 PM
To: Wolfgang, Tracy <twolfgang@utilicast.com>; Kelli Schermerhorn <kschermerhorn@spp.org>; Carman Ruder <cruder@spp.org>
Cc: Eaton, Sara <sleaton@bpa.gov>
Subject: **External Email** Market Timelines Section 9.5

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - mntruong@bpa.gov and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Hi Ladies,
I didn't want to derail the MDWG so emailing my question instead. I've heard that MDWG will be drafting protocol Section 9.5 - Market Timelines. Do you have an update on when section 9.5 will be shared at the MDWG?

Thanks,
Mai

Mai Truong
Senior Markets Policy Analyst | Transmission Sales and Marketing | TSB
BONNEVILLE POWER ADMINISTRATION
C: (b)(6) P: 503-230-3905 | mntruong@bpa.gov

From: Carrie Simpson <csimpson@spp.org>
Sent: Monday, March 4, 2024 11:08 AM
To: Mantifel,Russell (BPA) - MTM-3; Meyers,Andrew P (BPA) - MTM-3; Truong,Mai N (BPA) - TSB-TPP-2
Subject: [EXTERNAL] FW: Update for Phase 1 M+ Funding Parties

---

From: Carrie Simpson
Sent: Friday, February 9, 2024 10:58 AM
To: Engelby, Ben <bengelby@azgt.coop>; Parker, Bradley <brad.parker@libertyutilities.com>; Cole, Brian <brian.cole@aps.com>; Yourkowski, Cameron <cameron.yourkowski@patternenergy.com>; Robinson, Chris <CRobinson@cityoftacoma.org>; Walter, Dan <dwalter@tristategt.org>; Rubin, David <David.rubin@nvenergy.com>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Maddock JP <JPMaddock@bepc.com>; Jones, Jill <jjones@nmppenergy.org>; Taylor, Joseph <Joseph.c.taylor@xcelenergy.com>; Paulsen, John <paulsen@wapa.gov>; Robertson, Josh C <Josh.Robertson@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Haines, Phil <philip.haines@pse.com>; Dibble, Rachel <rldibble@bpa.gov>; Flanigan, Richard <rflanig@gcpud.org>; (b) (6) @tep.com>; Hakala, Tuuli <tuuli.hakala@chelanpud.org>
Cc: Antoine Lucas <alucas@spp.org>; Michael Riley <michael.b.riley@spp.org>
Subject: Update for Phase 1 M+ Funding Parties

Hello MPEC representatives of the funding parties,

We are reaching out to provide an overview of upcoming key dates and information related to the next steps for Phase 1, Post-Phase 1, and Phase 2 funding details.

Phase 1 and Post-Phase 1 terms are included in the existing Phase 1 Funding Agreement. Upon filing the Tariff and other governing documents at FERC, the contract moves to the Post-Phase 1 phase and a monthly payment to SPP by the funding parties ($500K shared across the parties). The remaining funds from Phase 1 ($9.7 million) will support the drafting of the Protocols. The $500K/month supports SPP's responses, technical analysis, and research necessitated by the pendency at FERC.

At this time, SPP is **not** proposing a separate contract to begin Phase 2A (originally estimated at $10 million) in 2024 to work on design requirements and Phase 2 planning.

Below is a summary of dates and details. Please let us know if you have any questions or would like to discuss.

Thank you for all of your hard work!

Carrie

Phase 1: creation of the Tariff and other governing documents filed with FERC. ($9.7 million shared by funding parties in April 2023)

- February 20th – Virtual MPEC meeting to recommend approval of the Markets+ Tariff
- March 1st – Virtual IMIP meeting to recommend approving the Markets+ Tariff to the SPP Board for filing at FERC
- March 25th – Virtual SPP Board meeting to recommend approving the Markets+ for filing at FERC
- March 29th - anticipated filing of Tariff at FERC and completion of contractual terms of Phase 1.
- April through December 2024: Drafting and completion of Protocols supporting the Tariff

Post Phase 1: SPP work required to support the responses, technical analysis, and research necessitated by the FERC filing. ($500K per month shared by funding parties with estimated start April 2024 through approval by FERC).

- April 2024 and through FERC approval **(Invoicing begins April 30th for April services)**
- Existing governance structure remains in place

Phase 2: begins upon FERC approval and encompasses the systems and process changes necessary for implementation.

- Separate contract for the seamless transition to funding of implementation of Markets+ **(Draft contract will be shared in Q2)**
- Governance structure to be finalized by MPEC in 2024
- Anticipated start date is 30 to 45 days after FERC approval **(estimated January 2025)**

Carrie L. Simpson (she/her/hers) | Senior Director, Seams & Western Services | csimpson@spp.org | (b) (6)
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool

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From: Robinson, Chris <CRobinson@cityoftacoma.org>
Sent: Monday, July 22, 2024 9:13 AM
To: (b)(6) Spires, Jeff; Holman, Mark; Josh Robertson; Martin Marcie L; Zahnow, Jessica Lynn; Phil Haines; Mantifel,Russell (BPA) - MTM-3; Dibble,Rachel L (BPA) - PT-5; Hayes,Matthew C (BPA) - MTM-3; Brian.Cole@aps.com; Hakala, Tuuli; Jaspers, Janet; Egge, Eric; dan.walter@tristategt.org; Johnson, Ray; Zyskowski, Jason; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan; Joe Taylor; (b)(6) (b)(6)
Cc: Kent.Walter@aps.com; Aitken, Meredith
Subject: [EXTERNAL] Re: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

Thank you for putting this together. I appreciate (b)(6) edits. Tacoma Power would like to sign on, assuming individual utilities are signing on.

Thanks
Chris

From: (b)(6) @Tep.com>
Sent: Monday, July 22, 2024 8:55:49 AM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Brian.Cole@aps.com <Brian.Cole@aps.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org <dan.walter@tristategt.org>; Robinson, Chris <CRobinson@cityoftacoma.org>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com <GBMarr@Snopud.com>; ACCornelius@Snopud.com <ACCornelius@Snopud.com>; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) @tep.com>
Cc: Kent.Walter@aps.com <Kent.Walter@aps.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

(b)(4)

(b)(4)

[redacted]

From: (b)(6) [redacted]@tep.com>
Sent: Friday, July 19, 2024 4:03 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Brian.Cole@aps.com; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) [redacted]@tep.com>
Cc: Kent.Walter@aps.com; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

(b)(4)

[redacted]

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, July 19, 2024 6:10 AM
To: Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Brian.Cole@aps.com; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) [redacted] (b)(6) [redacted]@tep.com>;(b)(6) [redacted]@tep.com>
Cc: Kent.Walter@aps.com; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

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***** REPORT ANYTHING SUSPICIOUS *****

Good morning all,

Last week during the Monday Markets+ funding party executive call there was discussion followed by general consensus on the call for developing a series of "Issue Alerts" that could be shared publicly by Markets+ funding entities, with one Issue Alert released every two weeks or so, to provide some balance to the recent industry dialogue that has been narrowly focused on seams issues and the Pathways initiative. The objective is to publicly issue (to Clearing Up and possibly elsewhere) these short summaries (one on governance and then 5-6 on specific market design topics) that details the benefits of Markets+ relative EDAM/EIM in each of these areas to better explain the continued support for Markets+.

A smaller group (PWX, CHPD, BPA, PSE, APS, and SRP) have worked together on the first paper on governance (see attached). We expect each of those entities will sign on except for BPA based on certain limitations they have related to their ongoing public process.

Please keep this letter **confidential** for now. We request that each of you confirm whether you will sign on by the ***end of the day on Monday.***

This effort is being coordinated by Kent Walter (APS) and myself so please feel free to reach out to us with any questions. Please note I am on vacation starting next week; Meredith Aitken will be the Powerex point of contact on this while I am away.

Regards,
Jeff

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From: Kochheiser,Todd W (BPA) - TOI-DITT-2
Sent: Wednesday, August 16, 2023 2:00 PM
To: Spires, Jeff; Mantifel,Russell (BPA) - PGL-5
Cc: Holman, Mark; Willis, Wendy; Truong,Mai N (BPA) - TSB-TPP-2; Eaton,Sara L (BPA) - PTMA-5
Subject: RE: [EXTERNAL] Follow up on Import/Export/Wheels

Hi Jeff,

Below are some times that might work. Please add Sara and Mai to the invite.

Todd

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Wednesday, August 16, 2023 6:35 AM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>
Cc: Holman, Mark <Mark.Holman@powerex.com>; Willis, Wendy <wendy.willis@powerex.com>
Subject: [EXTERNAL] Follow up on Import/Export/Wheels

Hi Russ, Todd

We thought it might be useful to have a follow up conversation on the Markets+ imports/exports/wheels approach. Are you two (and any others interested at BPA) available for a call? If so, here are a few times that work on our end:

- Thursday 8/17 130 – 3 pm 2:00-2:30
- Monday 8/21 9 am – 11 am 9:00-10:00
- Tuesday 8/22 1 pm – 4 pm
- Wednesday 8/23 9 am – 11 am 9:00-10:00

Thanks
Jeff

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From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, August 3, 2023 1:28 PM
To: Detmer, Nick; Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] RE: 8/10 MDWG Agenda

Thanks, Nick! I'm so sorry, but hopefully that means you'll be home sooner too. ☺

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Thursday, August 3, 2023 3:19 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: 8/10 MDWG Agenda

CAUTION: This email originated from outside of the SPP network. Do not click links or open attachments unless you recognize or can verify the sender, or were expecting an email from the sender. The original sender of this email is nick.detmer@xcelenergy.com

I am good with he Agenda and the times. I may need to change my flight now.....

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, August 3, 2023 1:22 PM
To: Detmer, Nicholas J <nick.detmer@xcelenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: 8/10 MDWG Agenda

EXTERNAL - STOP & THINK before opening links and attachments.

Hey there –

I've attached the 8/10 MDWG agenda for your review. The agenda and materials will be posted today. The majority of the conversation will be carryover from the 7/26 call where we didn't get to Flex Products. I also have Market Participant and Market Operator obligations as a discussion item, if time allows.

Question: Do you two have any heartburn on having the meeting run from 8:30-11:30 instead of the originally planned 8:30-12:00? The SPP staff that will be there are taking a 1:56PM flight out so that we do not have to stay an additional night and ending at 11:30 allows us time to get to the airport. I figure that the majority of individuals may be at the "meeting fatigue" stage by then too. ☺

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

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From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Wednesday, May 29, 2024 9:53 AM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] Quick call?

Hi Russ,

I was hoping to find some time to check in with you on a few Markets+ topics. Would you have a half hour tomorrow or Friday for a quick call?

Jeff

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From: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>
Sent: Thursday, July 11, 2024 9:38 AM
To: Tuuli Hakala; Jeff Spires
Cc: Kent.Walter@aps.com; Mantifel,Russell (BPA) - MTM-3; Josh Robertson
Subject: RE: [External] Markets+ Issue Alerts

Yes, thank you, Jeff! And thanks for including us.
I'm available Monday morning 9-11:30 am. Apologies for the limited availability.

Jessica Zahnow
State & Regional Policy – Regional Markets
Phone: (b)(6)

PUGET SOUND ENERGY

From: Tuuli Hakala <Tuuli.Hakala@chelanpud.org>
Sent: Wednesday, July 10, 2024 6:48 PM
To: Jeff Spires <jeff.spires@powerex.com>
Cc: Kent.Walter@aps.com; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Josh Robertson <Josh.Robertson@srpnet.com>
Subject: Re: [External] Markets+ Issue Alerts

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Phishing? Click the PhishAlarm **"Report Phish"** button.

Thanks so much for getting the first draft together. I could meet 9-10 Friday or anytime Monday morning. No hard feelings if another time slot works better for others and I provide any edits/comments via email.

On Jul 10, 2024 4:15 PM, "Spires, Jeff" <Jeff.Spires@powerex.com> wrote:

PAUSE TO CONSIDER: The actual sender address for this email is jeff.spires@powerex.com.
Do you trust this message and any contents within?
If not, please forward it to our Phishing Hole for analysis. Thank You!

Hi all,

This email is a follow up to the discussion on Monday's Markets+ funding party executive call in which there was agreement to develop a series of "Issue Alerts" that could be shared publicly by Markets+ funding entities over the coming weeks, as a means to provide more proactive messaging about Markets+. I am reaching out to this smaller group based on the entities that expressed interest in helping with development of the documents. If you are aware of others that would like to be involved, please let me know and we can include them going forward.

The high level topics that were identified during the call are below. It was also discussed that ideally all 6 documents would be published by the end of August which means timelines are tight and we will need a cadence of nearly weekly to achieve that.

Topics:

1. Governance

    - Markets+ vs Pathways
2. Reliability
    - Markets+ (WRAP, Must Offer) vs EDAM Resource Sufficiency
3. Price Formation
    - Fast Start, Scarcity, Market Power Mitigation
4. Seams Issues
    - Determining Priority to Flow
    - Congestion Revenue Allocation
    - Seams Agreements
5. GHG Attribution
6. Operator Actions & Modelling

In an effort to help move forward quickly, we put together an initial draft of the first paper on governance for your review and feedback (see attached). Ideally the first paper would be finalized by next Wednesday so that it could make Clearing Up on Friday. This will likely require that we have a near-final version by midday Monday so we can share it with the larger group of funding entities for review and approvals by Wednesday. If possible, it would be really helpful to get your feedback and edits by the end of this week or early Monday.

A call would be useful to discuss the first paper and to determine how to proceed on future topics. I've list a few potential times in the short-term, please let me know if any of these are workable. If we can't find a time on such short notice, an alternative is to share feedback on the first paper by email and look to find time for a call later next week.

- Thursday 12 pm – 2 pm
- Friday 9 – 10 am or 12 pm – 1 pm
- Monday 8 am – 12 pm

Regards,
Jeff

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From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Thursday, November 16, 2023 3:28 PM
To: Holman, Mark; Eaton,Sara L (BPA) - PTMA-5; Paul Dietz; Cornelius, Adam; Mantifel,Russell (BPA) - MTM-3; Applegate, Rick; Sibyl Geiselman; Michael Linn; Fina, Joe; Marr, Garrison; Hakala, Tuuli; Jaspers, Janet; Bradshaw, Mike
Subject: [EXTERNAL] Revised SHOC Tariff Language
Attachments: Revised SHOC Tariff Language - Clean.docx; Revised SHOC Tariff Language - Redline.docx

Hi all,

Thanks for the discussion today. As discussed, here is a clean and redline version of the SHOC language that we were discussing.

Jeff

-----Original Appointment-----
From: Spires, Jeff
Sent: Wednesday, November 15, 2023 6:43 AM
To: Spires, Jeff; Holman, Mark; Sara Eaton; Paul Dietz; Cornelius, Adam; Mantifel,Russell (BPA) - MTM-3; Applegate, Rick; Sibyl Geiselman; Michael Linn; Fina, Joe; Marr, Garrison; Hakala, Tuuli; Jaspers, Janet; Bradshaw, Mike
Subject: Markets+ Hydro Considerations (Attachment B & C)
When: Thursday, November 16, 2023 2:00 PM-3:00 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

Microsoft Teams meeting

Join on your computer, mobile app or room device
Click here to join the meeting

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Passcode: (b)(6)
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M. Market Participants may elect to use the Seasonal Hydroelectric Offer Curve calculation (SHOC) for hydroelectric Resources with storage capability, including Aggregate Resources, as defined in this Section 3.4.

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(1) Market Participants electing the SHOC will calculate that curve in the following manner for all hours of every Operating day, except as provided in Section 3.4M(11). For each Operating Day, the Market Participant will calculate the Seasonal Hydroelectric Offer Curve as the maximum of the (a) gas floor, (b) short-term component, and (c) long-term/geographic component, which are all calculated as specified below.

(3) The Market Participant will calculate the gas floor as the most recent average heat rate for a typical natural gas turbine generator, as defined in the Markets+ Protocols, multiplied by the natural gas price for the fuel region applicable to the location of the hydroelectric resource, multiplied by 1.1.

(4) The Market Participant will calculate the short-term component as 1.4 multiplied by the maximum of:

(a) the most recent day-ahead peak price at the applicable electric pricing hub;

(b) the on-peak balance of the month futures price for the current month at the applicable electric pricing hub; and

(c) the on-peak monthly index futures price at the applicable electric pricing hub for one (1) month after the current month.

(5) The Market Participant will calculate the long-term/geographic component calculated based on multiple electric pricing hubs in addition to the default electric pricing hub consistent with Section 3.4 of this Attachment B. The Market Participant will calculate the long-term/geographic component as 1.1 multiplied by the maximum of:

(a) the most recent day-ahead on-peak price at the applicable electric pricing hub(s);

(b) the on-peak balance of the month futures prices for the current month at the applicable electric pricing hub(s); and

(c) the on-peak monthly index futures price at the applicable electric pricing hub(s) for all future months up to the maximum storage horizon after the current month.

(6) As part of its request for a Seasonal Hydroelectric Offer Curve, the Market Participant must submit to the Market Monitor:

(a) For each month and for each electric pricing hub requested that is not the default electric pricing hub, the Market Participant must (1) demonstrate that it holds firm transmission rights to enable delivery from the hydroelectric resource's default market region to the requested electric pricing hub or to a delivery point that is similarly priced location; or (2) provide documentation that supports a historical practice of acquiring monthly firm transmission rights to the requested electric pricing hub(s) or similarly priced location. Market Participants may demonstrate transmission rights to multiple locations and, based on the Market Monitor's evaluation of such information, the Market Participant may include multiple electric pricing hubs, in addition to the default electric pricing hubs, in the long-term/geographic component of the SHOC for the affected resources. The Market Participant will attest through its submission that it reasonably expects it will be able to use the demonstrated transmission rights to deliver incremental sales from the hydroelectric resource because the rights are not fully committed and that there is an actual opportunity to use these rights. If the Market Participant includes multiple electric pricing hubs in the long-term/geographic component, the SHOC calculation will use the maximum of the electric price indices published for each electric pricing hub as determined for each Operating Day. On Operating Days for which there are no relevant published electric price indices at an electric pricing hub, the Market Participant will use the most recently published index for the applicable electric pricing hub.

(b) For Resources that the Market Participant demonstrates a quantity of firm transmission rights to a requested electric pricing hub or similarly priced

location that is less than the hydro Resource's capacity, the Market Participant will include the requested electric pricing hub up to the quantity of demonstrated transmission rights, and apply a proportional weighting of the Resource's transmission rights to calculate a weighted average of those bilateral electric pricing hub prices when calculating the value of the long-term/geographic component of the SHOC.

(c) In the absence of Market Monitor approved supporting transmission rights information when calculating the long-term/geographic component of the SHOC, the Market Participant will revert to the default bilateral electric hub price specified in Section 3.4M(8).

(d) If during the term of the annual period the Market Participant no longer has the firm annual transmission rights previously demonstrated, or can no longer continue a historical practice of acquiring monthly firm transmission rights, the Market Participant must inform the Market Monitor within five (5) Business Days of no longer holding such firm transmission rights.

(e) The Market Monitor may request additional information in support of the Market Participant's assertions.

(f) If the Market Monitor determines the Market Participant has submitted substantively inaccurate information, the Market Monitor will take actions to require the Market Participant to change which electric pricing hub it uses in the SHOC calculation or other actions it deems necessary to correct the calculation.

(7) The maximum hydroelectric Resource storage horizon submitted by the Market Participant must:

(a) Reflect the typical storage duration of a hydroelectric Resource's reservoir, defined as the length of time between which the reservoir cycles from a maximum elevation to a new maximum elevation during a hydro cycle. The Market Participant will compute the reservoir's cycling time based on multiple years of reservoir elevation data. For purposes of calculating the maximum storage horizon for a hydroelectric Resource

(including an Aggregate Resource) with multiple reservoirs, the Market Participant will use data from the reservoir with the longest storage duration.

(b) Be supported by (1) a written attestation by a representative who has the authority to bind the Market Participant stating that the value used by the Market Participant as the maximum storage horizon is consistent with the requirements specified in this Section 3.4 or (2) corroborating information submitted to the Market Monitor, which may include several years of historic reservoir levels for the specific hydroelectric Resource and regulatory filings related to the operations of the hydroelectric Resource.

(8) The default electric pricing hub will be as specified in the Markets+ Protocols, which will also include a process for modifying or adding electric pricing hubs to the list of default electric pricing hubs.

(9) Run-of-river hydroelectric Resources, as defined in the WRAP tariff, will use the greater of (a) the most recent day-ahead peak price at the applicable electric pricing hub, or (b) $0/MWh, as their mitigated offer curve for all hours of the year.

(10) Hydroelectric Resources with a maximum hydroelectric Resource storage horizon of 30 days or less shall not include the price for the first month after the current month in the calculation of the SHOC until such hydroelectric Resource's maximum storage horizon extends into such month, as measured from the Operating Day.

(11) Notwithstanding the maximum hydroelectric Resource storage horizon, any hydroelectric Resource for which the hydro operator reasonably expects a combination of high inflows and limited available storage that collectively are anticipated to directly cause the hydroelectric Resource to spill energy at each reservoir of the hydroelectric Resource and such spill cannot be avoided even if the hydroelectric Resource were to generate at maximum output at all available units for all intervals of the Operating Day, then its Hydroelectric Offer Curve shall be the greater of (a) the most recent day-ahead peak price at the applicable electric pricing hub, or (b) $0/MWh.

M. Market Participants

~~M. Market Participants with hydroelectric Resources, with more than 30 days of storage,~~ may elect to use the Seasonal Hydroelectric Offer Curve calculation (SHOC) ~~if approved by the Market Monitor~~ for hydroelectric Resources with storage capability, including Aggregate Resources, as defined in this Section 3.4.

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(1) Market Participants electing the SHOC will calculate that curve in the following manner for all hours of every Operating day, ~~with the exception of the spring melt period, , when they will use the day-ahead peak price at the applicable electric pricing hub as their mitigated offer curve. .~~ except as provided in Section 3.4M(11). For each Operating Day, the Market Participant will calculate the Seasonal Hydroelectric Offer Curve as the maximum of the (a) gas floor, (b) short-term component, and (c) long-term~~, /~~geographic component, which are all calculated as specified below.

(3) The Market Participant will calculate the gas floor as the most recent average heat rate for a typical natural gas turbine generator, as defined in the Markets+ Protocols, multiplied by the natural gas price for the fuel region applicable to the location of the hydroelectric resource, multiplied by 1.1.

(4) The Market Participant will calculate the short-term component as 1.4 multiplied by the maximum of:

(a) the most recent day-ahead peak price at the applicable electric pricing hub;

(b) the on-peak balance of the month futures price for the current month at the applicable electric pricing hub; and

(c) the on-peak monthly index futures price at the applicable electric pricing hub for one (1) month after the current month.

(5) The Market Participant will calculate the long-term~~, /~~geographic component calculated based on multiple electric pricing hubs in addition to the default electric pricing hub consistent with Section 3.4 of this Attachment B. The Market Participant will calculate the long-term~~, /~~geographic component as 1.1 multiplied by the maximum of:

(a) the most recent day-ahead on-peak price at the applicable electric pricing hub(s);

(b) the on-peak balance of the month futures prices for the current month at the applicable electric pricing hub(s); and

(c) the on-peak monthly index futures price at the applicable electric pricing hub(s) for all future months up to the maximum storage horizon after the current month.

(6) As part of its request for a Seasonal Hydroelectric Offer Curve, the Market Participant must submit to the Market Monitor:

(a) For each month and for each electric pricing hub requested that is not the default electric pricing hub, the Market Participant must (1) demonstrate that it holds firm transmission rights to enable delivery from the hydroelectric resource's default market region to the requested electric pricing hub or to a delivery point that is similarly priced location; or (2) provide documentation that supports a historical practice of acquiring monthly firm transmission rights to the requested electric pricing hub(s) or similarly priced location. Market Participants may demonstrate transmission rights to multiple locations and, based on the Market Monitor's evaluation of such information, the Market Participant may include multiple electric pricing hubs, in addition to the default electric pricing hubs, in the long-term/geographic component of the SHOC for the affected resources. The Market Participant will attest through its submission that it reasonably expects it will be able to use the demonstrated transmission rights to deliver incremental sales from the hydroelectric resource because the rights are not fully committed and that there is an actual opportunity to use these rights. If the Market Participant includes multiple electric pricing hubs in the long-term/geographic component, the SHOC calculation will use the maximum of the electric price indices published for each electric pricing hub as determined for each Operating Day. On Operating Days for which there are no relevant published electric price indices at an electric pricing hub, the Market

Participant will use the most recently published index for the applicable electric pricing hub.

(b) For Resources that the Market Participant demonstrates a quantity of firm transmission rights to a requested electric pricing hub or similarly priced location that is less than the hydro Resource's capacity, the Market Participant will include the requested electric pricing hub up to the quantity of demonstrated transmission rights, and apply a proportional weighting of the Resource's transmission rights to calculate a weighted average of those bilateral electric pricing hub prices when calculating the value of the long-term~~./~~/geographic component of the SHOC.

(c) In the absence of Market Monitor approved supporting transmission rights information when calculating the long-term/geographic component of the SHOC, the Market Participant will ~~multiply the long-term, geographic, component by zero and rely on~~ revert to the ~~gas floor and the short-term component to calculate the SHOC.~~default bilateral electric hub price specified in Section 3.4M(8).

(d) If during the term of the annual period the Market Participant no longer has the firm annual transmission rights previously demonstrated, or can no longer continue a historical practice of acquiring monthly firm transmission rights, the Market Participant must inform the Market Monitor within five (5) Business Days of no longer holding such firm transmission rights.

(e) The Market Monitor may ~~audit the Market Participant and~~ request additional information in support of the Market Participant's assertions.

(f) If the Market Monitor determines the Market Participant has submitted substantively inaccurate information, the Market Monitor will take actions to require the Market Participant to change which electric pricing hub it uses in the SHOC calculation or other actions it deems necessary to correct the calculation.

(7) The maximum hydroelectric Resource storage horizon submitted by the Market Participant must:

(a) Reflect the typical storage duration of a hydroelectric Resource's reservoir, defined as the length of time between which the reservoir cycles from a maximum elevation to a new maximum elevation during a hydro cycle. The Market Participant will compute the reservoir's cycling time based on multiple years of reservoir elevation data. For purposes of calculating the maximum storage horizon for a hydroelectric Resource (including an Aggregate Resource) with multiple reservoirs, the Market Participant will use data from the reservoir with the longest storage duration.

(b) Be supported by (1) a written attestation by a representative who has the authority to bind the ~~company~~Market Participant stating that the value used by the Market Participant as the maximum storage horizon is consistent with the requirements specified in this Section 3.4 or (2) corroborating information submitted to the Market Monitor, which may include several years of historic reservoir levels for the specific hydroelectric Resource and regulatory filings related to the operations of the hydroelectric Resource.

(8) The default electric pricing hub will be as specified in the Markets+ Protocols, which will also include a process for modifying or adding electric pricing hubs to the list of default electric pricing hubs.

(9) Run-of-river hydroelectric ~~units~~Resources, as defined in the ~~Market Protocols~~WRAP tariff, will use the greater of (a) the most recent day-ahead peak price at the applicable electric pricing hub, or (b) $0/MWh, as their mitigated offer curve for all hours of the year.

(10) Hydroelectric ~~units that are not Run-of-river, but also do not have more than~~ Resources with a maximum hydroelectric Resource storage horizon of 30 days ~~of storage, will use the Opportunity Cost Calculator as detailed in Section 3.4.E to calculate their mitigated offer curve, except during the spring melt period when they will use the~~ or less shall not include the price for the first month after the current month in the calculation of the SHOC until such hydroelectric Resource's

maximum storage horizon extends into such month, as measured from the Operating Day.

(11) Notwithstanding the maximum hydroelectric Resource storage horizon, any hydroelectric Resource for which the hydro operator reasonably expects a combination of high inflows and limited available storage that collectively are anticipated to directly cause the hydroelectric Resource to spill energy at each reservoir of the hydroelectric Resource and such spill cannot be avoided even if the hydroelectric Resource were to generate at maximum output at all available units for all intervals of the Operating Day, then its Hydroelectric Offer Curve shall be the greater of (a) the most recent day-ahead peak price, at the applicable electric pricing hub ~~as their mitigated offer curve~~, or (b) $0/MWh.

~~(11) The spring melt period will be a defined by the market participant for every hydroelectric unit using the SHOC. The market participant will notify the market operator when they are in spring melt conditions, as well as when they are no longer in spring melt conditions. ,~~

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, July 21, 2023 2:00 PM
To: Mantifel,Russell (BPA) - PGL-5; Kirby,Elizabeth A (BPA) - BT-3; Bellcoff,Steve (BPA) - PGPR-5
Cc: Holman, Mark
Subject: [EXTERNAL] Proposal for Markets+ Virtuals
Attachments: Virtual Bidding Proposal for Markets+ 7-21.docx

Hi Russ, Libby and Steve

Mark and I wanted to share a draft proposal for enabling virtual bidding in Markets+. This is a concept we worked on with NV Energy and recently shared with APS. NV and Powerex are supportive and we expect that APS is like to be supportive too (perhaps with some minor adjustments) after they take some additional time to review it.

We wanted to share this with you to see if BPA could support it as well. In light of the differing views on virtuals amongst the MDWG, our hope would be to bring this to the MDWG as a joint proposal to provide a reasonable middle ground that would hopefully gain traction with the broader group.

I am out of the office next week, but please feel free to reach out to Mark if you would like to discuss by phone before the MDWG on the 26th. We look forward to hearing back you on whether you would be willing to support the concept.

Regards,
Jeff

Jeff Spires | Director, Power | Powerex Corp. | Cell (b)(6)

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Draft Conceptual Proposal for Enabling Virtual Bidding in Markets+

Timing

- Virtual Bidding would generally be enabled (6 or 12 months) after a defined critical mass of entities are participating in the Markets+ day ahead market.

Expanded Must Offer Requirements During Periods That Virtuals Are Not Enabled

- The standard day-ahead must offer requirement, as well as any real-time must offer, will be defined as part of the ongoing discussions related to must offer requirements for Markets+.

- The standard must offer requirements will apply at all times. However, the day-ahead must offer requirement will be ***increased*** during periods when virtual bidding is not enabled as follows:

- **Increased Supply Requirement:**
  - For non-energy limited resources, all available (to be defined) units must be offered in the day-ahead market in all hours

  - For energy limited resources, all available supply must be offered in the day-ahead market in the four highest net load hours each day (determined by Market Operator).

- **Increased Demand Requirement:**
  - All firm load must be self-scheduled in the day-ahead market at a level at least equal to its P50 load forecast each hour

Virtual bidding limitations

- **Locations**
  - Virtual bidding will not be enabled at the boundary (interties) of the Markets+ footprint, or at interties between Markets+ BAAs
    - Intertie virtual bidding is not required to achieve the efficiency benefits of virtuals more generally
    - Boundary locations may experience seams issues that cause unintended, problematic outcomes with virtual bidding
    - CAISO markets experienced significant challenges with intertie virtual bidding and disabled this functionality 10 years ago (which was accepted by FERC)
  - A BAA/TSP may elect to limit virtual bidding in its area to one or more aggregate hub locations on an ongoing basis

- **Quantity/position limits**
  - A market participant's quantity of virtual bids or offers at any location may not exceed a to-be-defined position limit
  - A market participant's aggregate virtual bids and aggregate virtual offers across all locations may not exceed a to-be-defined position limit

Circuit Breakers

- SPP will suspend virtual bidding if prices are expected to reach 80% of the bid cap or higher

- SPP will be authorized to suspend virtual bidding immediately if it has reason to believe that the participation of virtual supply and demand in Markets+ may be causing material market inefficiency, reliability consequences or inappropriate financial costs for load serving entities or other market participants

Ongoing review and transparency

- SPP will provide ongoing monitoring, transparency, and analysis of virtual bidding outcomes, including but not limited to:
    - Hourly cleared net virtual supply and demand by BAA
    - Amount of RUC commitments made to cover net virtual supply by BAA
    - Net profitability of virtual transactions by BAA

Future market design

- SPP and stakeholders will commit to explore the ISO-NE concept after Phase 1 tariff development and prior to Markets+ go-live.

From: Aitken, Meredith <Meredith.Aitken@powerex.com>
Sent: Thursday, July 25, 2024 10:31 AM
To: Tuuli Hakala; 'Walter, Kent C'; (b)(6) ; Spires, Jeff; Holman, Mark; Josh Robertson; Martin Marcie L; Zahnow, Jessica Lynn; Phil Haines; Mantifel,Russell (BPA) - MTM-3; Dibble,Rachel L (BPA) - PT-5; Hayes,Matthew C (BPA) - MTM-3; Cole, Brian; Janet Jaspers; Egge, Eric; dan.walter@tristategt.org; Robinson, Chris; Ray Johnson; Zyskowski, Jason; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan; Joe Taylor; (b)(6) ; 'John Mertlich'
Subject: [EXTERNAL] RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

Good morning,

Powerex supports this change. Thank you for the suggestion.

We would also suggest a slight modification to the first paragraph (underlined below) for consideration.

Proposed Intro:
In recent months, there has been considerable industry dialogue focused on the market seams that will exist between EDAM/EIM and Markets+, as well as the EDAM/EIM governance enhancements being pursued through the Pathways Initiative. While both topics are important, the Markets+ Phase 1 Funding Parties believe this dialogue is incomplete without also considering the numerous governance and market design differences between Markets+ and EDAM/EIM that are driving continued support for Markets+. To address this gap, some of the Markets+ Phase 1 Funding Parties have worked together expeditiously to prepare timely information in this first "Issue Alert." Markets+ Phase 1 Funding Parties will continue this collaboration to issue a series of Issue Alerts identifying and explaining the key governance and market design elements that differ between Markets+ and EDAM/EIM and why these differences have important consequences for customers in terms of reliability, economic value, and environmental objectives.

Footnote: APS, Chelan, Grant, Powerex, SRP, Tacoma, Tri-State and TEP prepared this Issue Alert. [add others as confirmed]

Thanks,
Meredith

From: Tuuli Hakala <Tuuli.Hakala@chelanpud.org>
Sent: Thursday, July 25, 2024 9:08 AM
To: 'Walter, Kent C' <Kent.Walter@aps.com>; (b)(6) @tep.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Cole, Brian <Brian.Cole@aps.com>; Janet Jaspers <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) (b)(6) @tep.com>; 'John Mertlich' <jmertlich@gcpud.org>
Cc: Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

29333312

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Good morning,

I'm passing along feedback from Grant PUD. Grant would like to sign on to the governance issue alert and recommends the following change for this group's consideration:

Current: "Similarly, a market that has a history of misallocating congestion rent will generally discourage transmission investments."

Edit: "Similarly, a market that misallocates congestion costs will generally lead to less economically efficient transmission investments."

Chelan is comfortable with the change.

-Tuuli

From: Walter, Kent C <Kent.Walter@aps.com>
Sent: Monday, July 22, 2024 10:40 AM
To: (b)(6) @tep.com>; Jeff Spires <jeff.spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Cole, Brian <Brian.Cole@aps.com>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Janet Jaspers <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) (b)(6) @tep.com>
Cc: Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: [External] RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

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Thanks for the comments. Attached are clean and redline versions with the proposed language incorporated.

Kent

From: (b)(6) @Tep.com>
Sent: Monday, July 22, 2024 8:56 AM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Cole, Brian <Brian.Cole@aps.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason

<JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) @tep.com>
Cc: Walter, Kent C <Kent.Walter@aps.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
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(b)(4)

[redacted]

From: (b)(6) @tep.com>
Sent: Friday, July 19, 2024 4:03 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Brian.Cole@aps.com; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) @tep.com>

Cc: Kent.Walter@aps.com; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

(b)(4)

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, July 19, 2024 6:10 AM
To: Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Brian.Cole@aps.com; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) (b)(6) @tep.com>; (b)(6) @tep.com>
Cc: Kent.Walter@aps.com; Aitken, Meredith <Meredith.Aitken@powerex.com>
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***** REPORT ANYTHING SUSPICIOUS *****

Good morning all,

Last week during the Monday Markets+ funding party executive call there was discussion followed by general consensus on the call for developing a series of "Issue Alerts" that could be shared publicly by Markets+ funding entities, with one Issue Alert released every two weeks or so, to provide some balance to the recent industry dialogue that has been narrowly focused on seams issues and the Pathways initiative. The objective is to publicly issue (to Clearing Up and possibly elsewhere) these short summaries (one on governance and then 5-6 on specific market design topics) that details the benefits of Markets+ relative EDAM/EIM in each of these areas to better explain the continued support for Markets+.

A smaller group (PWX, CHPD, BPA, PSE, APS, and SRP) have worked together on the first paper on governance (see attached). We expect each of those entities will sign on except for BPA based on certain limitations they have related to their ongoing public process.

Please keep this letter **confidential** for now. We request that each of you confirm whether you will sign on by the ***end of the day on Monday.***

This effort is being coordinated by Kent Walter (APS) and myself so please feel free to reach out to us with any questions. Please note I am on vacation starting next week; Meredith Aitken will be the Powerex point of contact on this while I am away.

Regards,
Jeff

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From: Kristen Darden <kdarden@spp.org>
Sent: Monday, September 11, 2023 12:19 PM
To: 'Kent.Walter@aps.com'; Jim Gonzalez; Mantifel,Russell (BPA) - PGL-5; Chris Nolen; Emon Mahony; Christine Dillard
Cc: Thompson, Justin; Cole, Brian; Carrie Simpson
Subject: [EXTERNAL] RE: MDWG Tariff Review

Hey Kent –

Thank you for sending this over!

I've brought in some other tariff team members and will look to them to determine if we'd like to schedule a follow-up call.

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Kent.Walter@aps.com <Kent.Walter@aps.com>
Sent: Thursday, September 7, 2023 1:00 PM
To: Kristen Darden <kdarden@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Thompson, Justin <Justin.thompson@aps.com>; Cole, Brian <brian.cole@aps.com>
Subject: **External Email** MDWG Tariff Review

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In the pursuit of #bestTariffever!, I wanted to flag some concerns related to the tariff language 08a-Attachment A Sec 6-7.15 in advance of our next MDWG. The sections related to small resources, and BTM. For context as to why these sections are important, APS's 8 GW system has around 1.5 GW of BTM generation – maybe a little differently situated than others in the market and important to ensure clarity on these sections. The key goal is to shift registration requirements based on system impact instead of MW and allow for flexibility for aggregations/resource type.

BTM

- Seeking to narrow scope away from a MW requirement to a system impacts based requirement
  - Must meter resources greater when it meets the following criteria:
    - Greater than 10 MW
    - Operates synchronized with the grid
    - Capable of injection into the transmission system (as defined by the Network Model)
    - Not otherwise captured as Demand Response
- BTM microgrids for data centers are greater than 10 MWs but have automatic transfer switches that prevent the resource from operating while synchronized to the grid
- Some behind the meter generators are part of DR, which should also be excluded and included instead as DR

- Many high MW resources do not backfeed the grid and instead are just a load reduction – measuring the resource and bringing into operations would challenge the ability to balance the system as it may duplicate the resource (measuring as a resource and load reduction).

Resources 0.1 kW or greater requirement to register.

- Seeking to add clarity and reduce administrative and cost burden of managing many different resources
  - Clarify the requirement is only applicable to resources capable of injection to the transmission system
  - Carve out resources that are captured as part of a resource aggregation
- Section 11 a) adds clarity to suggest that only resources that are capable of injection to the transmission system qualify while Section 6 does not have that clarity – worth being specific on the backfeed requirement in both places as it can be read as different
- We should consider a carve out for resources that are included as part of an aggregation. APS has a number of small generators (only amounting to around 3 MW) that we anticipate operating as a single aggregated unit but are physically separated in different areas of our system.

Let me know if you would like me to find some time to discuss and the best path forward for bringing these proposed changes to the group for discussion.

Kent

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From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Wednesday, July 10, 2024 4:15 PM
To: Kent.Walter@aps.com; Mantifel,Russell (BPA) - MTM-3; Zahnow, Jessica Lynn; Hakala, Tuuli; Josh Robertson
Subject: [EXTERNAL] Markets+ Issue Alerts
Attachments: Issue Alert 1 Governance DRAFT.docx

Hi all,

This email is a follow up to the discussion on Monday's Markets+ funding party executive call in which there was agreement to develop a series of "Issue Alerts" that could be shared publicly by Markets+ funding entities over the coming weeks, as a means to provide more proactive messaging about Markets+. I am reaching out to this smaller group based on the entities that expressed interest in helping with development of the documents. If you are aware of others that would like to be involved, please let me know and we can include them going forward.

The high level topics that were identified during the call are below. It was also discussed that ideally all 6 documents would be published by the end of August which means timelines are tight and we will need a cadence of nearly weekly to achieve that.

Topics:

1. Governance
    - Markets+ vs Pathways
2. Reliability
    - Markets+ (WRAP, Must Offer) vs EDAM Resource Sufficiency
3. Price Formation
    - Fast Start, Scarcity, Market Power Mitigation
4. Seams Issues
    - Determining Priority to Flow
    - Congestion Revenue Allocation
    - Seams Agreements
5. GHG Attribution
6. Operator Actions & Modelling

In an effort to help move forward quickly, we put together an initial draft of the first paper on governance for your review and feedback (see attached). Ideally the first paper would be finalized by next Wednesday so that it could make Clearing Up on Friday. This will likely require that we have a near-final version by midday Monday so we can share it with the larger group of funding entities for review and approvals by Wednesday. If possible, it would be really helpful to get your feedback and edits by the end of this week or early Monday.

A call would be useful to discuss the first paper and to determine how to proceed on future topics. I've list a few potential times in the short-term, please let me know if any of these are workable. If we can't find a time on such short notice, an alternative is to share feedback on the first paper by email and look to find time for a call later next week.

- Thursday 12 pm – 2 pm
- Friday 9 – 10 am or 12 pm – 1 pm
- Monday 8 am – 12 pm

Regards,
Jeff

29333340

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Markets+ Phase 1 Funding Parties To Publish "Issue Alerts" To Inform Public Dialogue On Day-Ahead Market Choices

In recent months, there has been considerable industry dialogue focused on the market seams that will exist between EDAM and Markets+, as well as the EDAM / EIM governance enhancements being pursued through the Pathways Initiative. While both of these topics are important, the Markets+ Phase 1 Funding Parties believe this dialogue is incomplete without also considering the numerous governance and market design differences between Markets+ and EDAM/EIM that are driving continued support for Markets+. To address this information gap, the Markets+ Phase 1 Funding Parties will be issuing a series of "Issue Alerts" to identify and explain the key governance and market design elements that differ between Markets+ and EDAM/EIM and why these differences have important consequences for customers in terms of reliability, economic value, and environmental objectives.

A new Issue Alert will be issued by the Markets+ Phase 1 Funding Parties every few weeks covering the following topics:

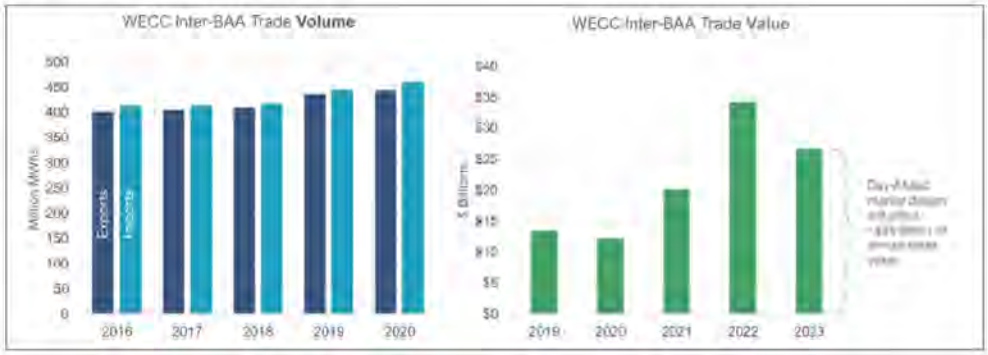
1. **Governance**
   - Markets+ framework vs. Pathways proposals
2. **Reliability**
   - Markets+ (WRAP participation required, Must Offer) vs. EDAM (Resource Sufficiency test)
3. **Price Formation**
   - Fast Start, Scarcity, Market Power Mitigation
4. **Seams Issues**
   - Determining Priority to Flow
   - Congestion Revenue Allocation
   - Seams Agreements
5. **GHG Attribution**
6. **Operator Actions & Modeling**

Field Code Changed

Issue Alert 1:
The Markets+ Governance Framework Is The Best Option For A Multi-State Day-Ahead Organized Market

A key consideration in the selection of a day-ahead market for the Markets+ Phase 1 Funding Parties ("the Funding Parties") is the governance of the market. "Governance" determines how all key decisions are made, including the market design, tariff, business practices and operating protocols, both at go-live and over the years to come. Governance also influences the actions of the market operator day-to-day, and the perspective through which the performance of the market will be evaluated. Consequently, governance has a major influence on market outcomes, including the determination of market prices, how costs are allocated, the extent and allocation of reliability risks during stressed conditions, and the success of environmental programs.

Each of these outcomes will affect far more than the volume of electricity transacted in an energy imbalance market, such as the Western EIM. This is because the transition in the west to a full day-ahead and real-time organized market (whether EDAM/EIM or Markets+) is expected to replace much of the bilateral day-ahead and real-time transactions that occur today, while also impacting the prices of forward transactions. A recent analysis performed by Powerex using WECC annual interchange data and average annual wholesale market prices estimates that the total inter-BAA trade in the west is valued at approximately $25 billion or more.



Sound governance is a foundational requirement for a day-ahead organized market to provide the benefits of increased efficiency and enhanced reliability while also ensuring equitable outcomes for all participants and all western sub-regions. The key features of sound governance were described in Bonneville Power Administration's Staff Recommendation on Day-Ahead Market Participation:

> *The market has a durable, effective, and independent governance structure which provides fair representation to all market participants and stakeholders. Decision making and stakeholder engagement occurs in a transparent and inclusive manner.*

The Funding Parties believe the Markets+ Governance framework fully achieves this objective, as highlighted by the following key elements:

1. A fully independent board / panel with authority over all aspects of the market.

Field Code Changed

2. A transparent market development process led by stakeholders, and with stakeholder voting rights to determine whether each specific market design proposal moves forward.
3. A fully independent and impartial market operator.

Importantly, the Markets+ governance framework is already up and running, and it provided the decision-making framework for developing the Markets+ initial market design and proposed tariff.

The Founding Parties are supportive of the efforts by the Pathways Initiative to propose incremental improvements to the governance of EDAM and EIM. Even if fully successful, however, the Founding Parties believes that the Pathways Initiative will not result in a governance framework comparable to Markets+, for several reasons:

1. The starting point for EDAM and EIM is a market design and tariff developed under the California ISO's existing governance framework, and the Pathways Initiative does not propose to replace this initial market design with a stakeholder-driven design.
2. The Pathways Initiative does not propose to replace the California ISO's market development process, through which its staff—rather than stakeholders with formal voting rights—determines how the market design will evolve over time.
3. The Pathways Initiative does not ensure that the California ISO, as a market operator, will balance the interests of all stakeholders, avoiding undue influence from California interests.

The stakeholder-driven Markets+ development process has resulted in a market design that is substantially different from the EDAM/EIM design in several key respects. Future Issue Alerts will focus on each of these market design differences, which have the potential to greatly impact real-world economic, reliability and/or environmental outcomes for customers. Production cost models—including the models used in the multiple studies published comparing Markets+ and EDAM/EIM—are generally unable to reflect and quantify these important market design differences, however. This is because these models necessarily make many simplifying assumptions that make it appear as if the two markets are largely identical in these aspects when in fact they are not. These simplifying assumptions include:

- Both markets are always fully resource adequate / resource sufficient;
- Limited, if any, scarcity events occur in either market (and no scarcity pricing);
- Limited differences, if any, in how prices are calculated in each market;
- Congestion rent allocated similarly in both markets;
- Environmental programs, including GHG attribution, are similar in both markets; and
- There are no operator actions such as load biasing or changing import / export limits in either market.

The governance framework of a day-ahead market is a paramount consideration, as it has the potential to affect $25 billion or more in annual trade. The Founding Parties believe that Markets+ provides the governance framework required to deliver an equitable distribution of the economic benefits and costs associated with this trade, while protecting reliability and supporting environmental programs. Governance will be a key driver of real-world market outcomes, and the Markets+ decision-making and governance framework provides the necessary confidence that all customers and all sub-regions will be treated fairly at market inception and as the market and western grid continues to evolve.

Field Code Changed

From: Christine Dillard <cdillard@spp.org>
Sent: Wednesday, January 10, 2024 1:36 PM
To: Fina, Giuseppe (Joe); Chris Nolen; Pettit, David E; Gorlin@WAPA.GOV; Alaine Ginocchio; Jason.Kuzma@pse.com; Engelby, Ben; Charles.VonReis@chelanpud.org; Miller,Todd E (BPA) - LP-7; 'Karilee S Ramaley'; Irene Scruggs; Gilhen, Jonathan; Sabers, Cathy; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7; Lee Engel; Davis,Thomas E (BPA) - LT-7; Kallstrom, Jeffrey; Starnes, Heather; Timothy T. Mastrogiacomo (Tim.T.Mastrogiacomo@xcelenergy.com); Hickey, Lisa; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew; Tabak, Gabe; Rubin, David; mmorais@nationalgridrenewables.com; Gray, Spencer
Cc: Emon Mahony; Rachel Kane; Joseph Ghormley; Kristen Darden; Carrie Simpson; Mantifel,Russell (BPA) - MTM-3; Michael Riley
Subject: [EXTERNAL] RE: Markets+ Legal Group Meeting
Attachments: Special Rules on Use of Tariff_1.10.24_Clean.docx

Hi all,
The current version of the Special Rules is attached and has been posted to the M+ Legal Group drive. I expect to post the Stakeholder Agreement by end of day tomorrow.

Thank you,

Christine Dillard | Attorney, Markets & Regulatory Policy
cdillard@spp.org | (b)(6) (c)

Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

-----Original Appointment-----
From: Fina, Joe <GFina@SNOPUD.com>
Sent: Wednesday, January 10, 2024 3:22 PM
To: Fina, Joe; Chris Nolen; Pettit, David E; Gorlin@WAPA.GOV; Alaine Ginocchio; Jason.Kuzma@pse.com; Engelby, Ben; Charles.VonReis@chelanpud.org; Todd Miller; 'Karilee S Ramaley'; Irene Scruggs; Gilhen, Jonathan; Sabers, Cathy; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; Lee Engel; Davis,Thomas E (BPA) - LT-7; Kallstrom, Jeffrey; Starnes, Heather; Christine Dillard; Timothy T. Mastrogiacomo (Tim.T.Mastrogiacomo@xcelenergy.com); Hickey, Lisa; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew; Tabak, Gabe; Rubin, David; mmorais@nationalgridrenewables.com; Gray, Spencer
Cc: Emon Mahony; Rachel Kane; Joseph Ghormley; Kristen Darden; Carrie Simpson; Mantifel, Russ; Michael Riley
Subject: **External Email** Markets+ Legal Group Meeting
When: Friday, January 12, 2024 11:00 AM-12:30 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

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This meeting is intended to review the remaining Special Rules for BPA and WAPA, and to review the new Stakeholder Agreement. A follow-up email will be sent when those documents are available on the SharePoint site.

Thanks for your patience as we get these last items taken care of.

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II. SPECIAL RULES ON USE OF TARIFF

7 Application of Non-Rate Terms and Conditions

7.1 Subject to State Laws and Regulations and Public Power Rate Schedules

The participation in this Tariff by a Market Participant that is not a public utility under the Federal Power Act, but rather is a public-power entity, is subject in all respects to the laws and regulations of the state of its creation and to rate schedules adopted by its governing board under state law. The Commission has exclusive jurisdiction to interpret the provisions of this Tariff and how the provisions apply to such public-power entity(ies). However, in the event that the governing board of such public-power entity(ies), subject to state court review, determines that a conflict exists between the applicable state law, regulations, or rate schedules, and provisions of this Tariff as interpreted by the Commission, such state law, regulations, or rate schedules shall govern with respect to the application of this Tariff to such public-power entity(ies).

7.2 Applicability to Rural Electric Cooperatives

The participation in this Tariff by a Market Participant that is an electric cooperative that receives financing under the Rural Electrification Act of 1936 (7 U.S.C. 901 et seq.) is subject in all respects to the laws and regulations of the state of its creation and to rate schedules adopted by its governing board under state law. The Commission has exclusive jurisdiction to interpret the provisions of this Tariff and how the provisions apply to such entity. However, in the event that the governing board of such entity, subject to state court review, determines that a conflict exists between the applicable state law, regulations, or rate schedules, and provisions of this Tariff as interpreted by the Commission, such state law, regulations, or rate schedules shall govern with respect to the application of this Tariff to such entity.

7.3 Participation by Western Area Power Administration Subject to Federal Legal Requirements

The following federal participation provisions are required for Western Area Power Administration to participate in Markets+.

(a) Subject to Acts of Congress, Regulations, and Certain Contractual Obligations

The participation by the United States through Western Area Power Administration (WAPA) in this Tariff is subject in all respects to acts of Congress and to regulations of the Secretary of Energy established thereunder, to rate schedules promulgated by the Secretary of Energy, and certain contractual requirements. Nothing in this Tariff shall compel WAPA to violate or exceed its statutory authority, applicable regulations, rate schedules, or certain contractual requirements, as determined by WAPA or a forum of competent jurisdiction. If any provision of this Tariff is inconsistent with any obligation imposed on WAPA by federal law, regulation, rate schedule, or such contracts as described above, the Tariff provision shall be inapplicable. This reservation includes, but is not limited to, the statutory limitations upon the authority of the Secretary of Energy to submit disputes arising under this Tariff to arbitration. In the event of a conflict between these federal participation provisions in this Section of this Tariff and any other provision of this Tariff, these federal participation provisions shall have precedence with respect to the application of this Tariff to WAPA.

(b) Contingent Upon Appropriations and Authorization

Where activities provided for in this Tariff extend beyond the current fiscal year, continued expenditures by the United States through WAPA are contingent upon Congress making the necessary appropriations required for the continued performance of the obligations of the United States under this Tariff. In case such appropriation is not made, the Parties hereby release the United States from its contractual obligations under this Tariff and from all liability due to the failure of Congress to make such appropriation.

(c) Employment Practices; Contractor Agreement

For the purpose of this federal participation provision, the term "Contract" shall mean this Tariff and the term "Contractor" shall mean a Party having transactions with WAPA. During the performance of this Contract, the Contractor agrees to the provisions set forth in this Section and its subdivisions. In addition, the Contractor will include the following provisions in every subcontract or purchase order involving WAPA unless exempted by rules, regulations, or order of the Secretary of Labor.

(i) Equal Opportunity Employment Practices

Section 202 of Executive Order No. 11246, 30 Fed. Reg. 12319 (1965), as amended by Executive Order No. 12086, 43 Fed. Reg. 46501 (1978), which provides, among other things, that the Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin, is incorporated by reference in the Contract by reference to same as if the specific language had been written into the Contract, except that Indian Tribes and tribal organizations may apply Indian Preference to the extent permitted by federal law.

(ii) Contract Work Hours and Safety Standards

The Contract, to the extent that it is of a character specified in Section 103 of the Contract Work Hours and Safety Standards Act ("Act"), 40 U.S.C. § 3701, as amended or supplemented, is subject to the provisions of the Act, 40 U.S.C. § 3701-3708, as amended or supplemented, and to regulations promulgated by the Secretary of Labor pursuant to the Act.

(iii) Use of Convict Labor

The Contractor agrees not to employ any person undergoing sentence of imprisonment in performing the Contract except as provided by 18 U.S.C. § 3622(c), as amended or supplemented, and Executive Order No. 11755, 39 Fed. Reg. 779 (1973), as amended or supplemented.

(d) Statutory Obligations

WAPA was established on December 21, 1977, pursuant to Section 302 of the Department of Energy Organization Act, Public Law 95-91, dated August 4, 1977. By law, WAPA markets hydropower resources to meet statutory obligations. WAPA's transmission system was built primarily to enable the delivery of federal power to satisfy those obligations. Use of transmission facilities that WAPA owns, operates, or to which it has contract rights for delivery of federal long-term firm capacity and energy to project use and firm electric service customers is a WAPA responsibility under the terms and conditions of marketing criteria and electric service contracts implementing statutory obligations to market federal power. Capacity in WAPA transmission facilities under the WAPA tariff and SPP open access transmission tariff is solely for the use of available transfer capability, as that term is defined in WAPA's tariff, in excess of the capability WAPA requires for the delivery of long-term firm capacity and energy to statutory obligations and otherwise committed both currently and in the future under transmission agreements. Nothing in this Tariff will interfere with WAPA's transmission capacity and deliveries of statutory obligations. WAPA retains the available transfer capability, as that term is defined in WAPA's tariff, from its resources to deliver to its statutory obligations.

(e) Federal Projects

The individual hydroelectric projects from which WAPA markets power and energy and owned and controlled by the U.S. Department of Army, Corps of Engineers or the U.S. Bureau of Reclamation. These projects are operated to satisfy multiple purposes such as irrigation, navigation, flood control fish and wildlife, and recreation, as well as power production. Any operation of, and maintenance, modification or addition to such projects is subject to the express approval of either the U.S. Department of Army, Corps of Engineers or the U.S. Bureau of Reclamation. WAPA's transmission systems are integrated with switchyard facilities owned and operated by the U.S. Department of Army, Corps of Engineers or U.S. Bureau of Reclamation. Any operation of, and maintenance, modification, or addition to such facilities, including the funding of such activities, is subject to the requirements and express approval of the U.S. Department of Army, Corps of Engineers or U.S. Bureau of Reclamation. WAPA shall communicate and coordinate with the U.S. Department of Army, Corps of Engineers or the U.S. Bureau of Reclamation on any operation of, and maintenance, modification, or addition to the U.S. Department of Army, Corps of Engineers or the U.S. Bureau of Reclamation facilities, whichever is applicable, as requested by the Market Operator.

(f) Environmental Review Obligations

As a federal agency, WAPA must comply with various environmental and natural resource laws regulating the construction, operation and maintenance of its transmission facilities, including but not limited to the National Historic Preservation Act, 16 U.S.C. § 470 to 470x-6, the National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321-4347, the Endangered Species Act, 16 U.S.C. §§ 1531-1544, and the Archaeological Resources Protection Act of 1979, 16 U.S.C. § 470aa-470mm (2006); and regulations and Executive Orders implementing these laws, as they may be amended or supplemented, as well as any other existing or subsequent applicable laws, regulations and Executive Orders. In the event any action related to WAPA's participation and activities under this Tariff requires environmental compliance review prior to WAPA taking such action, this Tariff shall not be construed as restricting WAPA's absolute right to conduct and complete the environmental reviews it deems necessary in its sole discretion before making a decision regarding whether and how to proceed with such action. Market Operator acknowledges WAPA's environmental review could result in a decision not to take action or to delay action

(g) Advance Funding

In the absence of appropriated funds, WAPA requires advance deposit of funds when it is required to perform any work for third parties. As such, WAPA must receive an advance deposit of funds pursuant to federal law prior to WAPA committing to perform any work pursuant to the Tariff.

(h) Liability

WAPA, in the capacity as a Market Participant under this Tariff, cannot indemnify, defend, and hold other Parties harmless pursuant to the Anti-deficiency Act, 31 U.S.C. § 1341, *et seq*., as amended or supplemented. WAPA's liability as a Market Participant is determined in accordance with the Federal Tort Claims Act, 28. U.S.C. § 1346(b), 2401(b), 2402, 2671, 2672, 2674-2680, as amended or supplemented.

(i) WAPA Rate Review

WAPA's transmission service rates and revenue requirements shall only be reviewed in accordance with Delegation Order No. S1-DEL-RATES-2016 from the Secretary of Energy to the Federal Power Marketing Agencies and the Federal Energy Regulatory Commission (FERC or Commission), as superseded or amended, and in accordance with the regulations implementing the review authority found in 10 C.F.R. Part 903 and 18 C.F.R. Part 300, as superseded or amended.

(j) Inapplicability of Section 7.1 to a Federal Power Marketing Agency

Comment [CD1]: Update if section as whole is changed to section 6

Section 7.1 of this Tariff shall not apply to WAPA.

(k) No Expansion of Jurisdiction, Waiver Of Defenses, Liability For Penalties, Or Inconsistent Obligations

WAPA has not waived or conceded any defense, including sovereign immunity, intergovernmental immunity, or lack of subject matter jurisdiction in any action against it by an Enforcement Authority, nor has WAPA accepted any liability, responsibility, or obligation to pay any civil monetary penalties or fines imposed by an Enforcement Authority to which it would not have been subject in the absence of this Tariff. "Enforcement Authority" means the Commission, Electric Reliability Organization (ERO), or Regional Entities with enforcement authority pursuant to a delegation from an ERO or Commission for the purpose of proposing and enforcing reliability standards. The Market Operator does not concede or accept responsibility for any portion of a penalty or fine attributable to the actions or omissions of WAPA. The Market Operator will identify the amount of any penalty or fine that Market Operator allocates to WAPA or that the Market Operator determines is attributable to WAPA and will identify that amount to FERC as uncollectable and not otherwise owed by the Market Operator.

(l) Net Billing

Payments due WAPA may be offset against payments due SPP. For services included in net billing procedures, payments due one Party in any month shall be offset against payments due the other Party in such month, and the resulting net balance shall be paid to the party in whose favor such balance exists. The Parties shall exchange such reports and information that either party requires for billing purposes. Net billing shall not be used for any amounts due which are in dispute.

(m) Bill Crediting

Payments to WAPA by SPP shall be paid by SPP to a third party when so directed by WAPA. Any third party designated to receive payment and the amount to be paid to that party will be so identified in writing to SPP. The payment to the third party shall be due and payable by the payment due date specified on WAPA's bill. When remitting payment to a designated third party, SPP shall indicate that such payment is being made on behalf of WAPA. WAPA shall credit SPP for the amount paid as if payment had been made directly to WAPA.

(n) Assignment

Any agreement related to participation under this Tariff in which WAPA is a Party shall inure to the benefit of and be binding upon the Parties and their respective successors and assigns, but shall not be assigned by any Party, except to successors to all or substantially all of the electric properties and assets of such Party, without the written consent of the other Parties. Such written consent shall not be unreasonably withheld.

WAPA and SPP acknowledge that FERC, in the context of its jurisdiction over SPP's rates, may review WAPA's revenue requirement and rates to the extent they comprise or affect the rates charged by SPP or other members. In this case, such review shall be consistent with Delegation Order No. S1-DEL-RATES-2016, as superseded or amended, from the Secretary of Energy to the Power Marketing Administrations and FERC, including the regulations implementing this review authority. If FERC does not accept WAPA's revenue requirement or rates, WAPA may terminate any agreements related to participation under this Tariff subject to the termination provisions of those agreements. In such event, WAPA and SPP agree to meet and confer prior to any termination of such agreements.

(o) Pricing

WAPA shall possess the unilateral right or option, as applicable, to file with FERC, or submit to SPP for filing with FERC, pursuant to Section 205 of the Federal Power Act and federal statutory and regulatory requirements, including Delegation Order No. S1-DEL-RATES-2016, 10 CFR Part 903 and 18 CFR Part 300, as amended or superseded, modifications to change the rates or rate structure for transmission service, including filing a fixed revenue requirement and supporting data or a rate formula template for its cost of service revenue requirements.

(p) Controlled Unclassified Information

In connection with its participation in Markets+, WAPA may disclose to Market Operator information that is "Controlled Unclassified Information" ("CUI") as defined in DOE Order 471.1. Market Operator agrees it will handle CUI in accordance with Executive Order No. 13556, 75 Fed. Reg. 68675 (2010), 32 CFR part 2002, Department of Energy Order 471.7 (2022), and the CUI Registry, as amended or supplemented. Market Operator further acknowledges, consistent with the requirements of Order 471.7, paragraph 4.c(12) that misuse of CUI is subject to penalties established in applicable laws, regulations, and government-wide policies, and agrees to promptly report to WAPA any non-compliance with CUI handling requirements.

(q) WAPA and its Regional Divisions and Operating Units

Any references to WAPA within this Tariff shall apply to each of its regional divisions or operating units. Notwithstanding the definition of Affiliate contained elsewhere in this Tariff, and although they may be treated as Affiliates for Tariff administration purposes, WAPA and its regional divisions and operating units who are Market Participants under this Tariff are not Affiliates for any other purposes, and preserve any and all arguments, and do not waive or concede any defenses, that they are not Affiliates, including but not limited to in any actions of an enforcement authority. WAPA and its regional divisions and operating units are not Affiliates of any other Federal Power Marketing Administrations.

7.4 Participation by Bonneville Power Administration

Comment [CD2]: BPA DRAFTER'S NOTE: BONNEVILLE IS CURRENTLY CONSIDERING HOW IT WILL PARTICPATE IN MARKETS+. BONNEVILLE WILL LIKELY PROPOSE ADDITIONAL PROVISIONS TO THIS TARIFF EXHIBIT AS THE MARKETS+ MARKET DESIGN IS FURTHER DEVELOPED.

This Section contains provisions applicable to the participation of the Bonneville Power Administration ("Bonneville") in Markets+.

(a) Statutory, Regulatory, and Contractual Requirements

Bonneville's participation shall be subject to all applicable acts of Congress, regulations, and certain contractual requirements. Nothing in this Tariff shall compel Bonneville to violate or exceed its statutory authority, applicable regulations, or certain contractual requirements, as determined by Bonneville or a forum of competent jurisdiction. If any provision of this Tariff is inconsistent with any obligation imposed on Bonneville by federal law, regulation, or such contracts as described above, the Tariff provision shall be inapplicable. Bonneville shall not incur any liability by failing to comply with a provision of this tariff that is determined to be inapplicable to Bonneville under this section; provided, however, Bonneville shall use its best efforts to comply the terms and conditions of this Tariff to the extent legally permissible. Nothing in this Tariff shall alter or interfere with the rights an entity has under 16 U.S.C. §§ 824q, 824r.

(b) Bonneville's Rate Schedules and Revenue Requirements

Bonneville's rate setting process is governed by several statutes. Section 7(a)(1) of the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act) directs Bonneville's Administrator to establish, and

periodically review and revise, rates for the sale and disposition of electric energy and capacity and for the transmission of non-federal power. 16 U.S.C. § 839e(a)(1). Bonneville meets this requirement by conducting a rate proceeding. In addition to the Northwest Power Act, Bonneville is responsible for establishing rates pursuant to the Bonneville Project Act. 16 U.S.C. § 832, *et seq.*, the Federal Columbia River Transmission System Act, 16 U.S.C. § 838, *et seq.*, and the Flood Control Act of 1944, 16 U.S.C. § 825, *et seq*. Pursuant to the Northwest Power Act, Bonneville's rates become effective upon confirmation and approval by FERC. 16 U.S.C. § 839e(a)(2) & (k). Nothing in this tariff shall interfere with these statutory requirements.

BPA shall establish the revenue requirement for its transmission function. BPA shall also establish rate schedules for BPA's transmission services. To the extent needed by SPP, BPA will provide data and information regarding its revenue requirements and rate schedules as inputs SPP may use in setting its charges and rates for Markets+ transactions. However, SPP may not alter the transmission revenue requirement and rate schedules established by BPA and confirmed and approved by FERC under the Northwest Power Act.

(d) No Expansion of Jurisdiction, Waiver of Defenses, Liability For Penalties, Or Inconsistent Obligations

By application of this tariff, Bonneville has not waived or conceded any defense, including sovereign immunity, intergovernmental immunity, or lack of subject matter jurisdiction in any action against it by an Enforcement Authority, nor has Bonneville accepted any liability, responsibility, or obligation to pay any civil monetary penalties or fines imposed by an Enforcement Authority to which it would not have been subject in the absence of this tariff. "Enforcement Authority" means FERC, an Electric Reliability Organization (ERO), or Regional Entities with enforcement authority pursuant to a delegation from an ERO or FERC for the purpose of proposing and enforcing reliability standards. The Market Operator does not concede or accept responsibility for any portion of a penalty or fine attributable to the actions or omissions of Bonneville. The Market Operator will identify the amount of any penalty or fine assessed to the Market Operator attributable to Bonneville and will identify that amount to the Enforcement Authority as uncollectable and not otherwise owed by the Market Operator.

(e) Liability

Bonneville, in the capacity as a Market Participant under this Tariff, cannot indemnify, defend, and hold other parties harmless pursuant to the Anti-Deficiency Act, 31 U.S.C. § 1341, *et seq.*, as amended or supplemented. Bonneville's tort liability is determined in accordance with the Federal Tort

Claims Act, 28. U.S.C. § 1346(b), 2401(b), 2402, 2671, 2672, 2674-2680, as amended or supplemented.

(f) Controlled Unclassified Information

In connection with its participation in Markets+, Bonneville may disclose to Market Operator information that is "Controlled Unclassified Information" ("CUI") as defined in DOE Order 471.1. Market Operator agrees it will handle CUI in accordance with Executive Order No. 13556, 75 Fed. Reg. 68675 (2010), 32 CFR part 2002, Department of Energy Order 471.7 (2022), and the CUI Registry, as amended or supplemented. Market Operator further acknowledges, consistent with the requirements of Order 471.7, paragraph 4.c(12) that misuse of CUI is subject to penalties established in applicable laws, regulations, and government-wide policies, and agrees to promptly report to Bonneville any non-compliance with CUI handling requirements.

(g) Disputes Involving Bonneville/Arbitration

If Bonneville is a party to a dispute under this tariff, the procedures set forth in section X for the resolution of claims and arbitration of disputes are subject to any limitations imposed on Bonneville by law, including but not limited to the authority of Bonneville to effect a remedy.

7.5 Non-Jurisdictional Status, Regulatory Filings, No Waiver of Jurisdictional Immunity

Market Participants that are non-jurisdictional utilities ("Non-Jurisdictional Market Participants") as described in Section 201(f) of the Federal Power Act, 16 U. S. C. 824(f) are not required to take any action or participate in any filing, proceeding, or appeal that would confer FERC jurisdiction on those Non-Jurisdictional Market Participants that does not otherwise exist. Any order, decision, rule or regulation issued by FERC to SPP or any other Market Participants relating to matters exempt from FERC jurisdiction under Section 201(f) of the Federal Power Act shall not apply directly or separately to the Non-Jurisdictional Market Participants. Nothing in this Tariff or any agreement related to participation under this Tariff, or the participation of Non-Jurisdictional Market Participants in Markets+ waives any objection to or otherwise constitutes a consent to, the jurisdiction by FERC that does not otherwise exist over Non-Jurisdictional Market Participants or their transmission or energy services, facilities and rates.

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, October 30, 2023 8:54 AM
To: Zvareck, Dave; Mantifel,Russell (BPA) - MTM-3
Cc: Amber Parker; Carrie Simpson; Jim Gonzalez; Hakala, Tuuli; Chris Nolen
Subject: [EXTERNAL] RE: MDWG tabled motion on Scarcity Pricing

Good morning Dave –

Thank you for reaching out. The language you referenced below is considered boilerplate from the RTO's IM Tariff (Attachment AE, Section 4.2.2(1)(b)). That language originated from FERC Order 831 (Offer Caps), where RTO/ISOs must impose Offer Caps that are verifiable once they reach a certain level. During that filing, SPP requested the Commission allow regional flexibility for this issue due to the problematic nature of attempting to obtain cost information for resources out of SPP. I would assume we are following suit to this same caveat given that it also could be challenging to request cost information for Resources outside of the M+ footprint.

Carrie/Jim/Chris – Would you agree with that notion above? Please correct me if I have misspoken.

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Dave Zvareck <dzvareck@acespower.com>
Sent: Monday, October 30, 2023 10:15 AM
To: Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Kristen Darden <kdarden@spp.org>; Amber Parker <aparker@azgt.coop>
Subject: **External Email** MDWG tabled motion on Scarcity Pricing

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Morning Russ,

Hope you had a nice weekend. I was looking back at the items discussed at last Thursday's MDWG and wanted to point something out on the Scarcity Pricing motion that was tabled. NVE's proposed motion required cost-verification for Imports/Virtuals above $1,000/MWh; however, the MDWG approved the Interchange Transaction tariff language which states the following: *"Import Interchange Transactions may be submitted up to Offer Cap as described in Attachment A Section 5.3* ***and are not subject to cost verification****."* It seems the Offer Cap is still open for debate, but it may be problematic to unwind the already approved language on Import cost verification.

Maybe this is something you're already keen on but wanted to point it out just in case.

Best,
Dave Z.

Dave Zvareck | Director of Market Affairs
ACES® | 4140 West 99th Street | Carmel, IN 46032
o: 317.344.7058 | m: (b)(6) | dzvareck@acespower.com

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From: Kristen Darden <kdarden@spp.org>
Sent: Monday, July 17, 2023 5:42 PM
To: Breidenich, Clare; Mantifel,Russell (BPA) - PGL-5; Detmer, Nick; Kim O'Guinn; Wiencke, Mary
Cc: Russell Carey; Jennelle Primm
Subject: RE: [EXTERNAL] RE: August 8-10 Markets+ Meetings

Great – Thank you, Clare.

I will work with Communications in getting this updated on SPP.org and an email sent out tomorrow first thing.

From: Clare Breidenich <cbreidenich@aciem.us>
Sent: Monday, July 17, 2023 7:38 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>; Kim O'Guinn <koguinn@spp.org>; Wiencke, Mary <mwiencke@publicgeneratingpool.com>
Cc: Russell Carey <rcarey@spp.org>; Jennelle Primm <jprimm@spp.org>
Subject: **External Email** RE: [EXTERNAL] RE: August 8-10 Markets+ Meetings

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Thank you. I can make that work.

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, July 17, 2023 4:46 PM
To: Clare Breidenich <cbreidenich@aciem.us>; Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>; Kim O'Guinn <koguinn@spp.org>; Wiencke, Mary <mwiencke@publicgeneratingpool.com>
Cc: Russell Carey <rcarey@spp.org>; Jennelle Primm <jprimm@spp.org>
Subject: RE: [EXTERNAL] RE: August 8-10 Markets+ Meetings

Yes – that is correct. The MDWG would continue to meet Thursday, 8/10, 8:30-12:00.

From: Clare Breidenich <cbreidenich@aciem.us>
Sent: Monday, July 17, 2023 6:23 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>; Kim O'Guinn <koguinn@spp.org>; Wiencke, Mary <mwiencke@publicgeneratingpool.com>
Cc: Russell Carey <rcarey@spp.org>; Jennelle Primm <jprimm@spp.org>
Subject: **External Email** RE: [EXTERNAL] RE: August 8-10 Markets+ Meetings

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Hi Kristen,
Just to make sure that I am clear, GHG would only meet on the afternoon of the 9th, is that correct?

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, July 17, 2023 3:24 PM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>; Kim O'Guinn <koguinn@spp.org>; Wiencke, Mary <mwiencke@publicgeneratingpool.com>; Clare Breidenich <cbreidenich@aciem.us>
Cc: Russell Carey <rcarey@spp.org>; Jennelle Primm <jprimm@spp.org>
Subject: RE: [EXTERNAL] RE: August 8-10 Markets+ Meetings

Thank you everyone.

Clare – would the GHG be okay with this change? If so, we will get some emails out asap on the change of meeting info.

From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Monday, July 17, 2023 5:21 PM
To: Detmer, Nick <nick.detmer@xcelenergy.com>; Kristen Darden <kdarden@spp.org>; Kim O'Guinn <koguinn@spp.org>; Wiencke, Mary <mwiencke@publicgeneratingpool.com>; Breidenich, Clare <cbreidenich@aciem.us>
Cc: Russell Carey <rcarey@spp.org>; Jennelle Primm <jprimm@spp.org>
Subject: **External Email** RE: [EXTERNAL] RE: August 8-10 Markets+ Meetings

CAUTION: This email originated from outside of the SPP network. Do not click links or open attachments unless you recognize or can verify the sender, or were expecting an email from the sender. The original sender of this email is rxmantifel@bpa.gov

Same here.

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Monday, July 17, 2023 1:46 PM
To: Kristen Darden <kdarden@spp.org>; Kim O'Guinn <koguinn@spp.org>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Wiencke, Mary <mwiencke@publicgeneratingpool.com>; Breidenich, Clare <cbreidenich@aciem.us>
Cc: Russell Carey <rcarey@spp.org>; Jennelle Primm <jprimm@spp.org>
Subject: [EXTERNAL] RE: August 8-10 Markets+ Meetings

I am

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, July 17, 2023 2:28 PM
To: Kim O'Guinn <koguinn@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>; Wiencke, Mary <mwiencke@publicgeneratingpool.com>; Breidenich, Clare <cbreidenich@aciem.us>
Cc: Russell Carey <rcarey@spp.org>; Jennelle Primm <jprimm@spp.org>
Subject: RE: August 8-10 Markets+ Meetings

EXTERNAL - STOP & THINK before opening links and attachments.

Great – Thank you, Kim.

Russ, Nick, Mary, and Clare – Are you comfortable with this approach as well?

From: Kim O'Guinn <koguinn@spp.org>
Sent: Monday, July 17, 2023 3:14 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>; Wiencke, Mary <mwiencke@publicgeneratingpool.com>; Breidenich, Clare <cbreidenich@aciem.us>
Cc: Russell Carey <rcarey@spp.org>; Jennelle Primm <jprimm@spp.org>
Subject: RE: August 8-10 Markets+ Meetings

Yes.

Sent from my Verizon, Samsung Galaxy smartphone

-------- Original message --------
From: Kristen Darden <kdarden@spp.org>
Date: 7/17/23 2:45 PM (GMT-06:00)
To: Kim O'Guinn <koguinn@spp.org>, "Mantifel, Russ" <rxmantifel@bpa.gov>, "Detmer, Nick" <nick.detmer@xcelenergy.com>, "Wiencke, Mary" <mwiencke@publicgeneratingpool.com>, "Breidenich, Clare" <cbreidenich@aciem.us>
Cc: Russell Carey <rcarey@spp.org>, Jennelle Primm <jprimm@spp.org>
Subject: August 8-10 Markets+ Meetings

Good afternoon everyone –

The IMIP will be concluding by Wednesday, 8/9, 12:00 p.m.. Given this update, would you be comfortable with having the joint portion of the MGHGTF/MDWG meeting at the Hyatt (in the MPEC/IMIP room) immediately following the IMIP, Wednesday, 8/9, 1:00-5:00 p.m., then pick up Thursday, 8/10, 8:30-12:00 p.m. for the remainder of the meeting and conclude all meetings by noon Thursday? This would allow for those traveling, to head back home Thursday afternoon.

Thoughts?

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Friday, August 25, 2023 9:21 AM
To: Kochheiser,Todd W (BPA) - TOI-DITT-2; Eaton,Sara L (BPA) - PTMA-5; Applegate, Rick; 'Spires, Jeff'; Fina, Joe
Cc: Mantifel,Russell (BPA) - PGL-5; Siewert,Christopher W (BPA) - PGS-5
Subject: RE: [External Sender] RE: [EXTERNAL] RE: Hydro Aggregation Draft Tariff Language

Thanks Todd. Given the prior context, I'm comfortable with keeping it open. Maybe in that case it's a little cleaner to just drop the "determined" terms? Something like:

> Share a common hydrological basin and share a common river system, or are electrically similar, or the aggregation does not have a material impact on M+ market operations;

From: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>
Sent: Friday, August 25, 2023 9:17 AM
To: Cornelius, Adam <ACCornelius@Snopud.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Applegate, Rick <rapplegate@cityoftacoma.org>; 'Spires, Jeff' <Jeff.Spires@powerex.com>; Fina, Joe <GFina@SNOPUD.com>
Cc: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: RE: [External Sender] RE: [EXTERNAL] RE: Hydro Aggregation Draft Tariff Language

Regarding who makes the electrically similar and material impact determinations in the first requirement, that's a good question. That could be clarified, but I'd assume it would ultimately be the MO. There might be some benefit to leaving that question unanswered in the tariff, but also willing to tighten it up.

From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Friday, August 25, 2023 9:11 AM
To: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Applegate, Rick <rapplegate@cityoftacoma.org>; 'Spires, Jeff' <Jeff.Spires@powerex.com>; Fina, Joe <GFina@SNOPUD.com>
Cc: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: RE: [External Sender] RE: [EXTERNAL] RE: Hydro Aggregation Draft Tariff Language

Thanks Todd. Given that context, I'll retract my 2nd bullet below.

-Adam

From: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>
Sent: Friday, August 25, 2023 9:06 AM
To: Cornelius, Adam <ACCornelius@Snopud.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Applegate, Rick <rapplegate@cityoftacoma.org>; 'Spires, Jeff' <Jeff.Spires@powerex.com>
Cc: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: RE: [External Sender] RE: [EXTERNAL] RE: Hydro Aggregation Draft Tariff Language

Hi Adam,

You won't find anything in the CAISO tariff that covers the types of details you mention (e.g., generation shift factors, etc.). Most of the details regarding the aggregation model used in WEIM by BPA and PWX were covered in our implementation agreements (filed with FERC). The BPA aggregated resource model was explained on page 4 of our transmittal letter for the WEIM participation agreements, which were of course accepted by FERC (see link below). There is a reference to the a BPM section (4.2.3.2) and a tariff section (3.1.2) in footnote 14.

https://www.westerneim.com/Documents/Oct1-2021-EIMParticipationAgreements-BonnevillePowerAdministration-ER22-25.pdf

As for Powerex's model, that was explained in their Canadian EIM Entity Agreement, which included much more explanation and justification for the unique modeling necessary for Powerex's participation in the WEIM (see pages 9-12 of the transmittal letter linked below).

https://www.westerneim.com/Documents/Nov3_2017_PowerexCanadianEIMEntityAgreement_ER18-251.pdf

So, bottom line, I think some of the implementation details could be covered in protocols and/or a entities participation agreement. Clearly there is precedence for this type of participation model.

Todd

From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Friday, August 25, 2023 8:52 AM
To: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Applegate, Rick <rapplegate@cityoftacoma.org>; 'Spires, Jeff' <Jeff.Spires@powerex.com>
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: RE: [External Sender] RE: [EXTERNAL] RE: Hydro Aggregation Draft Tariff Language

Thanks Sara,

Generally speaking, if the language works for BPA it likely works for us. Two quick comments/questions:

- Who makes the electrically similar and material impact determinations in the first requirement?
- I recall in CAISO that there is a requirement that the resource scheduling coordinator must submit the distribution factors for each resource in the aggregation to show how an energy award would be distributed among the resources. Not sure if that needs to be spelled out here or is covered by "any other information required by the market operator" and can fall into protocols. I unsuccessfully tried to track down the CAISO tariff section enabling this as a comparison, but might have been searching for the wrong terms.

I'm copying Joe here as he may have some additional comments, but I think this works as a starting point at MDWG.

-Adam

From: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Sent: Friday, August 25, 2023 8:21 AM
To: Applegate, Rick <rapplegate@cityoftacoma.org>; Cornelius, Adam <ACCornelius@Snopud.com>; 'Spires, Jeff' <Jeff.Spires@powerex.com>
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: [External Sender] RE: [EXTERNAL] RE: Hydro Aggregation Draft Tariff Language

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Hi Rick,

No worries – it's a busy week, as always.
Jim from SPP reached out with some language – so if everyone here's comfortable, I think we'll forward this attachment to Jim.
Adam – let me know if there's anything you think would be an issue (at least as a starting point for MDWG discussions)?

Best,
Sara

From: Applegate, Rick <rapplegate@cityoftacoma.org>
Sent: Friday, August 25, 2023 8:15 AM
To: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Adam Cornelius <ACCornelius@Snopud.com>; 'Spires, Jeff' <Jeff.Spires@powerex.com>
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: [EXTERNAL] RE: Hydro Aggregation Draft Tariff Language

Hi Sara,

Thank you for doing this, and my apologies for the slow response...I do believe this language works from our perspective.

Best regards,

Rick

From: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Sent: Thursday, August 24, 2023 10:08 AM
To: Applegate, Rick <rapplegate@cityoftacoma.org>; Adam Cornelius <ACCornelius@Snopud.com>; 'Spires, Jeff' <Jeff.Spires@powerex.com>
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: Hydro Aggregation Draft Tariff Language

Hi All,

I know many of us have been working on hydro tariff language and I wanted to get all of us together and get input on the attached version. I think the draft version should accommodate a range of potential participation models, while still respecting the necessary electrical considerations to participate in the market.

Looking forward to your input—probably sooner than later as I think SPP is hoping to include this language in the next MDWG meeting.

Best,

Sara Eaton (she/her)
Senior Markets Policy Analyst | Market Policy and Pricing | PTMP
Bonneville Power Administration
C: (b)(6) W: 503-230-5222 | sleaton@bpa.gov

29333408

From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Friday, December 1, 2023 8:55 AM
To: Eaton,Sara L (BPA) - PTMA-5; Spires, Jeff; Holman, Mark; Paul Dietz; Mantifel,Russell (BPA) - MTM-3; Applegate, Rick; Sibyl Geiselman; Michael Linn; Fina, Joe; Marr, Garrison; Hakala, Tuuli; Jaspers, Janet; Bradshaw, Mike
Subject: RE: [EXTERNAL] RE: [External Sender] Revised SHOC Tariff Language

Sara and Jeff,

Thanks for your continued efforts on this topic. Snohomish could support either version of the language for item 11 sent yesterday. Talk to you all in a few minutes!

-Adam

From: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Sent: Thursday, November 30, 2023 3:24 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Cornelius, Adam <ACCornelius@Snopud.com>; Holman, Mark <Mark.Holman@powerex.com>; Paul Dietz <Pdietz@gcpud.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Applegate, Rick <rapplegate@cityoftacoma.org>; Sibyl Geiselman <sgeiselman@publicgeneratingpool.com>; Michael Linn <mlinn@ppcpdx.org>; Fina, Joe <GFina@SNOPUD.com>; Marr, Garrison <GBMarr@Snopud.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Bradshaw, Mike <mike.bradshaw@chelanpud.org>
Subject: RE: [EXTERNAL] RE: [External Sender] Revised SHOC Tariff Language

Thanks Jeff – that's helpful to hear Carrie's responsiveness to the simple example—we can certainly chime in on that section if it comes up tomorrow.

And to your suggested revisions on item 11 – I've sent them around internally – but prefer them to the current language/my edits. The removal of references to spill should resolve the concerns we had, while not being so ambiguous as to what is meant by usable storage. I'll let you know if I hear something different, but I think that language would be more readily supported by BPA.

Best,
Sara

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Thursday, November 30, 2023 2:47 PM
To: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Cornelius, Adam <ACCornelius@Snopud.com>; Holman, Mark <Mark.Holman@powerex.com>; Paul Dietz <Pdietz@gcpud.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Applegate, Rick <rapplegate@cityoftacoma.org>; Sibyl Geiselman <sgeiselman@publicgeneratingpool.com>; Michael Linn <mlinn@ppcpdx.org>; Fina, Joe <GFina@SNOPUD.com>; Marr, Garrison <GBMarr@Snopud.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Bradshaw, Mike <mike.bradshaw@chelanpud.org>
Subject: RE: [EXTERNAL] RE: [External Sender] Revised SHOC Tariff Language

Hi Sara

Thanks for reaching out. A few thoughts on each topic:

1. With respect to the SPP comment bubble of "shortest" vs "longest" reservoir: I think this reflects some confusion on SPP's part. I had a conversation with Carrie about this comment bubble yesterday and I believe it helped her better understand why using the reservoir with the longest duration is appropriate and necessary. That said, I expect this topic may require further discussion during tomorrow's call. When speaking with Carrie, I provided a simple hypothetical example of a hydro system with a storage reservoir at the top of the river and two cascading hydro projects. Even if the second downstream project has little or no stand-alone storage, the opportunity cost of the coordinated hydro system is based on whether to release water from its upstream reservoir either now or in the future. In contrast, a DEB that was based on the downstream project's stand-alone storage capability would risk the hydro system being dispatched below its actual opportunity cost, ultimately requiring a release of additional water from its upstream storage facility at the wrong time. This is a simplistic example and hydro systems will certainly have more complex relationships between the various hydro projects within their system. However I think it was helpful in emphasizing that we need to ensure the DEB reflects the ability for the hydro system to store water, and that is best represented by reservoir with the most storage capability. She seemed to find this helpful, but as I mentioned it may come up again tomorrow.

2. For item (11), we recognize the concern about using spill as the measurement of storage capability (or lack thereof). However, changing the language to say "beyond one day" seems that it could inadvertently impact participants with < 1 full day of storage and I don't think that is the intent. We also would like to try to define the scenario that defines "no usable storage" in a way that it can be reasonably forecast/measured and is not ambiguous. To that end, what about something like this?

   Notwithstanding the maximum hydroelectric Resource storage horizon, any hydroelectric Resource for which the hydro operator reasonably expects no usable storage within the Operating Day, then its Hydroelectric Offer Curve shall be the greater of (a) the most recent day-ahead peak price at the applicable electric pricing hub, and (b) $0/MWh. For purposes of this section, no usable storage will be defined as conditions under which generating less than the maximum output at all available units for all intervals of the Operating Day would not conserve additional water in any of the reservoirs of the hydroelectric Resource for use in a future period.

I look forward to hearing thoughts on this.

Jeff

From: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Sent: Thursday, November 30, 2023 1:45 PM
To: Cornelius, Adam <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Paul Dietz <Pdietz@gcpud.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Applegate, Rick <rapplegate@cityoftacoma.org>; Sibyl Geiselman <sgeiselman@publicgeneratingpool.com>; Michael Linn <mlinn@ppcpdx.org>; Fina, Joe <GFina@SNOPUD.com>; Marr, Garrison <GBMarr@Snopud.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Bradshaw, Mike <mike.bradshaw@chelanpud.org>
Subject: RE: [EXTERNAL] RE: [External Sender] Revised SHOC Tariff Language

⚠ **Caution: External Email**

Hi All,

I wanted to touch-base with this group before tomorrow's MDWG discussion on Attachments B and C.
We've been reviewing the comments that were posted and attributed to SPP staff and were curious to hear any initial reactions you all had.

Specifically – in section M item (7) a – the comment is suggesting using the shortest storage duration instead of the longest. Given that would be a significant change than what is in the CAISO DEB language, I believe we would not be able to support that change and wanted to see if you all had a similar take on that comment. I'm sure we can speak to the hydro aspects/ that the longest reservoir is the driver of the storage horizon for the other projects with shorter durations.

I was also hoping to flag that internally, there was some concerns with the references to spill in item (11) – that references to spill may not get at the intent of storage (I know that's something that seemed to have consensus from the group on 11/17). I wasn't sure if others had potential suggestions to item 11 – but we were wondering if something like this below would work, and allow the usable storage definition to be outlined in the protocols.

(11) Notwithstanding the maximum hydroelectric Resource storage horizon, any hydroelectric Resource for which the hydro operator reasonably expects no usable storage beyond one day, ~~which will be defined as a combination of high inflows and limited available storage that collectively are anticipated to directly cause the hydroelectric Resource to spill energy at each reservoir of the hydroelectric Resource and such spill cannot be avoided even if the hydroelectric Resource were to generate at maximum output at all available units for all intervals of the Operating Day,~~ then its Hydroelectric Offer Curve shall be the greater of (a) the most recent day-ahead peak price at the applicable electric pricing hub, and (b) $0/MWh.

Would welcome any input or thoughts.
Best,
Sara

From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Thursday, November 16, 2023 4:59 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Paul Dietz <Pdietz@gcpud.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Applegate, Rick <rapplegate@cityoftacoma.org>; Sibyl Geiselman <sgeiselman@publicgeneratingpool.com>; Michael Linn <mlinn@ppcpdx.org>; Fina, Joe <GFina@SNOPUD.com>; Marr, Garrison <GBMarr@Snopud.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Bradshaw, Mike <mike.bradshaw@chelanpud.org>
Subject: [EXTERNAL] RE: [External Sender] Revised SHOC Tariff Language

Thanks for this language, Jeff. I am not seeing any red flags here and am comfortable with the approach discussed on the call.

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Thursday, November 16, 2023 3:28 PM
To: Holman, Mark <Mark.Holman@powerex.com>; Sara Eaton <sleaton@bpa.gov>; Paul Dietz <Pdietz@gcpud.org>; Cornelius, Adam <ACCornelius@Snopud.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Applegate, Rick

<rapplegate@cityoftacoma.org>; Sibyl Geiselman <sgeiselman@publicgeneratingpool.com>; Michael Linn <mlinn@ppcpdx.org>; Fina, Joe <GFina@SNOPUD.com>; Marr, Garrison <GBMarr@Snopud.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Bradshaw, Mike <mike.bradshaw@chelanpud.org>
Subject: [External Sender] Revised SHOC Tariff Language

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Hi all,

Thanks for the discussion today. As discussed, here is a clean and redline version of the SHOC language that we were discussing.

Jeff

-----Original Appointment-----
From: Spires, Jeff
Sent: Wednesday, November 15, 2023 6:43 AM
To: Spires, Jeff; Holman, Mark; Sara Eaton; Paul Dietz; Cornelius, Adam; Mantifel,Russell (BPA) - MTM-3; Applegate, Rick; Sibyl Geiselman; Michael Linn; Fina, Joe; Marr, Garrison; Hakala, Tuuli; Jaspers, Janet; Bradshaw, Mike
Subject: Markets+ Hydro Considerations (Attachment B & C)
When: Thursday, November 16, 2023 2:00 PM-3:00 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

Microsoft Teams meeting

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From: Shawn Smith <Shawn.Smith@chelanpud.org>
Sent: Sunday, September 17, 2023 7:10 PM
To: Holman, Mark
Cc: Suzanne Cooper (sbcoooper@bpa.gov); Mantifel,Russell (BPA) - PGL-5; Ray Johnson; Zyskowski, Jason; gfina@snopud.com; Applegate, Rick; Kochheiser,Todd W (BPA) - TOI-DITT-2; Eaton,Sara L (BPA) - PTMA-5; Cornelius, Adam; Jeff Spires; Aitken, Meredith
Subject: Re: [External] Storage Hydro Participation In Markets+

Yes, Chelan wants to be part of this and I will be the representative.

-Shawn

On Sep 14, 2023, at 9:41 AM, Holman, Mark <Mark.Holman@powerex.com> wrote:

PAUSE TO CONSIDER: The actual sender address for this email is Mark.Holman@powerex.com.
Do you trust this message and any contents within?
If not, please forward it to our Phishing Hole for analysis. Thank You!

Good morning,

From our discussions with SPP's senior management on this topic, we have concluded that the nature of storage hydro participation in Markets+ should be set forth in the tariff. Based on those discussions, I am reaching out to you to arrange a call to kick-off a group discussion on identifying and drafting the necessary Markets+ tariff elements to facilitate storage hydro participation in Markets+. While work on some of these elements is already underway (e.g., hydro aggregation), it has become clear to us that there are several other elements that will need to be incorporated into the tariff to make Markets+ workable for storage hydro. These topics include:

- Hydro aggregation
- Hydro reference price (Default Energy Bid) for market power mitigation
- Hydro data sharing (a confined list of what data will be shared)
- Hydro operator autonomy over dispatch of individual facilities
- Hydro operator autonomy over reservoir and river management (water management)
- Hydro participant autonomy over offer quantity and offer price (while still being subject to must-offer obligations and related financial charges and to offer price mitigation)

Given the fundamental nature of these issues and their broad applicability to participating storage hydro resources, it seems critical that tariff provisions do not result in a gap in expectations of how storage hydro will participate. We are generally not seeking to carve out new approaches, but rather seeking to adopt standards that are consistent with storage hydro operations, and where possible "port over" the hydro components from the Western EIM and WRAP (Hydro DEB, voluntary nature of participation, data sharing items, etc.).

SPP has encouraged us to work with other hydro stakeholders and "use the governance process" to achieve the tariff language necessary from the outset of Markets+.

The first call is to make sure senior leaders at each of your organizations are aware of the issue and support the direction and elements to be covered in the tariff.

Please 'reply all' with a list of people to attend, and we'll set up a doodle poll for time slots.

Best regards,

Mark Holman
Managing Director | Powerex Corp.
1300 - 666 Burrard Street | Vancouver, BC | V6C 2X8
Direct (b)(6) | Fax 604.891.5045 | Cell (b)(6)

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From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, August 23, 2023 7:44 AM
To: Schlekeway, Lindsey; Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] RE: MDWG

Hey Lindsey –

Thank you for sending these over. If you could send your comments 1-week following the meeting the language is posted in materials, that would be great, but also we are super flexible. I'll forward these on to my internal team and start review of them. I'll forward you the responses to your questions at that time.

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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From: Schlekeway, Lindsey (NV Energy) <Lindsey.Schlekeway@nvenergy.com>
Sent: Tuesday, August 22, 2023 5:29 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** MDWG

CAUTION: This email originated from outside of the SPP network. Do not click links or open attachments unless you recognize or can verify the sender, or were expecting an email from the sender. The original sender of this email is Lindsey.Schlekeway@nvenergy.com

Hi Kristen and Russ.

Sorry, I think I am a bit behind. I wanted to send this tariff language feedback to you. There is a proposed redline and a few questions in the document. As a matter of process, when do I need to get these to you in the future? I would like to make sure I am being timely and responsive to the tariff review process.

-Lindsey

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From: Carman Ruder <cruder@spp.org>
Sent: Wednesday, June 5, 2024 3:47 PM
To: Aaron Shipley; Adriane Barnes; Amy Casavechia; Brad Johnston; Britney Lloyd; Carman Ruder; Carrie Simpson; Contractor-Kevin Morelock; Derek Wingfield; Gentry Crowson; Jennelle Primm; Jennifer Farley; Jillian Janik; John Gunter; Jordan Foster; Kelli Schermerhorn; Ken Quimby; Kim O'Guinn; Morelock, Kevin; Wolfgang, Tracy; Taylor, Joseph; Blair, Twyana; Moore, Tyler; Russell, Derek; Wiencke, Mary; Breidenich, Clare; Mantifel,Russell (BPA) - MTM-3; Detmer, Nick; Spires, Jeff; Linn, Michael; Hakala, Tuuli; Martin, Marcie; Kirby,Elizabeth A (BPA) - MTM-3; Freitas, Art; Fredrickson,Rebecca E (BPA) - TSB-TPP-2; Myers, Nick; Gia Anguiano (ganguiano@westernenergyboard.org)
Cc: Meghan D. Sever; Adriane Barnes; Skylar Kincaid
Subject: [EXTERNAL] M+ Parking Lot Prioritization
Attachments: M+ Parking Lot.xlsx

Chairs and Secretaries,

Please review the attached Markets+ Parking Lot Prioritization and provide feedback regarding the split between the blue (Part of Go-Live) and orange (Post Go-Live) sections.

1. The items in the **blue** section have been identified as items for the WG/TF to start working on as soon as practicable and complete by the Target Dates listed in Columns K & L. These items are intended to be completed before going live.
    a. Do you agree with the items listed in the blue section? Do any items need to move from the blue to the orange or vice versa?
    b. Do you agree with the WG/TF Assignment?
    c. Do you agree with the proposed dates in columns K&L?
2. The items in the **orange** section have been identified as items that we will tackle post-go-live, and these items will be prioritized following the prioritization process: SPP proposal, WG/TF input, MDWG holistic review, and MPEC approval.
    a. Do you agree with the items listed in the orange section? Do any items need to move from the orange to the blue or vice versa?
    b. For PL items in the orange section, the WG/TF assignments and proposed completion dates will be addressed during the larger prioritization process.

Please provide feedback by Wednesday, June 26th and we will discuss as a group at the July 3rd Chairs and Secretaries meeting.

- **Blue Section:** Part of Go-Live
- **Orange Section:** Post Go-Live
- **Column G:** WG/TF Assignment
- **Column H:** Will this PL item have impacts to systems and/or software?
- **Column I:** Will this PL item require a M+ Tariff filing?
- **Column J:** SPP's proposed prioritization ranking
- **Column K:** Target MPEC Approval Date (Date by which the work on the PL Item needs to be complete to seek MPEC approval to begin full implementation)
- **Column L:** Target Implementation Date (Date by which the PL Item is fully implemented and ready for Market use)

Thank you!

Carman Ruder | Lead Market Design Analyst, Western Services Development | cruder@spp.org | (b) (6)
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29333466

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, February 15, 2024 1:38 PM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] February 15th MDWG Summary of Motions, Action Items, and Future Meetings
Attachments: 2 15 MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx

Good afternoon MDWG stakeholders and participants –

Let me start by saying – **THANK YOU SO MUCH!** We know these past seven weeks have been quite intense wrapping up tariff review and all associated meetings (7 MDWGs, but who's counting?). Those of you who reviewed and submitted comments, we appreciate it more than you realize, and those who continuously have showed up to any and all Markets+ meetings, assisting in the creation of the ***best tariff ever***, your efforts are not unseen. I know there are also individuals behind the scenes who aren't able to jump on meetings and we see you and thank you for your contributions as well. What a fun ten months, Madwagon!

I have attached the summary of motions from today's meeting. We are also working to wrap up last minute MPEC materials for the meeting next week. Registration for the 2/20 MPEC is available here. Also, if you didn't know, the updated Markets+ Tariff (sans GHG settlements and 5.5 language approved today) is located here on SPP.org.

Once again – thank you, thank you, ***THANK YOU***.

Have a wonderful day and weekend!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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MARKETS+

SOUTHWEST POWER POOL, INC.
MARKETS+ DESIGN WORKING GROUP MEETING
2/15/2024
Net-Conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

1. **Agenda Item 2 – GHG Settlements**

   Motion: Adam Cornelius (SCPUD) motioned to approve the GHG settlements design located in Attachment A, Sections 9.2.9, 9.2.18, 9.2.20 (Day-Ahead GHG Injection Amount), 9.2.21 (Day-Ahead GHG Unspecified Source Import Amount), 9.2.22 (Day-Ahead GHG Load Amount), 9.3.16, 9.3.18, 9.3.27, 9.3.28, 9.3.29 (Real-Time GHG Injection Amount), 9.3.30 (Real-Time GHG Unspecified Source Import Amount), 9.3.31 (Real-Time GHG Load Amount), and 9.3.32 (Real-Time GHG Overcollection Amount) as modified during the meeting and corresponding GHG definitions (GHG Load and Marginal GHG Price). Jeff Spires (Powerex) provided the second. Motion carried with 3 abstentions (AEPCO, BEPC, WRA).

2. **Agenda Item 3 – Attachment A, Section 5.5: Assignment of Resources to Load**

   Motion: Lindsey Schlekeway (NVE) motioned to approve Attachment A, Section 5.5 (Assignment of Resources to Load) as modified during the meeting. Russ Mantifel (BPA) provided the second. Motion carried with 2 abstentions (Powerex, WRA).

ACTION ITEM:

Action Item: MDWG and SPP staff will evaluate the development of tools for monitoring and tracking reporting consistent with Attachment A, Section 5.5 and Attachment K (Greenhouse Gas Programs).

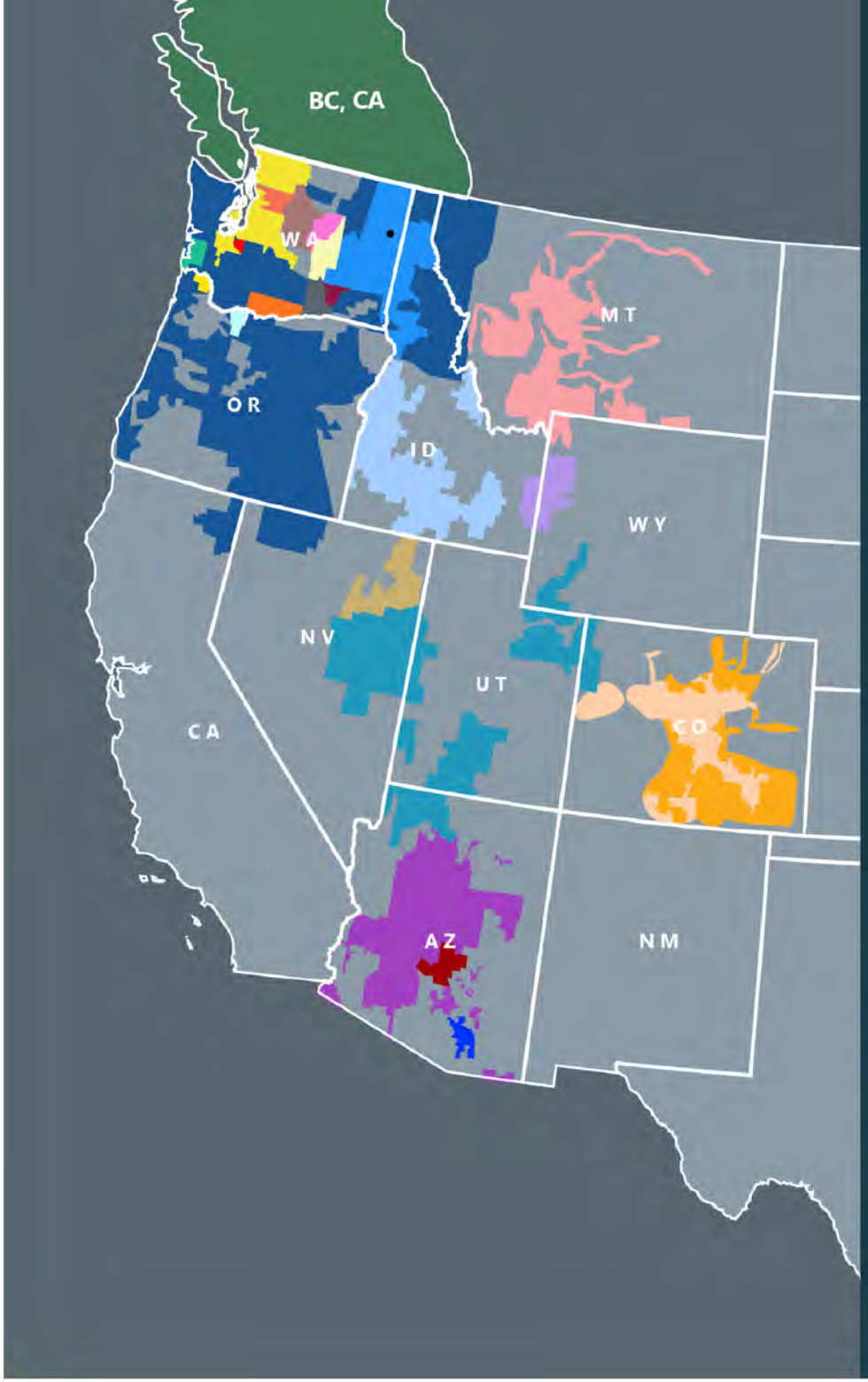
FUTURE MEETINGS:

Meeting: March 12th, 2024 MDWG Meeting Registration
Date: March 12th, 2024
Location: Net-conference
Time: 11:00 a.m. – 5:00 p.m., CPT (9:00 a.m. – 3:00 p.m., PT/10:00 – 4:00 p.m., MT)

Meeting: April 9th, 2024 MDWG Meeting Registration
Date: April 9th, 2024
Location: Net-conference
Time: 11:00 a.m. – 5:00 p.m., CPT (9:00 a.m. – 3:00 p.m., PT/10:00 – 4:00 p.m., MT)

Meeting: May 14th, 2024 MDWG Meeting Registration
Date: May 14th, 2024
Location: Net-conference
Time: 11:00 a.m. – 5:00 p.m., CPT (9:00 a.m. – 3:00 p.m., PT/10:00 – 4:00 p.m., MT)

DRAFT



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- Grant County Public Utility District
- Hood River Electric & Internet Coop
- Idaho Falls Power
- Klickitat Public Utility District
- Lower Valley Energy
- Modern Electric Water Company
- NorthWestern Energy
- Pacific County Public Utility District
- Powerex Corp.
- Public Service Company of Colorado
- Puget Sound Energy
- Salt River Project
- Snohomish County Public Utility District
- Tacoma Power
- Tri-State Generation and Transmission Association
- Tucson Electric Power Company
- Wells Rural Electric Company

From: Aaron Shipley <ashipley@spp.org>
Sent: Thursday, June 13, 2024 1:21 PM
To: Aaron Shipley; Butcher, Andy; Clint Savoy; Dacus, Calvin; Edinger, Chad; Ethan Tedder; Ewry, Eleanor; Hakala, Tuuli; Holman, Mark; Jill Ponder; Mantifel,Russell (BPA) - MTM-3; Martin, Marcie; Moore, Tyler; Parker, Bradley; Pol, Karan; Rubin, David; Seide, Richard; Taylor, Joseph; Tenney Denison, Lauren; Tilghman, Henry; Weis, Matt; Williams, Dan; Russell, Derek; Kochheiser,Todd W (BPA) - TOI-DITT-2; Kirby,Elizabeth A (BPA) - MTM-3; Brier,Tanner H (BPA) - PTF-5; LeVar, Thad; Linn, Michael
Subject: [EXTERNAL] MSWG - Interchange Protocol Language as of 6/13/24
Attachments: 03b - MSWG Interchange Transactions Protocol Draft_Combined Comments_v3_MSWG edits 061324.docx

All,

Attached is the updated language the MSWG modified today. Please provide any edits your may have through the Request Management System (RMS) by 6/26/24.

https://spprms.issuetrak.com/login.asp

Thank you,

Aaron Shipley
Southwest Power Pool
Sr. Interregional Strategist, Interregional Strategy and Engagement
Email: ashipley@spp.org
Office: 501.482.2197

29333496

From:	Spires, Jeff <Jeff.Spires@powerex.com>
Sent:	Friday, September 29, 2023 1:16 PM
To:	Willis, Wendy; Holman, Mark; Aitken, Meredith; Marr, Garrison; Shawn Smith; Eaton,Sara L (BPA) - PTMA-5; Mantifel,Russell (BPA) - PGL-5; Suzanne Cooper (sbcoooper@bpa.gov); Ray Johnson; Zyskowski, Jason; GFina@SNOPUD.com; Applegate, Rick; Kochheiser,Todd W (BPA) - TOI-DITT-2; 'Cornelius, Adam'; Van Calcar, Pamela M (BPA) - PGS-5; Doot,Erika A (BPA) - LP-7; Bellcoff,Steve (BPA) - PGPR-5; Jaspers, Janet; Liechty, Joy
Cc:	Truong,Mai N (BPA) - TSB-TPP-2; Tuuli Hakala; Mike Bradshaw; Lauren Tenney Denison; Michael Linn; Irene Scruggs
Subject:	[EXTERNAL] Principles for Storage Hydro Participation in Markets+
Attachments:	Principles For Storage Hydro Participation in Markets+ - Confidential Draft For Discussion Purposes.docx

Hi all,

As discussed this morning, I've attached the hydro principles document to be sure everyone has received it.

This version is identical to the copy that many of you would have received from Mark earlier in the week.

Regards,
Jeff

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From: Kristen Darden <kdarden@spp.org>
Sent: Friday, February 9, 2024 7:49 AM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] February 5th & 8th 2024 MDWG Summary of Motions
Attachments: 2 8 MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx; 2 5 MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx

Good morning MDWG Stakeholders and Participants –

I have attached the draft 2/5 and 2/8 MDWG summary of motions, action items, and future meetings. Please review and let me know if you have any modifications.

Friendly reminder: Tonight by **12:00 a.m., PT**, is the final day to provide comments on the M+ Tariff (located here on SPP.org). If you have comments, please send them to the following:

- Kristen Darden – kdarden@spp.org
- Kelli Schermerhorn – kschermerhorn@spp.org
- Carman Ruder – cruder@spp.org

Thank you!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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MARKETS+ DESIGN WORKING GROUP MEETING
2/8/2024
Net-Conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

1. **Agenda Item 2bi – Attachment A, Section 3.7.1: LMP and MCP During System Outages**

   Motion: Adam Cornelius (SCPUD) motioned to approve Attachment A, Section 3.7.1 (LMPs and MCPs during System Outages) as presented. Russ Mantifel (BPA) provided the second. Motion carried with one abstention (WRA).

2. **Agenda Item 2bii – Attachment A, Section 6.2: Asset Registration**

   Motion: Russ Mantifel (BPA) motioned to approve Attachment A, Section 6.2 (Asset Registration) as modified by SPP staff following the 2/5 MDWG meeting, to modify an inaccurate section reference for auxiliary load. Nick Detmer (Xcel) provided the second. Motion carried unanimously.

3. **Agenda Item 2biii – Attachment A, Sections 9.2.1, 9.3.1: DA and RT Energy Amount**

   Motion: Adam Cornelius (SCPUD) motioned to approve Attachment A, Sections 9.2.1 (Day-Ahead Energy Amount) and 9.3.1 (Real-Time Energy Amount) as presented. Russ Mantifel (BPA) provided the second. Motion carried unanimously.

4. **Agenda Item 2ci – Section I: Definitions**

   Motion: Adam Cornelius (SCPUD) motioned to approve Section I (Definitions) as modified during the meeting. Russ Mantifel (BPA) provided the second. Motion carried unanimously.

   Motion: Russ Mantifel (BPA) motioned to approve the modification of the Asset Owner Reserve Zone Load Ratio Share definition to revert back to the definition proposed by SPP staff. Adam Cornelius (SCPUD) provided the second. Motion carried unanimously.

5. **Agenda Item 2cii – Attachment A, Sections 2.2.2, 2.3.1.2: RUC and RTBM Execution**

   Motion: Nick Detmer (Xcel) motioned to approve Attachment A, Sections 2.2.2 (Reliability Unit Commitment Execution) and 2.3.1.2 (Real-Time Balancing Market Execution) as presented during the meeting. Russ Mantifel (BPA) provided the second. Motion carried unanimously.

29333558

6. **Agenda Item 2ciii – Attachment A, Section 2.1.2.2, 3.6, 3.6.1: Scarcity Pricing**

   Motion: Russ Mantifel (BPA) motioned to approve Attachment A, Sections 2.1.2.2 (Clearing During Excess Generation Conditions), 3.6 (Pricing During Scarcity Conditions), and 3.6.1 (Impact of Scarcity Pricing on Locational Marginal Prices and Market Clearing Prices) as presented. Nick Detmer (Xcel) provided the second. Motion carried unanimously.

7. **Agenda Item 2civ – Attachment A, Section 4.2.4: Variable Energy Resources (VERs)**

   Motion: Nick Detmer (Xcel) motioned to approve Attachment A, Section 4.2.4 (Variable Energy Resources) as presented. Russ Mantifel (BPA) provided the second. Motion carried unanimously.

8. **Agenda Item 2cv – Attachment A, Sections 3.5.2, 7.2, 7.5, 7.7: Market Operator Obligations**

   Motion: Lindsey Schlekeway (NVE) motioned to approve Attachment A, Sections 3.5.2 (Modifications to Violation Relaxation Limits), 7.2 (Trading Hub Establishment and Modification), 7.5 (Forecasting), and 7.7 (Violation Relaxation Limit Reporting) as modified during the meeting. Russ Mantifel (BPA) provided the second. Motion carried unanimously.

9. **Agenda Item 3bii – Attachment A, Section 7.4: Flexibility Reserve and Instantaneous Load Capacity Requirements)**

   Motion: Tyler Moore (APS) motioned to approve Attachment A, Section 7.4 (Flexibility Reserve and Instantaneous Load Capacity Requirements) as presented. Russ Mantifel (BPA) provided the second. Motion carried unanimously.

10. **Agenda Item 3bii – Attachment A, Sections 7.11, 8.2, 9.6: Market Transmission Use Charge**

    Motion: Laura Trolese (TEA) motioned to approve Attachment A, Sections 7.11 (Market Transmission Use), 8.2 (Market Operator's Obligation to Coordinate Market Flows and Impacts to Non-Participating Transmission Systems and Balancing Authorities), and 9.6 (Market Transmission Use Distribution Amount) as presented. Nick Detmer (Xcel) provided the second. Motion carried unanimously.

ACTION ITEM:

Action Item: SPP staff will work to relocate Must-Offer Obligation design language back to Attachment A, Section 5, and will bring back the updated language during the February 13th, 2024 MDWG.

FUTURE MEETINGS:

Meeting: February 13th, 2024 MDWG Meeting Registration

29333558

Date: February 13th, 2024
Location: Net-conference
Time: 11:00 a.m. – 5:00 p.m., CPT (9:00 a.m. – 3:00 p.m., PT/10:00 – 4:00 p.m., MT)

Meeting: March 12th, 2024 MDWG Meeting Registration
Date: March 12th, 2024
Location: Net-conference
Time: 11:00 a.m. – 5:00 p.m., CPT (9:00 a.m. – 3:00 p.m., PT/10:00 – 4:00 p.m., MT)

Meeting: April 9th, 2024 MDWG Meeting Registration
Date: April 9th, 2024
Location: Net-conference
Time: 11:00 a.m. – 5:00 p.m., CPT (9:00 a.m. – 3:00 p.m., PT/10:00 – 4:00 p.m., MT)

DRAFT

29333558

SPP Southwest Power Pool

MARKETS+

SOUTHWEST POWER POOL, INC.
MARKETS+ DESIGN WORKING GROUP MEETING
2/5/2024
Net-Conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

1. **Agenda Item 3a, 3b, 3c – January 11th, 2024 MDWG Minutes; January 16th MDWG Minutes; January 19th, 2024 MDWG Minutes**

   Motion: Vijay Satyal (WRA) motioned to approve the consent agenda as presented. Russ Mantifel (BPA) provided the second. Motion carried unanimously.

ACTION ITEM:

No new action items were documented.

FUTURE MEETINGS:

Meeting: February 8th, 2024 MDWG Meeting Registration
Date: February 8th, 2024
Location: Net-conference
Time: 11:00 a.m. – 5:00 p.m., CPT (9:00 a.m. – 3:00 p.m., PT/10:00 – 4:00 p.m., MT)

Meeting: February 13th, 2024 MDWG Meeting Registration
Date: February 13th, 2024
Location: Net-conference
Time: 11:00 a.m. – 5:00 p.m., CPT (9:00 a.m. – 3:00 p.m., PT/10:00 – 4:00 p.m., MT)

Meeting: March 12th, 2024 MDWG Meeting Registration
Date: March 12th, 2024
Location: Net-conference
Time: 11:00 a.m. – 5:00 p.m., CPT (9:00 a.m. – 3:00 p.m., PT/10:00 – 4:00 p.m., MT)

DRAFT

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Tuesday, August 29, 2023 7:26 AM
To: Applegate, Rick; Eaton,Sara L (BPA) - PTMA-5
Cc: Mantifel,Russell (BPA) - PGL-5; Cornelius, Adam; Kochheiser,Todd W (BPA) - TOI-DITT-2; Siewert,Christopher W (BPA) - PGS-5
Subject: [EXTERNAL] RE: Grouped Hydro Language

Thanks Rick

Your proposal to remove bullet point 1 would be a significant improvement. The current proposed language in that bullet by SPP does not work for us. I have our internal team reviewing the remainder of the edits related to an attestation and hope to hear back soon. Once I do I can get back to you.

Jeff

From: Applegate, Rick <rapplegate@cityoftacoma.org>
Sent: Monday, August 28, 2023 5:32 PM
To: Eaton, Sara <sleaton@bpa.gov>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Cornelius, Adam <accornelius@snopud.com>; twkochheiser@bpa.gov; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: RE: Grouped Hydro Language

⚠ **Caution: External Email**

Friends and Neighbors,

I just wanted to check and see if anyone has a reaction to SPP's edits on hydro aggregation?

From my perspective, I would like to have the ability to aggregate resources across different river basins, so would propose to just get rid of bullet point number 1 at this point. However, before I send anything back to SPP I wanted to check with everyone first and make sure that there wasn't anything else to convey.

Best regards,

Rick

From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Monday, August 28, 2023 6:31 AM
To: Eaton, Sara <sleaton@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>; Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Spires, Jeff <jeff.spires@powerex.com>; Cornelius, Adam <accornelius@snopud.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: RE: Grouped Hydro Language

Good morning!

We reviewed the comments provided last week, please see the attached response. It would be nice to discuss this as a smaller group before discussing in MDWG; we were thinking given the importance of this issue, we may wish to move approval to the 9/20 meeting to allow more time for consideration.

Please let me know if you all would like to touch base on these revisions.

Thank you for your engagement and thought on these issues.

Kelli Schermerhorn
Lead Analyst, Market Design West
Staff Secretary, M+ Resource Adequacy Task Force

From: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Sent: Friday, August 25, 2023 12:32 PM
To: Jim Gonzalez <jgonzalez@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Spires, Jeff <jeff.spires@powerex.com>; Kelli Schermerhorn <kschermerhorn@spp.org>; Cornelius, Adam <accornelius@snopud.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; twkochheiser@bpa.gov; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: **External Email** Grouped Hydro Language

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Hi Jim,

Thanks for your patience on the hydro language.
BPA has worked with Powerex, Snohomish and Tacoma to come to some shared language that would work for all of us and how we participate with our resource aggregations.
We think this language would be a good starting point for discussions in the upcoming MDWG.

Please let us know if you have any questions on the draft language.
Best,

Sara Eaton (she/her)
Senior Markets Policy Analyst | Market Policy and Pricing | PTMP
Bonneville Power Administration
C (b)(6) | W: 503-230-5222 | sleaton@bpa.gov

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From: Walter, Kent C <Kent.Walter@aps.com>
Sent: Thursday, July 18, 2024 2:29 PM
To: Zahnow, Jessica Lynn; Hayes,Matthew C (BPA) - MTM-3; Spires, Jeff; Ahmad, Omaya; Josh Robertson; Hakala, Tuuli; Mantifel,Russell (BPA) - MTM-3
Cc: Ching, Vincent; Haines, Philip - Marketing; Marcie L Martin; Holman, Mark; Aitken, Meredith
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

Thank you for sending the edits. I am just catching up now but haven't yet read through the edits yet.

Softening is probably a good thing provided we maintain a comparison. The audience for the Issue Alerts have not yet appreciated the stark differences between the markets and the comparison is an important outcome. I hope to still land at a little poking 😊

Kent

From: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>
Sent: Wednesday, July 17, 2024 9:45 PM
To: Walter, Kent C <Kent.Walter@aps.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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This is great, Kent and Omaya. You hit the key points and major elements of reliability. It's valuable to call out the function of the MORWG, to differentiate between capacity vs. energy must-offer, and to call out the potential associated with a flow-based methodology. All of these speak to the challenges we're seeing in the west. I wonder if we could soften the EDAM language a bit and focus on the M+ benefits. And are there a few key places we could provide examples or data that shore up our points?

PSE offers the attached comments and edits for the group's consideration. I attached a clean version also, in case that's easier to consume.

Thank you for keeping us moving quickly!

Jessica Zahnow
State & Regional Policy – Regional Markets
Phone: (b)(6)

PUGET SOUND ENERGY

From: Walter, Kent C <Kent.Walter@aps.com>
Sent: Tuesday, July 16, 2024 5:10 PM
To: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Thanks Matt and would still like your suggestions as we develop the drafts of these Issue Alerts.

I submit to the group a **draft** of Issue Alert #2 – Reliability for your comments. We elected to offer something quicker to align on substance rather than to delay and work on style. My short-hand for saying writing is not my strength. 😊

Kent

From: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>
Sent: Tuesday, July 16, 2024 4:09 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Thanks for all the hard work on reviewing and refining this. As always it is a pleasure working with you all.

We've chatted with our internal staff as well as our OGC, and BPA isn't able to sign on to this governance letter as it is currently written. It has a high risk of being viewed as pre-decisional given our ongoing public process. At this time, public statements that are associated with BPA need to remain focused on what is important to BPA in this process, and not directly focusing on any one entity or option. I understand that this does not necessarily align with the original goals of this group.

I am happy to chat about it more at our Monday meeting, but I wanted to give you all a heads up on where we landed with this internally.

Thanks,

Matt

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Tuesday, July 16, 2024 12:55 PM
To: Ahmad, Omaya <Omaya.Ahmad@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

Hi everyone,

Thanks for the edits and feedback. I've attached a new version in clean and redline that includes the change proposed below. You will see in the redline that I have proposed to make a few modifications to the additional language proposed by Omaya in the previous version in an effort to trim it back slightly (without losing the key points).

I am hopeful this version works for the group – if you can give a quick read and let me know if you have any concerns I'd appreciate it.

Jeff

From: Ahmad, Omaya <Omaya.Ahmad@aps.com>
Sent: Tuesday, July 16, 2024 12:27 PM
To: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: Re: [EXTERNAL] Markets+ Issue Alerts

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Agree with Jessica. I don't know if this is strong enough to illuminate fairness across participating states, but here's a redline for page 2.

The Markets+ Governance framework fully achieves this objective through these key features:

1. A ~~fully-independent~~ board / panel independent of market participants and stakeholders with authority over all aspects of the market;

Contrast this with the first 2 EDAM points on page 3, which I think are strong:

1. The starting point for EDAM and EIM is a market design and tariff developed under the California ISO's existing governance framework. The Pathways Initiative does not propose to replace this initial market design with a stakeholder-driven design.

2. Both EDAM and EIM were built as extensions of a legacy institutional framework with embedded dependencies on, and obligations to, California state agencies, which the Pathways initiative does not propose to eliminate.

From: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>
Sent: Tuesday, July 16, 2024 10:39 AM
To: Ahmad, Omaya <Omaya.Ahmad@aps.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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PSE supports Omaya/APS's additions. Josh Jacobs had feedback asking for more detail on why Pathways timing won't provide a viable solution, and Omaya's edits address that well. One other thing Josh points out is that two things we hear out of our commission is, "we don't want to be governed out of Little Rock", and "interested parties don't have a strong voice in M+".

While we don't agree, does anyone have thoughts about an artful way to address these concerns?

Jessica Zahnow

State & Regional Policy – Regional Markets

Phone: (b)(6)

PUGET SOUND ENERGY

From: Ahmad, Omaya <Omaya.Ahmad@aps.com>
Sent: Monday, July 15, 2024 5:00 PM
To: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh

Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: Re: [EXTERNAL] Markets+ Issue Alerts

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I made a few additions that are almost entirely on page 3.

- Spelled-out the value of SPP's consensus approach to stakeholder engagement
- Going off Matt's suggestion: opened a spot for others to add examples of where CAISO's governance has left us frustrated
- Added more to the Pathways discussion

Feel free to cut down as needed.

Thanks,

Omaya

From: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>
Sent: Monday, July 15, 2024 4:53 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Thanks for a productive meeting this morning. Before moving forward BPA is going to need some more internal conversation on how this first paper and the overall strategy fits into our public process. We should be able to get something definitive tomorrow.

Apologizes for not flagging this today as it is something I should have known would be a required step.

Thanks,

Matt

-----Original Appointment-----
From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, July 12, 2024 12:15 PM
To: Spires, Jeff; Josh Robertson; Zahnow, Jessica Lynn; Hakala, Tuuli; Kent.Walter@aps.com; Mantifel,Russell (BPA) - MTM-3
Cc: Ching, Vincent; Haines, Philip - Marketing; Hayes,Matthew C (BPA) - MTM-3; Ahmad, Omaya; Marcie L Martin; Holman, Mark; Aitken, Meredith
Subject: [EXTERNAL] Markets+ Issue Alerts
When: Monday, July 22, 2024 9:00 AM-10:00 AM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

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Join the meeting now

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From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, August 17, 2023 11:43 AM
To: Mantifel,Russell (BPA) - PGL-5; Detmer, Nick
Subject: RE: [EXTERNAL] RE: Proposed 9/11 MDWG Meeting

Not at this time. I'm guesstimating it's going to be end of September/early October when they're ready for our review.

From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Thursday, August 17, 2023 11:01 AM
To: Kristen Darden <kdarden@spp.org>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: **External Email** RE: [EXTERNAL] RE: Proposed 9/11 MDWG Meeting

CAUTION: This email originated from outside of the SPP network. Do not click links or open attachments unless you recognize or can verify the sender, or were expecting an email from the sender. The original sender of this email is rxmantifel@bpa.gov

OK. Are we looking at another date then?

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, August 17, 2023 6:56 AM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: RE: [EXTERNAL] RE: Proposed 9/11 MDWG Meeting

Nevermind on this meeting – my internal team talked with Jeff Spires and he's not ready for the 9/11 date.

Thanks anyways!

From: Kristen Darden
Sent: Wednesday, August 16, 2023 2:58 PM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: RE: [EXTERNAL] RE: Proposed 9/11 MDWG Meeting

Thank you Nick!

Russ – did you have a chance to run that date down?

From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Tuesday, August 15, 2023 3:35 PM
To: Detmer, Nick <nick.detmer@xcelenergy.com>; Kristen Darden <kdarden@spp.org>
Subject: **External Email** RE: [EXTERNAL] RE: Proposed 9/11 MDWG Meeting

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Let me double check our calendar. We had been planning on a public meeting that day but I think we're just doing 9/12

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Tuesday, August 15, 2023 1:17 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Subject: [EXTERNAL] RE: Proposed 9/11 MDWG Meeting

I can do that

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, August 15, 2023 1:40 PM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Subject: Proposed 9/11 MDWG Meeting

EXTERNAL - STOP & THINK before opening links and attachments.

Hello there –

I talked with the Congestion Rent TF SMEs. They have potentially 6 voting items related to Congestion Rent policy that will need MDWG review. This will not be Tariff language. These are concepts. In order to stay on track, I propose a standalone 4-hour net-conference, Monday, 9/11.

How do your calendars look?

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Wednesday, August 2, 2023 9:57 AM
To: Kristen Darden; Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] RE: Potential FTF MDWG October

Kristen and Russ,
Fridays are tough day to hold any meetings. I am good with the location, just the Friday I worry we will not get the attendance. (b)(6) ☺.)

I am just throwing down some thoughts on the various subjects and expect we can refine, add, or subtract from this list.

Transmission

- Maybe a day in the life of transmission – when do TOs/MPS hand the day-ahead transmission over to SPP for Markets +, what happens to unutilized transmission in RT can the TO resell that?
- Cost allocation – what did MTWG land on – what is the process to set the fee, reconcile between participants etc – show us how the dollars are derived, reconciled, and allocated to MPss
- Contingency/WRAP utilization of transmission – how will that impact Markets +

RA

- WRAP – required for Markets + MPs?
- How will SPP west RTO impact MPs participation, will RTO members be WRAP members (PSCo has an access to WRAP issue with limit transmission and requires WACM to be a WRAP participant for PSCO to consider it)
- Day in the life of markets + and WRAP – where/when does WRAP hand off to Markets +?

Seams

- Co-optimization with SPP RTO west?
- How are seams typically managed in the east, how might Markets + be different since we are really talking about a BAA seam with another market – will it be BAA to BAA or will it be SPP/CAISO negotiate the seam agreement
- How might a seam impact GHG issues
- Congestion at the seams
- Pricing at the seam

Nick

From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, August 2, 2023 10:25 AM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Subject: Potential FTF MDWG October

EXTERNAL - STOP & THINK before opening links and attachments.

Hey there –

I'm trying to get a location and date scheduled for a face-to-face meeting in October. There's availability at APS in Phoenix, AZ, Thursday, 10/19 and Friday, 10/20. I'd like to have a joint meeting with the Transmission Group and Seams/RA to cover tariff and design.

Thoughts on: 1) Date, 2) Location, and 3) Topics?

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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From: Meyers,Andrew P (BPA) - MTM-3
Sent: Thursday, May 30, 2024 2:49 PM
To: Carrie Simpson; Jim Gonzalez
Cc: Mantifel,Russell (BPA) - MTM-3
Subject: RE: [EXTERNAL] RE: Markets TX Scenario Analysis

We have posted all of our WMEG documents publicly. In the WMEG report, authored by E3, there is the following footnote...

> Powerex, which was represented in Markets+ for all scenarios, identified additional transmission contracts it holds on paths connecting the Northwest to the Southwest. This contracted transmission is modeled as part of the Markets+ region to facilitate more trades between the Northwest and Southwest. The total demand for Northwest to Southwest transactions, however, was still greater than the transmission available when transactions over paths connecting through zones participating in EDAM are subject to wheeling charges and friction on market seams

The footnote does acknowledge the existence of the transmission but does not identify the quantities (which Jack shared with us in the prior email) and I haven't found the quantities listed anywhere else.

Andy

Andy Meyers
apmeyers@bpa.gov
(w) 503-230-3014 | (c) (b)(6)
Bonneville Power Administration
Market Initiatives
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

From: Carrie Simpson <csimpson@spp.org>
Sent: Thursday, May 30, 2024 10:13 AM
To: Jim Gonzalez <jgonzalez@spp.org>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Cc: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] RE: Markets TX Scenario Analysis

Question for BPA – is it public that E3 modeled the PTP rights of Powerex in WMEG study?

From: Jim Gonzalez <jgonzalez@spp.org>
Sent: Thursday, May 30, 2024 12:00 PM
To: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Carrie Simpson <csimpson@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] RE: Markets TX Scenario Analysis

What time frame would the study be for? If the scraping would be for what is effective now, I don't see that effort substantially increasing from the 600/200 numbers E3 already used based on some of the research we've been doing. If you are thinking of looking out a few years in the 2028ish timeframe when the Boardman to Hemingway line is supposed to be in service there might be some additional confirmed TSRs to help better connect. Even then, I don't know that it would go up more than a couple hundred MW.

29333626

The 2 GW bidirectional capacity scenario seems like it would cover benefit of incremental transfer capability for the prospective footprint. I think you could take the results of the exiting scenarios compared to that scenario and extrapolate out some production-cost savings for incremental transfer capability without spending the time and money to have E3 run them.

Let me know if you want to discuss other assumptions for your scenarios. Happy to help if it would be beneficial.

Jim

From: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Sent: Wednesday, May 29, 2024 8:00 PM
To: Jim Gonzalez <jgonzalez@spp.org>; Carrie Simpson <csimpson@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] RE: Markets TX Scenario Analysis

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Hi Jim,

We are having E3 run a hypothetical scenario of increase TX from BPA to NV. Capacity is 2000 MWs bidirectional. With this additional study are you saying that we don't need to pursue scraping OASIS sites as we had been discussing?

Thanks,
Andy

Andy Meyers
apmeyers@bpa.gov
(w) 503-230-3014 | (c) (b)(6)
Bonneville Power Administration
Market Initiatives – Policy Lead
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

From: Jim Gonzalez <jgonzalez@spp.org>
Sent: Wednesday, May 29, 2024 2:12 PM
To: Carrie Simpson <csimpson@spp.org>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Cc: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: [EXTERNAL] RE: Markets TX Scenario Analysis

I think those values represent a good floor for consideration based on what is confirmed now for long-term service on the various TSPs for third-party contributed rights.

We have been trying to come up with some assumptions for additional capability beyond that based on some upcoming transmission projects, specifically the Boardman to Hemingway line, but I think you are already looking at some scenarios

with additional transmission buildout to increase transfer capability between the PNW and DSW so you probably already have some of that covered.

jim

From: Carrie Simpson <csimpson@spp.org>
Sent: Wednesday, May 29, 2024 12:10 PM
To: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: RE: Markets TX Scenario Analysis

Interesting. I wonder if this distinction in itself is another contributor to the differences in Brattle and WMEG. I'll defer to Jim on whether those values are indicative of what we anticipate being contributed.

From: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Sent: Wednesday, May 29, 2024 11:49 AM
To: Carrie Simpson <csimpson@spp.org>; Jim Gonzalez <jgonzalez@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** Markets TX Scenario Analysis

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Hi Carrie & Jim,

I wanted to follow up on a conversation with have been having with E3. We have discussed with them the concept of the study. They had an interesting comment on something that both Russ and I had forgotten. While Powerex was not a WMEG member they provided some gen, load, and transmission data to E3 for inclusion in the study modeling and results. Jack indicated that "*we have already assumed 600 MW N->S and 200 MW S->N going through CA/NV to connect NW & SW together using 3rd party rights*".

I am curious about your thoughts on this. I know that Powerex has some additional capacity with IPCO, PAC, and PGE that may facilitate additional roads to the desert southwest. However, I am curious if the already included values are sufficient? If not, then we can continue with the study with E3. Then the next step is pulling together the transmission capacity numbers we want E3 to use in the model for the roads between PNW and DSW. If the previously included values are sufficient then we would not pursue the scenario any further.

Let us know if you want to discuss at all.

Thanks,
Andy

Andy Meyers
apmeyers@bpa.gov
(w) 503-230-3014 | (c) (b)(6)
Bonneville Power Administration
Market Initiatives – Policy Lead
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, October 26, 2023 6:31 AM
To: Mantifel,Russell (BPA) - MTM-3
Cc: Carrie Simpson
Subject: [EXTERNAL] Today's MDWG Meeting
Attachments: 01-102623 Joint MTWG MDWG Agenda.docx; MarketsPlus MDWG Proposed Motions_102623.pptx

Captain of the MADWAGON –

Two attachments: Updated agenda (updated MRATF time) and draft MDWG recommended motions.

Notes:

- **Attendance**
  - Two Proxies:
    - Steve Szablya (Xcel/PSCo) for Nick Detmer (Xcel/PSCo)
    - Jessica Lam (PSE) for Vincent Ching (PSE)
  - Mary Wiencke (PGP) will be attending in person later (approx. after 2PM), so we need to make sure we push GHG til after lunch (that should naturally occur, but just want on your radar)
  - Expecting ~62 people in person
    - SPP Staff: Me, Carrie, Jim, Drew, Ken Quimby, Kim
    - SPP MMU: Ian Wren, Jared Greenwalt, potentially Raleigh Mohr (not sure if he was able to make it out of Dallas last night)
- **Overall Note**
  - Since we are bringing language for approval from the Transmission, Seams, and Resource Adequacy groups today (I know you know this, so I'm saying it out loud more so for myself), we want to encourage the MDWG that the groups that worked on these items, were tasked with this per their respective scopes and have worked diligently to get it to the place it is. That being said, the MDWG is just making sure it doesn't break the overall Market Design. So we would want discussion and votes to reflect that. I have a draft slide deck of motions to work with (attached).
- **GHG**
  - No language today; only education. MGHGTF attempted to approve a motion 10/24 and it failed. Will be looking to Carrie, Kim, Mary, and Drew to discuss that during our meeting on next steps from their group.
- **Resource Adequacy**
  - Tyler Moore sent me a slide deck two days ago that we will be reviewing today prior to the language. Didn't want to post something again due to the 3 postings we have already had. Will add to materials post-meeting with anything else that may be needed.
- **Transmission/MTU Charge**
  - We have Attachment D, Sec. 8 of A, and Sec. 9.8/9.9, which satisfies the Transmission language and associated Market settlements.
  - I just caught that I left off an Appendix within for MTU language (Attachment A, Appendix 2), which is the MTU Template. I will look to you for final guidance, but I'd like to approve it still

since the MRTF is the one who worked on that and approved it. We just pulled it in to the overall Tariff. If you thin the group wouldn't be comfortable with approving, since they didn't have time, I respect that and we can add to the 11/1 MDWG agenda. Thoughts?

See you soon!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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MARKETS+

SOUTHWEST POWER POOL, INC.
JOINT MARKETS+ TRANSMISSION WORKING GROUP &
MARKETS+ DESIGN WORKING GROUP MEETING
October 26th, 2023
Arizona Public Service Commission; Net-Conference
9:00 a.m. – 5:00 p.m., PT
(10:00 a.m. – 6:00 p.m., MT)
(11:00 a.m. – 7:00 p.m., CPT)

MDWG Agenda Items (365)

1. Administrative Items ..... Russ Mantifel/Kristen Darden (1)
    A. Call to order
    B. Statements: Notice of Recording & Anti-trust Statement
    C. Attendance & Agenda Review
2. Review of Past Action Items ..... Kristen Darden (1)
    A. MDWG AI#10: MRATF Must-Offer Obligation Design Recommendation
    B. MDWG AI#13: SPP MMU RSI Education
    C. MDWG AI#14: MMU Attachments B and C Stakeholder feedback
    D. MDWG AI#15: SPP Legal Review of Attachment A, Sec. 6.4 (Market Manipulation)
3. Markets+ Service Offering Stoplight ..... Kristen Darden (3)
4. Consent Agenda (Approval) ..... Kristen Darden (1)
    A. 10/10/2023 MDWG Minutes
    B. 10/11/2023 MDWG Minutes
5. Liaison Reports ..... (3)
    A. MCRTF ..... Jeff Spires (3)
6. Markets+ Seams Education ..... Tuuli Hakala (60)
    A. Interchange Transactions ..... (30)
    B. Market Award Priority ..... (30)
7. Scarcity Pricing (Approval) ..... Jim Gonzalez (60)

29333647

8. Tariff Review (Approval Items)..... SPP Staff (100)

    A. Attachment A: Virtuals (20)

    B. Attachment A, Sec. 5.1: Resource Adequacy (40)

    C. Attachment A, Sec. 4.3: Interchange Transaction (20)

    D. Attachment A, Sec. 2.3.2: Congestion Management (20)

9. Markets+ Transmission Policy Overview..... Joe Taylor (30)

10. Markets+ Transmission Tariff Review (Approval Items).....(40)

    A. Attachment D: Markets+ Transmission .....Joe Taylor/Emon Mahoney (20)

    B. Attachment A: Markets Transmission Use (MTU) Charge SettlementsSteve White (20)

11. Markets+ Greenhouse Gas ..... Mary Wiencke/Drew McGilvray (60)

    A. Markets+ GHG Policy Overview .....(60)

12. Tariff Review ..... SPP Staff (2)

    A. Attachment A: Settlements (2)

MTWG Agenda Items (35)

13. Tariff Review .....Steve White/Steve Davis (20)

    A. Attachment A, Sections 9.8 and 9.9: Market Transmission Use (MTU) Rate .....(20)

14. Outstanding Transmission Items.....Ken Quimby/Joe Taylor (15)

15. Summary of Motions and Action Items ..... Kristen Darden/Ken Quimby (1)

16. Future Meetings..... Kristen Darden/Ken Quimby (1)

    A. MDWG Future Meeting Registration
    Date: November 1st, 2023
    Location: Net-Conference
    Time: 12:00 p.m. – 5:00 p.m., CPT (10:00 a.m. – 3:00 p.m., PT/11:00 a.m. – 4:00 p.m., MT)

    B. MDWG Future Meeting Registration
    Date: November 3rd, 2023
    Location: Net-Conference

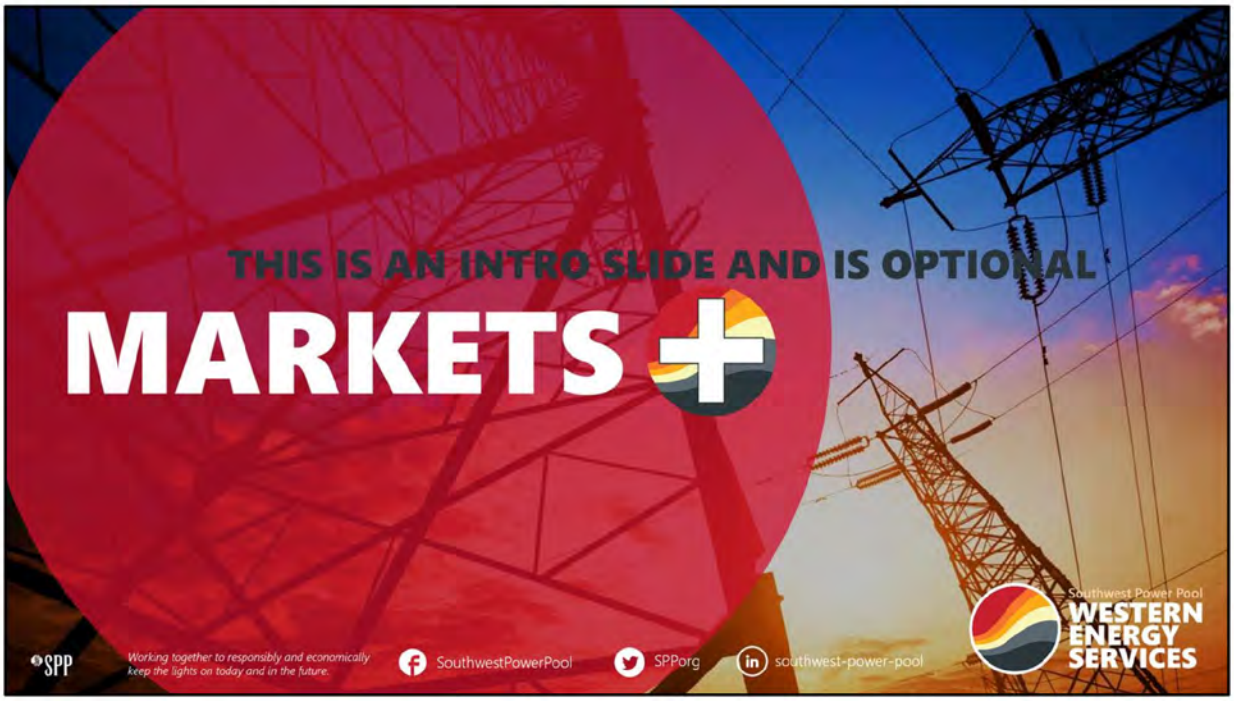
Time: 10:30 a.m. – 5:00 p.m., CPT (8:30 a.m. – 3:00 p.m., PT/9:30 a.m. – 4:00 p.m., MT)

C. MDWG Future Meeting Registration
Date: November 17th, 2023
Location: Net-Conference
Time: 10:30 a.m. – 5:00 p.m., CPT (8:30 a.m. – 3:00 p.m., PT/9:30 – 4:00 p.m., MT)

D. MDWG Future Meeting Registration
Date: November 28th, 2023
Location: Net-Conference
Time: 10:30 a.m. – 5:00 p.m., CPT (8:30 a.m. – 3:00 p.m., PT/9:30 a.m. – 4:00 p.m., MT)

17. Open Discussion ..... All (1)

18. Adjournment ..... Russ Mantifel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RECOMMENDATIONS
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[Au
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MDWG RECOMMENDATION – AGENDA ITEM 8A: VIRTUALS

- Approve Attachment A (Virtuals) as presented by SPP staff.

SPP

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MDWG RECOMMENDATION – AGENDA ITEM 8B: ATTACHMENT A, SEC. 5.1 RESOURCE ADEQUACY (MUST-OFFER OBLIGATION)

- Approve Attachment A, Sections 5-5.1.2, 7.5, 7.6, and Attachment E (Market Participant Agreement) as presented by the MRATF.

SPP

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MDWG RECOMMENDATION – AGENDA ITEM 8C: ATTACHMENT A, SEC. 4.3 INTERCHANGE TRANSACTIONS

- Approve Attachment A, Section 4.3-4.3.3 (Interchange Transactions) as presented by the MSWG

SPP

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MDWG RECOMMENDATION – AGENDA ITEM 8D: ATTACHMENT A, SEC. 2.3.2 CONGESTION MANAGEMENT

- Approve Attachment A, Sec. 2.3.2 (Congestion Management) as presented by the MSWG.

SPP MARKETS

MDWG RECOMMENDATION – AGENDA ITEM 10A: ATTACHMENT D MARKETS+ TRANSMISSION

- Approve Attachment D (Markets+ Transmission) and Attachment A, Section 8 (Available Transmission Capacity) as presented by the MTWG.

SPP

MARKETS+

MDWG RECOMMENDATION – AGENDA ITEM 10B: ATTACHMENT A, SEC. 9.8-9.9 MARKET TRANSMISSION USE (MTU) CHARGE SETTLEMENTS

- Approve Attachment A, Sec. 9.8-9.9 (Market Transmission Use (MTU) Charge Settlements), Sec. 7.11 (Market Transmission Use), and Appendix 2 of Attachment A, as presented by the MRTF.

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MTWG RECOMMENDATION – AGENDA ITEM 13B: ATTACHMENT A, SEC. 9.8-9.9 MARKET TRANSMISSION USE (MTU) CHARGE SETTLEMENTS

- Approve Attachment A, Sec. 9.8-9.9 (Market Transmission Use (MTU) Charge Settlements) and Appendix 2 of Attachment A, as presented by the MRTF.

SPP

MARKETS

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, September 15, 2023 6:53 PM
To: Cornelius, Adam; Mantifel,Russell (BPA) - PGL-5; Applegate, Rick
Cc: Fina, Joe
Subject: [EXTERNAL] RE: hydro and market monitoring

Thanks Adam,

Likewise, thanks to you all for the engagement and support on key topics related to hydro participation. As Adam noted, Mark sent out an email to see if we could establish a meeting to coordinate on similar topics. Both Mark and I are out of the office Mon – Wed but perhaps we can seek to arrange a discussion later next week or early the week after. I can ask someone at Powerex to help schedule that.

Regards,
Jeff

Jeff Spires | Director, Power | Powerex Corp. | Cell (b)(6)

From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Friday, September 15, 2023 3:35 PM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Applegate, Rick <rapplegate@cityoftacoma.org>
Cc: Fina, Joe <GFina@SNOPUD.com>
Subject: hydro and market monitoring

⚠ **Caution: External Email**

Rick, Jeff, Russ,

Thank you for raising all the issues today with respect to market monitoring and hydro participation. We share a similar perspective. To the extent there is a small group working on some of the action items identified today, we'd be happy to contribute.

We saw Mark's email on storage hydro participation in Markets+ and intend to participate, but it also seems that there is likely a need for some ongoing efforts in the meantime.

Thanks,

Adam Cornelius
Principal Utility Analyst | Power Supply | Snohomish County PUD
2320 California St, Everett, WA 98201
cell: (b)(6) office: (b)(6)
ACCornelius@snopud.com

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From: Kristen Darden <kdarden@spp.org>
Sent: Monday, August 14, 2023 2:21 PM
To: Detmer, Nick; Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] RE: Potential FTF MDWG October

Oh that's right! I was thinking you'd be back by then. I'm sure you could hook up to wi-fi and join us?

LOL – Have a great time!

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Monday, August 14, 2023 4:20 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: Potential FTF MDWG October

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(b)(6) Ill have a proxy of course.

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, August 14, 2023 1:45 PM
To: Detmer, Nicholas J <nick.detmer@xcelenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: RE: Potential FTF MDWG October

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Hey there!

We have everything lined out for the 10/26 MDWG meeting at APS in Phoenix, and it's ready to announce. I wanted to get confirmation before it's blasted out though, that you have no heartburn.

Thanks!

From: Kristen Darden
Sent: Friday, August 11, 2023 2:53 PM
To: Detmer, Nick <nick.detmer@xcelenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: RE: Potential FTF MDWG October

Hey guys!

So circling back on this... I talked internally with my SMEs who are working on RA/Seams and Transmission and it looks like conquering Settlements language would be the best option for the FTF meeting in October. Given this update and trying to find a host facility, looks like we will be meeting at APS in downtown Phoenix Thursday, 10/26, for a one-day meeting. The topic we will cover is approving the majority of settlements tariff

language. I say "majority", because we will still need inputs from GHG, CR, and Transmission for the MTU charge.

Thoughts from my madwagon leaders?

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Wednesday, August 2, 2023 11:57 AM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: Potential FTF MDWG October

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Kristen and Russ,
Fridays are tough day to hold any meetings. I am good with the location, just the Friday I worry we will not get the attendance. [redacted]

I am just throwing down some thoughts on the various subjects and expect we can refine, add, or subtract from this list.

Transmission
- Maybe a day in the life of transmission – when do TOs/MPS hand the day-ahead transmission over to SPP for Markets +, what happens to unutilized transmission in RT can the TO resell that?
- Cost allocation – what did MTWG land on – what is the process to set the fee, reconcile between participants etc – show us how the dollars are derived, reconciled, and allocated to MPss
- Contingency/WRAP utilization of transmission – how will that impact Markets +

RA
- WRAP – required for Markets + MPs?
- How will SPP west RTO impact MPs participation, will RTO members be WRAP members (PSCo has an access to WRAP issue with limit transmission and requires WACM to be a WRAP participant for PSCO to consider it)
- Day in the life of markets + and WRAP – where/when does WRAP hand off to Markets +?

Seams
- Co-optimization with SPP RTO west?
- How are seams typically managed in the east, how might Markets + be different since we are really talking about a BAA seam with another market – will it be BAA to BAA or will it be SPP/CAISO negotiate the seam agreement
- How might a seam impact GHG issues
- Congestion at the seams
- Pricing at the seam

Nick

From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, August 2, 2023 10:25 AM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Subject: Potential FTF MDWG October

EXTERNAL - STOP & THINK before opening links and attachments.

Hey there –

29333702

I'm trying to get a location and date scheduled for a face-to-face meeting in October. There's availability at APS in Phoenix, AZ, Thursday, 10/19 and Friday, 10/20. I'd like to have a joint meeting with the Transmission Group and Seams/RA to cover tariff and design.

Thoughts on: 1) Date, 2) Location, and 3) Topics?

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

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This email and any attachments are for the sole use of the intended recipient(s) and may contain confidential information. If you receive this email in error, please notify the sender, delete the original and all copies of the email and destroy any other hard copies of it.

From: Tuuli Hakala <Tuuli.Hakala@chelanpud.org>
Sent: Wednesday, July 17, 2024 2:01 PM
To: Marcie L Martin
Cc: Jeff Spires; Hayes,Matthew C (BPA) - MTM-3; Ahmad, Omaya; Zahnow, Jessica Lynn; Josh C Robertson; Walter, Kent C; Mantifel,Russell (BPA) - MTM-3; Vincent Ching (PSE); Haines, Philip - Marketing; Holman, Mark; Aitken, Meredith
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

Looks good to Chelan as well.

On Jul 17, 2024 9:55 AM, Marcie L Martin <Marcie.Martin@srpnet.com> wrote:

PAUSE TO CONSIDER: The actual sender address for this email is prvs=6928792301=marcie.martin@srpnet.com.
Do you trust this message and any contents within?
If not, please forward it to our Phishing Hole for analysis. Thank You!

Good morning,

Thank you all for the work on this. The latest draft looks good to the SRP team.

Marcie Martin
Principal Analyst
SRP | Energy Market Strategy | PAB 361
P.O. Box 52025, Phoenix, AZ 85072-2025
P: (602) 236-2811 | **M**: (b)(6) [redacted]

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From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Tuesday, July 16, 2024 5:20 PM
To: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Josh C Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Hi Matt,

Thanks for the update. We certainly appreciate the importance of the BPA public process and recognize that formally signing on could be perceived as pre-decisional in the process. In any case we appreciate your engagement and input on the draft, and look forward to further dialogue as we continue to develop the documents.

Also Jessica – thanks for the additional edit, I think it is a great add.

Jeff

From: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>
Sent: Tuesday, July 16, 2024 4:09 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Thanks for all the hard work on reviewing and refining this. As always it is a pleasure working with you all.

We've chatted with our internal staff as well as our OGC, and BPA isn't able to sign on to this governance letter as it is currently written. It has a high risk of being viewed as pre-decisional given our ongoing public process. At this time, public statements that are associated with BPA need to remain focused on what is important to BPA in this process, and not directly focusing on any one entity or option. I understand that this does not necessarily align with the original goals of this group.

I am happy to chat about it more at our Monday meeting, but I wanted to give you all a heads up on where we landed with this internally.

Thanks,

Matt

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Tuesday, July 16, 2024 12:55 PM
To: Ahmad, Omaya <Omaya.Ahmad@aps.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

Hi everyone,

Thanks for the edits and feedback. I've attached a new version in clean and redline that includes the change proposed below. You will see in the redline that I have proposed to make a few modifications to the additional language proposed by Omaya in the previous version in an effort to trim it back slightly (without losing the key points).

I am hopeful this version works for the group – if you can give a quick read and let me know if you have any concerns I'd appreciate it.

Jeff

From: Ahmad, Omaya <Omaya.Ahmad@aps.com>
Sent: Tuesday, July 16, 2024 12:27 PM
To: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: Re: [EXTERNAL] Markets+ Issue Alerts



Agree with Jessica. I don't know if this is strong enough to illuminate fairness across participating states, but here's a redline for page 2.

The Markets+ Governance framework fully achieves this objective through these key features:

1. A ~~fully independent~~ board / panel independent of market participants and stakeholders with authority over all aspects of the market;

Contrast this with the first 2 EDAM points on page 3, which I think are strong:

1. The starting point for EDAM and EIM is a market design and tariff developed under the California ISO's existing governance framework. The Pathways Initiative does not propose to replace this initial market design with a stakeholder-driven design.
2. Both EDAM and EIM were built as extensions of a legacy institutional framework with embedded dependencies on, and obligations to, California state agencies, which the Pathways initiative does not propose to eliminate.

From: Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>
Sent: Tuesday, July 16, 2024 10:39 AM
To: Ahmad, Omaya <Omaya.Ahmad@aps.com>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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This e-mail is from an **EXTERNAL** address (prvs=8927c60e2e=jessica.zahnow@pse.com). **DO NOT** click on links or unless you trust the sender and know the content is safe. If you suspect this message to be phishing, please report it to th Defense Center at ***ACDC@aps.com***.

PSE supports Omaya/APS's additions. Josh Jacobs had feedback asking for more detail on why Pathways timing won't provide a viable solution, and Omaya's edits address that well. One other thing Josh points out is that two things we hear out of our commission is, "we don't want to be governed out of Little Rock", and "interested parties don't have a strong voice in M+".

While we don't agree, does anyone have thoughts about an artful way to address these concerns?

Jessica Zahnow

State & Regional Policy – Regional Markets

Phone: (b)(6)

PUGET SOUND ENERGY

From: Ahmad, Omaya <Omaya.Ahmad@aps.com>
Sent: Monday, July 15, 2024 5:00 PM
To: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: Re: [EXTERNAL] Markets+ Issue Alerts

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I made a few additions that are almost entirely on page 3.

- Spelled-out the value of SPP's consensus approach to stakeholder engagement
- Going off Matt's suggestion: opened a spot for others to add examples of where CAISO's governance has left us frustrated
- Added more to the Pathways discussion

Feel free to cut down as needed.

Thanks,

Omaya

From: Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>
Sent: Monday, July 15, 2024 4:53 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Walter, Kent C <Kent.Walter@aps.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Ching, Vincent <Vincent.Ching@pse.com>; Haines, Philip - Marketing <Philip.Haines@pse.com>; Ahmad, Omaya <Omaya.Ahmad@aps.com>; Marcie L Martin <Marcie.Martin@srpnet.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL] Markets+ Issue Alerts

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Thanks for a productive meeting this morning. Before moving forward BPA is going to need some more internal conversation on how this first paper and the overall strategy fits into our public process. We should be able to get something definitive tomorrow.

Apologizes for not flagging this today as it is something I should have known would be a required step.

Thanks,

Matt

-----Original Appointment-----
From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, July 12, 2024 12:15 PM
To: Spires, Jeff; Josh Robertson; Zahnow, Jessica Lynn; Hakala, Tuuli; Kent.Walter@aps.com; Mantifel,Russell (BPA) - MTM-3
Cc: Ching, Vincent; Haines, Philip - Marketing; Hayes,Matthew C (BPA) - MTM-3; Ahmad, Omaya; Marcie L Martin; Holman, Mark; Aitken, Meredith
Subject: [EXTERNAL] Markets+ Issue Alerts
When: Monday, July 22, 2024 9:00 AM-10:00 AM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

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Passcode: (b)(6) [redacted]

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From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, October 13, 2023 1:42 PM
To: Doot,Erika A (BPA) - LP-7
Cc: Mantifel,Russell (BPA) - BT-3
Subject: RE: [EXTERNAL] Response Requested: Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

Hi Erika,

Thanks for reaching out. Russ did reply earlier so we were able to share the document with SPP. We will let you know when we hear back. Thank you for the confirmation!

Jeff

Jeff Spires | Director, Power | Powerex Corp. | Cell (b)(6)

From: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Sent: Thursday, October 12, 2023 4:54 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>
Cc: Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] Response Requested: Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

⚠ **Caution: External Email**

Hi Jeff,

In case Russ inadvertently missed your message, BPA confirms the document and your draft email below.

Thanks,

Erika Doot
Attorney-Advisor
Bonneville Power Adminstration
(503) 230-4329

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Tuesday, October 10, 2023 3:16 PM
To: Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>; Michael Linn <mlinn@ppcpdx.org>; Joe Fina <gfina@snopud.com>; Adam Cornelius <ACCornelius@Snopud.com>; Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Garrison Marr <gbmarr@snopud.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Jason Zyskowski <JAZyskowski@SNOPUD.com>;

Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Bellcoff,Steve (BPA) - PGPR-5 <srbellcoff@bpa.gov>; Janet Jaspers <janet.jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>; Shawn Smith <shawn.smith@chelanpud.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: [EXTERNAL] Response Requested: Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

Hi everyone,

Given that today's MDWG was another instance of the discussion being mostly focused on MMU's positions and proposed draft tariff language, it seems like the wording of the email as drafted is still applicable.

We are still waiting for confirmation to send the document from **BPA, Snohomish** and **Tacoma**. Can you please let us know and we can send it to Antoine today?

Jeff

Antoine and Jim,

Please see attached a paper from a group of Markets+ stakeholders that have worked together to establish a set of principles and draft tariff language focused on topics related to the future participation of hydro resources in Markets+. We are hoping to follow up with you to discuss next steps, once you have had the opportunity to read the paper and discuss it internally.

On a separate note, we would also like to encourage SPP, and its MMU, to support stakeholders' ability to discuss important Markets+ topics prior to SPP or its market monitor developing and presenting policy positions and associated draft tariff language as the starting point for such discussions. We believe it will be a much more constructive and efficient process for SPP and its MMU to comment on policy proposals and draft tariff language that is developed collectively by the stakeholders in each group or sub-group (with input from SPP and its MMU during that development process).

This email and the attached paper is a joint communication from BPA, Chelan County PUD, Powerex Corp, Public Power Council, Snohomish County PUD and Tacoma Public Utilities.

From: Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>
Sent: Tuesday, October 10, 2023 8:21 AM
To: Michael Linn <mlinn@ppcpdx.org>; Joe Fina <gfina@snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Adam Cornelius <ACCornelius@Snopud.com>; Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Garrison Marr <gbmarr@snopud.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Jason Zyskowski <JAZyskowski@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Bellcoff,Steve (BPA) - PGPR-5 <srbellcoff@bpa.gov>; Janet Jaspers <janet.jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>; Shawn Smith <shawn.smith@chelanpud.org>

Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: RE: [EXTERNAL] Re: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

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One question I have is whether today's MDWG agenda meets our request of SPP/MMU given that they already planned to discuss much of this. Are we asking them to change moving forward? I just want to recognize the timing of this vis-à-vis what they've already scheduled.

From: Michael Linn <mlinn@ppcpdx.org>
Sent: Monday, October 9, 2023 4:44 PM
To: Joe Fina <gfina@snopud.com>; Jeff Spires <Jeff.Spires@powerex.com>; Adam Cornelius <ACCornelius@Snopud.com>; Willis, Wendy <wendy.willis@powerex.com>; Mark Holman <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Garrison Marr <gbmarr@snopud.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Jason Zyskowski <JAZyskowski@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Bellcoff,Steve (BPA) - PGPR-5 <srbellcoff@bpa.gov>; Janet Jaspers <janet.jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>; Shawn Smith <shawn.smith@chelanpud.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: [EXTERNAL] Re: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

Good Afternoon -

The email looks good to us as well.

Mike

From: Shawn Smith <Shawn.Smith@chelanpud.org>
Sent: Monday, October 9, 2023 4:26:58 PM
To: Joe Fina <gfina@snopud.com>; Jeff Spires <jeff.spires@powerex.com>; Adam Cornelius <ACCornelius@Snopud.com>; Willis, Wendy <wendy.willis@powerex.com>; Mark Holman <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Garrison Marr <gbmarr@snopud.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Russ Mantifel <rxmantifel@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Jason Zyskowski <JAZyskowski@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser (BPA), Todd <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Steve Bellcoff <srbellcoff@bpa.gov>; Janet Jaspers <janet.jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Michael Linn <mlinn@ppcpdx.org>;

Irene Scruggs <iscruggs@ppcpdx.org>
Subject: RE: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

All,

I am good with the email that is going to Antoine.

-Shawn

From: Fina, Joe <GFina@SNOPUD.com>
Sent: Monday, October 9, 2023 4:03 PM
To: Jeff Spires <jeff.spires@powerex.com>; Cornelius, Adam <ACCornelius@Snopud.com>; Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Marr, Garrison <GBMarr@Snopud.com>; Shawn Smith <Shawn.Smith@chelanpud.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; rxmantifel@bpa.gov; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser (BPA), Todd <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; srbellcoff@bpa.gov; Janet Jaspers <Janet.Jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Michael Linn <mlinn@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: [External] RE: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

PAUSE TO CONSIDER: The actual sender address for this email is GFina@SNOPUD.com.
Do you trust this message and any contents within?
If not, please forward it to our Phishing Hole for analysis. Thank You!

All,

I thought I would remind us of some history that may be helpful. Back in 2015, the Northwest Power Pool Market Assessment and Coordination Committee (which I believe everyone here was a member of) submitted a petition for declaratory order to FERC related to the region's development of a Centrally Cleared Energy Dispatch Market. One of the requested declarations was the following:

A decision by a generation owner/operator not to offer to sell generation in any interval in the voluntary CCED Market will not by itself demonstrate intent to manipulate the market and, in evaluating the presence of intent, the Commission will take into account the unique factors affecting the operations and marketing of power from hydroelectric resources.

Unfortunately, the petition was later withdrawn so FERC did not issue an order on it. However, the supporting argument in the petition is very well reasoned. See pp. 23-27. There is also good background information at the beginning of the petition that supports the argument.

Here is a link to the petition: https://elibrary.ferc.gov/eLibrary/filedownload?fileid=01D6EA58-66E2-5005-8110-C31FAFC91712. Jon Schneider with the Stinson law firm in DC helped the group at the time and submitted the petition. My recollection is that he, along with several committee members, had talked to FERC enforcement staff prior to the filing and that the petition was informed by the input received during those meetings.

The petition certainly doesn't get into details, but depending on SPP's response to the document, we may want to fold in some of the petition's language.

- Joe

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, October 6, 2023 4:30 PM
To: Cornelius, Adam <ACCornelius@Snopud.com>; Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Marr, Garrison <GBMarr@Snopud.com>; Shawn Smith <Shawn.Smith@chelanpud.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; rxmantifel@bpa.gov; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Fina, Joe <GFina@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser (BPA), Todd <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; srbellcoff@bpa.gov; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Michael Linn <mlinn@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: RE: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

Hi Adam

Thanks to all of you for the quick turnaround on providing your feedback on the document. We are good with the edits. We also have a preference for Option 2 regarding data sharing and propose we use that version for purposes of sharing with SPP, subject to BPA's confirmation that they are comfortable with the edits and with using Option 2.

With respect to uneconomic production, we agree that there is likely some additional work required in that area, including defining potential guardrails around 4.6.1 (a) (1), or adding language that the section it is not applicable to hydro resources. That said, the solution might be more clear depending on the outcome of the Hydro DEB discussion, so we would propose sharing the document as is, pending future evaluation of the specific refinements needed to address this concern as the discussion continues.

Lastly, below is draft joint email to Antoine and Jim Gonzalez for this group's review and feedback. Ideally we would send this first thing Monday (or Tuesday given the holiday).

Regards,
Jeff

Draft email:

Antoine and Jim,

Please see attached a paper from a group of Markets+ stakeholders that have worked together to establish a set of principles and draft tariff language focused on topics related to the future participation of hydro resources in Markets+. We are hoping to follow up with you to discuss next steps, once you have had the opportunity to read the paper and discuss it internally.

On a separate note, we would also like to encourage SPP, and its MMU, to support stakeholders' ability to discuss important Markets+ topics prior to SPP or its market monitor developing and presenting policy positions and associated draft tariff language as the starting point for such discussions. We believe it will be a much more constructive and efficient process for SPP and its MMU to comment on policy proposals and draft tariff language that is developed

collectively by the stakeholders in each group or sub-group (with input from SPP and its MMU during that development process).

This email and the attached paper is a joint communication from BPA, Chelan County PUD, Powerex Corp, Public Power Council, Snohomish County PUD and Tacoma Public Utilities.

From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Friday, October 6, 2023 3:42 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Marr, Garrison <GBMarr@Snopud.com>; Shawn Smith <Shawn.Smith@chelanpud.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; rxmantifel@bpa.gov; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Fina, Joe <GFina@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser (BPA), Todd <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; srbellcoff@bpa.gov; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Michael Linn <mlinn@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: RE: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

⚠ **Caution: External Email**

Thank you to Powerex and BPA for your efforts on pulling together this document on a short time frame. Attached are a few relatively minor suggestions from Snohomish (Tacoma and Chelan had no further edits). As for data sharing, Snohomish and Tacoma both prefer Option 2, but can live with Option 1. Chelan is fine with either.

One consideration that I noted in comments is whether we should make some more specific recommendations when it comes to uneconomic production. I appreciate that the paper mentions that when legitimate water management activities require an increased volume of water be released that it shouldn't be considered uneconomic production. However, unlike in CAISO, one of the flags for uneconomic production in SPP is a resource offering below its mitigated offer. We may want to consider at some point whether any specific guardrails around 4.6.1 (a) (1) below are needed in light of the proposed mitigated offer for hydro.

> **4.6.1 Uneconomic Production**
> The Market Monitor will monitor for cases where uneconomic production by a Resource causes congestion on transmission facilities or price separation between Reserve Zones that is not justified by reliability concerns. For an MSR, both charging and discharging are considered production. The provisions of this Section 4.6.1 do not apply to Demand Response Resources.
> (a) Potential uneconomic production will be indicated, and subject to further analysis as described in (b) of this Section 4.6.1, when the Resource has a positive Resource-to-Load Distribution Factor and any of the following conditions are met:
> (1) a Resource is identified with an incremental energy offer price less than 50 percent of its mitigated offer as shadow calculated by the Market Monitor; or

(2) a Resource is determined to be generating outside of its Operating Tolerance; or

(3) a Resource is subject to a time-based or other resource offer parameter (non-time and non-dollar based) that appears to facilitate production that is otherwise uneconomic.

(b) For any Resource meeting the conditions described in (a) of this Section 4.6.1, the Market Monitor will determine whether: (i) the MW impact from uneconomic production associated with such Resource is exacerbating the transmission congestion or binding a Reserve Zone; and (ii) the uneconomic production is not obviously justified by reliability or other operational concerns.

The Market Monitor will conduct evaluations as specified above and other related assessments to determine if there is sufficient credible information to justify referral to FERC.

Thanks,

Adam Cornelius
Principal Utility Analyst | Power Supply | Snohomish County PUD
2320 California St, Everett, WA 98201
cell: (b)(6) office: (b)(6)
ACCornelius@snopud.com

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Thursday, October 5, 2023 3:21 PM
To: Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Marr, Garrison <GBMarr@Snopud.com>; Shawn Smith <Shawn.Smith@chelanpud.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; rxmantifel@bpa.gov; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Fina, Joe <GFina@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser (BPA), Todd <twkochheiser@bpa.gov>; Cornelius, Adam <ACCornelius@Snopud.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; srbellcoff@bpa.gov; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Michael Linn <mlinn@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

CAUTION: THIS EMAIL IS FROM AN EXTERNAL SENDER.
Do not click on links or open attachments if the sender is unknown or the email is suspect.

Good afternoon,

Please see attached an updated draft of the confidential "Principles For Storage Hydro Participation in Markets+" document (in clean and redline) that reflects collaboration between Powerex and BPA on refinements to the initial draft for the group's review.

We look forward to the discussion tomorrow morning.

Regards,
Jeff

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From: Christine Dillard <cdillard@spp.org>
Sent: Wednesday, September 20, 2023 6:17 AM
To: Fina, Giuseppe (Joe); Chris Nolen; Pettit, David E; Gorlin@WAPA.GOV; Alaine Ginocchio; Jason.Kuzma@pse.com; Engelby, Ben; Charles.VonReis@chelanpud.org; Miller,Todd E (BPA) - LP-7; 'Karilee S Ramaley'; Irene Scruggs; Gilhen, Jonathan; Sabers, Cathy; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7; Lee Engel; Davis,Thomas E (BPA) - LT-7; Kallstrom, Jeffrey; Starnes, Heather
Cc: Emon Mahony; Rachel Kane; Joseph Ghormley; Kristen Darden; Carrie Simpson; Mantifel,Russell (BPA) - PGL-5; Michael Riley
Subject: [EXTERNAL] RE: Agenda for Sept. 21 Market+ Legal Group Meeting
Attachments: Attachment A Section 4.1.docx; Common Service Provisions Force Majeure and Indemnification--SPP Edits 9-18-23.docx

Good morning,
Please find Attachment A, Section 4.1 and updated sections of Common Service Provisions Force Majeure and Indemnifications attached and linked to sharepoint.

Thank you,

Christine Dillard | Attorney, Markets & Regulatory Policy
cdillard@spp.org | (b)(6) (c)

Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Fina, Joe <GFina@SNOPUD.com>
Sent: Tuesday, September 19, 2023 5:54 PM
To: Chris Nolen <cnolen@spp.org>; Pettit, David E <David.E.Pettit@xcelenergy.com>; Gorlin@WAPA.GOV; Alaine Ginocchio <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; Todd Miller <temiller@bpa.gov>; 'Karilee S Ramaley' <Karilee.Ramaley@srpnet.com>; Irene Scruggs <iscruggs@ppcpdx.org>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; Lee Engel <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; Christine Dillard <cdillard@spp.org>
Cc: Emon Mahony <emahony@spp.org>; Rachel Kane <rkane@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Michael Riley <michael.b.riley@spp.org>
Subject: **External Email** Agenda for Sept. 21 Market+ Legal Group Meeting

CAUTION: This email originated from outside of the SPP network. Do not click links or open attachments unless you recognize or can verify the sender, or were expecting an email from the sender. The original sender of this email is GFina@SNOPUD.com

All,

Here is the draft agenda for our Markets+ Legal Group meeting on Thursday. It's already a bit long, but happy to add more to the list. 😊 You'll note that Attachment C has been added back to our agenda. Check the SharePoint Site for the most up to date documents.

AGENDA

I. Update on Duty of Candor Provision (Attachment A, Section 6.9)
II. Attachment C, Market Monitoring Plan (Comparison of Section 4)
III. Update on Attachment A, Section 4.1 on Resource Offer Parameters
IV. Common Service Provisions
    a. Force Majeure and Indemnification
V. Update - Attachment H, Credit Policy
VI. Update on Special Rules on Use of Tariff
VII. Attachment G, Meter Agent Services Agreement
VIII. Attachment E, Market Participant Service Agreement

Also, for those of you who plan to attend our in-person meeting in Phoenix on Wednesday, Nov. 8 from 12:30-4:30 p.m., please send in your lunch confirmation along with any dietary restrictions to Lisa.Sjoberg@srpnet.com by Friday, October 20.

Thanks,

Joe

This email and any attachments are for the sole use of the intended recipient(s) and may contain confidential information. If you receive this email in error, please notify the sender, delete the original and all copies of the email and destroy any other hard copies of it.

4.1 General Resource Participation

Beginning seven (7) days prior to the Operating Day, Market Participants may begin to submit Offers for use in the Day-Ahead Market and Offers for use in the RTBM. Day-Ahead Market Offers may be updated up to the close of the Day-Ahead Market, and RTBM Offers may be updated thirty (30) minutes prior to each Operating Hour. Offer submittals shall conform to the following:

(1) Day-Ahead Market Offers are independent from RTBM Offers;

(2) Day-Ahead Market and RTBM Offers will automatically roll forward to the same hour in the following Operating Day within each respective market until an updated Resource Offer has been submitted for that hour;

(3) Day-Ahead Market and RTBM Offers may vary for each hour of the Operating Day, except the Offer parameters related to unit commitment as defined in the Markets+ Protocols for which a single value is submitted;

(4) RTBM Offers are also used in the RUC;

(5) Resource Offers are limited by the Offer caps and floors specified in Section 5.3 of this Attachment A;

(6) The Resource Offer parameters that must be included to constitute a valid Offer for use in either the Day-Ahead Market or RTBM, are defined in the Markets+ Protocols;

(7) Market Participants must specify one of the Resource commitment statuses defined below:

a) **Market** – The Resource is available for Market Operator economic commitment if it is off-line;

b) **Self –** The Market Participant is committing the Resource and the Market Operator should include it as committed in either the DA Market and/or RUC as specified;

c) **Reliability Must Run (RMR) –** The Resource received an Emergency Condition Commitment or Local Reliability Issue Commitment and the Market Operator should include it as committed in either the DA Market and/or RUC as specified;

d) **Outage** – The Resource is unavailable to the market, or, in the case of an MCR, the configuration is unavailable to the market;

e) **Not Participating –** The Resource is otherwise available but has elected not to participate in the DA Market. This option is not available for use in RTBM Offers.

(8) Intra-operating hour adjustments to Resource Offer physical operating parameters due to changes in a Resource's capability. Market Participants shall notify the Market Operator of a change in a Resource Offer physical operating parameter during an Operating Hour. For the current Operating Hour the Market Operator will make the requested modification to the Resource Offer physical operating parameter. For subsequent hours the Market Participant shall remain responsible for accurately reflecting Resource operating parameters in its Resource Offer submissions.

[(9) Resource Offer parameters that describe the operational and technical limitations of the Resource and are not quantified in dollar terms must represent actual physical capabilities or environmental limitations. Market Participants must provide supporting documentation upon request to the Market Operator or Market Monitor.]

Comment [SPP MMU1]: SPP MMU proposed language

4 Force Majeure and Indemnification

4.1 Force Majeure

Option 1 -

Neither the Market Operator nor the Market Participant(s) will be considered in default as to any non-financial obligation under this Tariff if prevented from fulfilling the obligation due to an event of Force Majeure. An event of Force Majeure means any act of God, labor disturbance, act of the public enemy, war, insurrection, terrorism, cyber ~~security threat or~~ attack, riot, fire, storm or flood, pandemic, explosion, breakage or accident to machinery or equipment, any curtailment, order, regulation or restriction imposed by governmental, military, or lawfully established civilian authorities. A Force Majeure event does not include an act of negligence or intentional wrongdoing by the party claiming Force Majeure. A party prevented from fulfilling its obligation under this Tariff due to an Event of Force Majeure must use its best efforts to (i) mitigate the effects of such event of Force Majeure and ~~to~~(ii) resume full performance of its obligations under theis Tariff. ~~A party~~ A Market Participant(s) that has experienced a Force Majeure event must notify the Market Operator~~other party~~ as soon as practicable and identify the Force Majeure event and the obligations affected by the event. If the Market Operator has experienced a Force Majeure event, it must notify all Market Participants as soon as practicable and identify the Force Majeure event and the obligations affected by the event. ~~Neither the Market Operator SPP, the Joint Dispatch Transmission Service Provider(s)nor the Market Participant(s) will be considered in default as to any obligation under this Tariff if prevented from fulfilling the obligation due to an event of Force Majeure~~A party ~~party~~ will~~shall~~ only be relieved of its payment obligations, including penalties or charges, ~~that~~if such obligations are ~~not otherwise~~specifically excused under any other provision of this Tariff.

Option 2 -

An event of Force Majeure means any act of God, labor disturbance, act of the public enemy, war, insurrection, cyberattack, riot, pandemic, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation, or restriction imposed by governmental military or lawfully established civilian authorities, or any other cause beyond a party's control. A Force Majeure event does not include an act of negligence or intentional wrongdoing. Neither Market Operator nor the Market Participant will be considered in default as to any obligation under this Tariff if prevented from fulfilling the obligation due to an event of Force Majeure. However, a party whose performance under this Tariff is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations under this Tariff. A Market Participant(s) that has experienced a Force Majeure event must notify the Market Operator as soon as practicable and identify the Force Majeure event and the obligations affected by the event. If the Market Operator has experienced a Force Majeure event, it must notify all Market Participants as soon as practicable and identify the Force Majeure event and the obligations affected by the event. Notwithstanding the foregoing, the physical inability to perform because of an event of Force Majeure shall not relieve the party of any financial obligations incurred under this Tariff or as a result of the Force Majeure event, unless, and to the extent, such financial obligation is waived or excused under this Tariff.

~~the performance of any financial obligations.~~

~~However, a party whose performance under this Tariff is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations under this Tariff to the extent not hindered by such event of Force Majeure.~~

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Comment [GJ1]: Not in definition section of Tariff

Comment [RK2]: Agree. Market Operator and Market Participant cover it.

Comment [JWG3]: Is threat too broad a concept? Does "cyberattack" cover the intent

Comment [FJ4]: Double-check need for reference.

Comment [RK5]: SPP is hesitant to include "pandemic" because there are circumstances when, say, a resource may have limited employees due to sickness, etc. SPP needs these resources online and operating regardless.

Comment [FJ6]: SPP to refine what constitutes "pandemic"

Comment [GJ7]: By the party claiming Force Majeure?

Comment [RK8]: Agree

Comment [GJ9]: Suggested changes – assume "best efforts" obligation applies to resume as well.

Comment [GJ10]: Who is the other party? Market Operator? All Market participants if SPP is claiming party?

Comment [GJ11]: Not in definition section of Tariff

Comment [RK12]: Agree. Market Operator and Market Participant cover it.

Comment [CD13]: Cannot accept addition of "or charges" - Positions opened in the financial DAMKT must be closed in the RTBM. The financial position must be closed and deviation from the DAMKT position should be subject to MWP distribution.

Comment [FJ14]: SPP to review last sentence.

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Comment [GJ15]: Who is the other party? Market Operator? All Market participants if SPP is claiming party?

Comment [CR16]: Does using "to the extent not hindered" here as an exception to "reasonable efforts" negate the expectation set by the first part of the sentence to make "reasonable efforts" when "hindered"?

Comment [FJ17]: Language removed. Will confirm at next meeting.

4.2 Liability

(a) SPP shall not be liable, whether based on contract, indemnification, warranty, tort, strict liability or otherwise, to any Market Participant, third party, or other person, for ~~money~~ any damages ~~or other compensation~~ whatsoever, including, without limitation, direct, incidental, consequential, punitive, special, exemplary, or indirect damages ~~to any Market Participants~~ for any actions or omissions by SPP ~~or Joint Dispatch Transmission Service Provider~~ in performing its obligations as Market Operator under this Tariff or any ~~Service Agreement~~agreement ~~t~~hereunder, including, but not limited to, any act or omission that results in an interruption, deficiency or imperfection of service, except to the extent such act or omission by SPP is found to result from its gross negligence or intentional wrongdoing, in which case SPP will only be liable for direct damages.

~~(b) A Joint Dispatch Transmission Service Provider shall not be liable for money damages or other compensation to any Joint Dispatch Transmission Service Customer or Users for actions or omissions by such Joint Dispatch Transmission Service Provider or SPP in performing its obligations under this Tariff or any Service Agreement thereunder, except to the extent such act or omission by such Joint Dispatch Transmission Service Provider is found to result from its gross negligence or intentional wrongdoing.~~

(be) A ~~Joint Dispatch Transmission Service Customer or Users~~Market Participant, third party, or other person may not seek to enforce any claims under this Tariff or any agreements entered into hereunder against the directors, members, managers, shareholders, officers, employees or agents of ~~SPP or a Joint Dispatch Transmission Service Provider or Affiliate~~SPP ~~of either~~, and such individuals will have no personal liability ~~for~~of obligations of SPP solely by reason of their status as directors, members, managers, shareholders, officers, employees or agents of ~~the~~ SPP ~~or a Joint Dispatch Transmission Service Provider or Affiliate of either~~.

~~Notwithstanding the foregoing, a Joint Dispatch Transmission Service Customer or Users shall be liable to the SPP for all amounts owed for the full term of any Service Agreement under the Tariff.~~

(cd) ~~In no event shall SPP, a Joint Dispatch Transmission Service Provider or any Joint Dispatch Transmission Service Customer or Users [or Market+ Participants] be liable for any incidental, consequential, punitive, special, exemplary or indirect damages, attorney's fees and costs, loss of revenues or profits, arising out of, or connected in any way with the its performance or non-performance under this Tariff or any Service Agreement thereunder, except to the extent included in any rate payable pursuant to the Tariff.~~

Nothing in this section shall limit in any way the foregoing limitations of liability. In the event that SPP is required to pay any money damages, compensation, or attorney's fees and costs to a Market Participant, third party, or other person, for any actions or omissions by SPP in performing its obligations as Market Operator under this Tariff or any agreement hereunder, including, but not limited to, any act or omission that results in an interruption, deficiency or imperfection of service, SPP shall be allowed to recover any such amounts pursuant to the procedures in Schedule 1 of this Tariff.

Comment [FJ18]: SPP staff to review proper names used in this section.

Comment [GJ19]: Does SPP as Market Operator have payment obligations under the Tariff? Need a general exception here for payments expressly provided for under the Tariff, Protocols etc.

Comment [CD20]: Removed "or other compensation"

Comment [GJ21]: Not defined in definition section

Comment [GJ22]: This should be deleted. If SPP is found to have engaged in gross negligence or intentional wrongdoing, that a pretty significant thing, not sure SPP should benefit from such a damages type limitation (or would it even be enforceable)?

Comment [CD23]: In MISO and WRAP tariffs

Comment [RK24]: Not needed in the context of Markets+.

Comment [GJ25]: Tweak – "and such individuals will"

Comment [FJ26]: Cathy/SPP to review last sentence.

Comment [CD27]: No longer needed because previous draft contemplated relationship between transmission customers/users and TSPs.

Comment [GJ28]: General question – is an exception wise here "except to the extent included in any rate payable pursuant to the Tariff"?

Comment [FJ29]: SPP to review

Comment [CD30]: Revised (a) to encompass this paragraph

Comment [FJ31]: Need to revisit this reference.

Comment [GJ32]: Should this apply even if unsuccessful in an arbitration / legal proceeding? Indemnification obligations?

Comment [FJ33]: SPP to review

Comment [RK34]: Any attorneys' fees or costs owed by SPP would be uplifted to Market Participants. So, let's leave as is.

Comment [GJ35]: Same note as above – SPP should have payment obligations under the Tariff, Protocols etc. Just need to clarify what the compensation is we are dealing with.

4.3 Indemnification

The ~~Joint Dispatch Transmission Service Customer~~Market Participants shall at all times indemnify, defend, and save SPP, and any of its agents, consultants, directors, officers, or employees, ~~and Joint Dispatch Transmission Service Provider(s)~~ harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person, or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from SPP's ~~or Joint Dispatch Transmission Service Provider(s')~~ performance of obligations under this Tariff as Market Operator ~~on behalf of the Joint Dispatch Transmission Service Customer~~, except in cases of gross negligence or intentional wrongdoing by SPP or its agents, consultants, directors, officers, or employees ~~or a Joint Dispatch Transmission Service Provider~~.

Formatted: Justified

Comment [GJ36]: Is this necessary with new 4.2(b)?

Comment [FJ37]: Need to reflect Markets+ Joint Dispatch equivalent if any. SPP to provide more context around this.

Comment [GJ38]: Added.

~~If SPP engages in gross negligence or intentional wrongdoing, but the Joint Dispatch Transmission Service Provider(s) does (do) not, that will not affect the indemnification of the Joint Dispatch Transmission Service Provider(s) and vice-versa.~~

Formatted: Justified

Comment [GJ39]: Shouldn't SPP indemnify in this scenario?

Comment [FJ40]: SPP to review.

Comment [RK41]: Agree, deleted this sentence.

~~**4.4 Further Limitation of Liability**~~

~~Neither the Joint Dispatch Transmission Service Provider nor SPP shall be liable for damages arising out of services provided under this Tariff including, but not limited to any act or omission that results in an interruption, deficiency or imperfection of service, occurring as a result of conditions or circumstances beyond the control of the Joint D"ispatch Transmission Service Provider or SPP, as applicable, or resulting from electric system design common to the domestic electric utility industry or electric system operation practices or conditions common to domestic electric utility industry. Joint Dispatch Transmission Service Providers shall not be liable for acts or omissions done in compliance or good faith attempts to comply with directives of SPP.~~

Comment [GJ42]: This seems quite vague. What is intended to be captured by this that is not included above? Generally what does this section 4.4 catch that isn't covered in other parts of Section 4?

Comment [FJ43]: SPP to review.

Comment [RK44]: This sentence is not applicable in Markets+. JDTSPs do not exist in Markets+.

4.5 4 Limitation on Claims

Except as otherwise specified in Sections 7.1 or 7.3 of Attachment A to this Tariff, or as may be required to comply with the requirements of this Tariff or applicable Commission directivesorders, no claim seeking an adjustment in the billing for any service, transaction, or charge under the Tariff may be asserted if more than two yearsone (1) year has elapsed since the first date upon which the billing for that week or month occurredthe Operating Day at issue. SPP shall make no adjustment to billing with respect to any service, transaction, or charge under this Tariff if more than two yearsone (1) year has elapsed since the first date upon which the billing for that week or month occurredthe Operating Day at issue, unless a claim seeking such adjustment had been received by SPP prior to the end of the two-year period.

Comment [GJ45]: Should this now be section 4.4?

Comment [CD46]: See Att AE limiting settlement dispute period, currently 10.1(4) in IM tariff

Formatted: Justified

Comment [CR47]: Does this prevent participants from having time to review and seek adjustment of a bill that SPP adjusts on the last possible day?

Comment [FJ48]: See Integrated Marketplace Protocols.

Comment [CD49]: See Protocols section 4.5.13.7(2)

Comment [FJ50]: SPP to update

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Wednesday, May 8, 2024 6:19 AM
To: Mantifel,Russell (BPA) - MTM-3
Cc: Holman, Mark; Aitken, Meredith
Subject: [EXTERNAL] Confidential Draft - Powerex Reply Comments re: Markets+ Transmission Contributor Framework
Attachments: CONFIDENTIAL WORKING DRAFT - Pwx Answer to Markets+ Tariff Comments.pdf

Good morning Russ,

As discussed in Phoenix, attached is our confidential working draft answer to the comments of Idaho Power, PGE, NV Energy and PacifiCorp related to the Markets+ Transmission Contributor framework. Please keep this confidential as it is an early draft and subject to change prior to filing. We are aiming to file around May 14th.

Please let me know when you might have a few minutes to discuss.

Regards,
Jeff

This email may contain information that is confidential. If you are not the intended recipient you may not distribute or copy this email or any attachments. If you have received this email in error, please notify the sender and delete this email and attachments from your system immediately. Thank you.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Southwest Power Pool, Inc.	)	Docket Nos. ER24-1658-000
	)	ER24-1658-001

MOTION FOR LEAVE TO ANSWER AND ANSWER OF POWEREX CORP.

Pursuant to Rules 212 and 213 of the Federal Energy Regulatory Commission's ("Commission") Rules of Practice and Procedure, 18 C.F.R. §§ 385.212 and 385.213, Powerex Corp. ("Powerex") hereby requests leave to submit this answer ("Answer") in response to certain comments and protests regarding Southwest Power Pool, Inc.'s ("SPP") March 29, 2024 proposed tariff ("Tariff") to establish the centralized Day-Ahead and Real-Time unit commitment and dispatch market in the Western Interconnection, to be known as Markets+ ("Markets+").

MOTION FOR LEAVE TO ANSWER

The Commission's Rules of Practice and Procedure do not ordinarily allow for answers to comments and protests. However, the Commission will accept answers to comments and protests when they (1) assist the Commission in understanding the issues raised for its consideration, (2) provide additional information that aids or otherwise informs the Commission's decision-making process, or (3) ensure the development of a complete and accurate record.[1]

Powerex's Answer provides additional information for the Commission regarding key transmission-related aspects of the Markets+ tariff proposal, in response to discrete requests for clarification. This supplemental information is necessary to ensure an accurate and fulsome record in this proceeding. To ensure that the Commission and all parties in this proceeding have a complete and accurate understanding of the Markets+ Tariff provisions, Powerex provides its

[1] *See, e.g., PJM Interconnection, L.L.C.*, 181 FERC ¶ 61,162, at P 29 (2022); *Canal Generating LLC*, 181 FERC ¶ 61,157, at P 14 (2022); *Equitrans, L.P.*, 134 FERC ¶ 61,250, at P 6 (2011); *Cal. Indep. Sys. Operator Corp.*, 132 FERC ¶ 61,023, at P 16 (2010).

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understanding of this mechanism based on a plain reading of the tariff and as an active participant in the Markets+ stakeholder process, and Powerex further responds to the specific issues raised in the comments of the parties. Thus, Powerex respectfully requests that the Commission accept this Answer and consider it when issuing an order on SPP's Markets+ tariff submission.

ANSWER

I. CLARIFICATION ON THE USE OF CONTRACT PATH RIGHTS IN MARKETS+

In keeping with extensive deliberations with stakeholders in the Markets+ development phase, the Markets+ Tariff filing defines two types of transmission capability that will be available to support Markets+ transactions. First, Markets+ Transmission Service Providers commit to "contribute their flow-based transmission capability," with "carve outs" of capability to respect transmission customers that wish to use their transmission rights outside of Markets+.[2] Second, Markets+ Transmission Contributors—who are not transmission service providers ("TSPs"), but rather are transmission customers that hold transmission rights on facilities administered by TSPs that have not elected to participate in Markets+ (*i.e.*, "external" TSPs)—may make their own OATT transmission rights available to support Markets+ transactions.

Several parties submitted comments regarding the above sources of transmission capability. A wide range of Western stakeholders urge the Commission to approve the Markets+ tariff as filed, without requesting modification to the above-detailed transmission sourcing methods. This grouping of supporters includes power marketers, large investor-owned utilities, municipal utilities, trade associations, a state commissioner, and end-use customers.[3] These

[2] Transmittal Letter, at 23. *see also* Markets+ Tariff, Att. D, § 1.2 ("Obligation to Communicate Markets+ Transmission Capacity Availability Changes").

[3] *See, e.g.*, Comments of Powerex Corp.; Motion for Leave to Intervene and Comments of Arizona Pub. Serv. Corp.; Comments of Arizona Commissioner Nick Myers; Comments of the Clean Energy Associations; Comments of Xcel Energy Services Inc. on behalf of Public Utility Affiliate Public Service Company of Colorado; Motion to Intervene and Comments of Tucson Electric Power; Comments in Support of Filing of Public Utility District No. 1 of Chelan County, Public Utility District No. 1 of Snohomish County, and City of Tacoma, Department of Public Utilities, Power Division; Motion to Intervene and Comments of Google LLC; Comments of the Clean Energy Buyers Association.

parties agree that Markets+ as proposed will facilitate a more efficient and cost-effective utilization of resources, while also improving the penetration of renewable resources and maintaining reliability in the region.[4]

Three transmission service providers in the region—Idaho Power, Portland General Electric, and NV Energy—requested clarifications of certain aspects of the proposal. In particular, they sought clarification that the transmission rights contributed by a Markets+ Transmission Contributor would continue to be governed by the customer's applicable Transmission Service Agreement and by the Open Access Transmission Tariff ("OATT") of the external TSP that issued the rights.[5]

Powerex believes that the clarification requests of Idaho Power, NV Energy, and Portland General arise from, absent clarification, the potential for a misunderstanding of the Markets+ Tariff – namely, that such contributions would result in transmission customers with contract-path transmission rights on external transmission providers' systems somehow being able to use those transmission rights as "flow-based" rights (instead of contract-path rights) for Markets+ deliveries.

This potential for a misunderstanding may be based on a reading of Tariff language stating "Markets+ will economically dispatch Energy across the Markets+ Footprint *using Markets+ Transmission Contributors' and Markets+ Transmission Service Providers' flow-based transmission capability* less any capacity not available for market use."[6] Similar wording is found

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[4] *See, e.g.*, Comments of the Clean Energy Association, at P 4; Comments of the Clean Energy Buyers Association, at PP 3-4; Motion for Leave to Intervene and Comments of Arizona Pub. Serv. Corp at, PP 6-7, 9-10; Motion to Intervene and Comments of Google LLC, at P 5.

[5] *See, e.g.*, Idaho Power Comments, at 2 ("Idaho Power asks that the Commission confirm that a Transmission Contributor in that position can only take actions consistent with the rights it has as a transmission customer under its transmission service agreement with the transmission provider[.]"; NV Energy Comments, at 5 ("SPP should clarify that any capacity offered by Transmission Contributors must be consistent with their underlying rights."); and Portland General Comments, at 4 ("PGE requests that the SPP confirm that the utilization of Markets+ Transmission Contributors' rights will be consistent with the Transmission Service Provider's Open Access Transmission Tariff and the Transmission Customer's Transmission Service Agreement.")

[6] NV Energy Comments, at 5. (Emphasis added)

in the transmittal letter.[7] It is Powerex's understanding that the "flow-based" treatment of transmission capability under the Tariff applies solely to the second part of this phrase – the transmission capability brought into Markets+ by Transmission Service Providers (*i.e.*, the "Markets+ Transmission Service Providers' flow-based transmission capability" as stated in Section I.C. of the transmittal letter).

In contrast to flow-based usage across Markets+ Transmission Service Providers' facilities, transmission capability associated with Markets+ Transmission Contributors' OATT transmission reservations on non-participating TSPs' systems will be utilized in the Markets+ solution as a contract-path delivery schedule, entirely consistent with and limited by the applicable transmission service agreement and the tariff of the non-participating TSP. To be clear: nothing in the Markets+ Tariff filing interferes with the role of non-participating TSPs in providing transmission service on their systems; nothing in the Markets+ Tariff changes the relationship between a non-participating TSP and its transmission customers; and nothing in the Markets+ Tariff filing assigns to SPP either the role of a transmission provider or of a transmission customer.

Furthermore, the Markets+ Transmission Contributor framework incorporates the very same structure for "donating" OATT transmission rights that has been used successfully in the WEIM for a decade, and that is proposed to be in place to support the EDAM. Powerex believes this framework is similarly just and reasonable for Markets+.

II. THE MARKETS+ TRANSMISSION CONTRIBUTOR FRAMEWORK DOES NOT ALTER NON-PARTICIPATING TRANSMISSION SERVICE IN ANY WAY

The Markets+ Transmission Contributor model will not change any aspect of the OATT rights on non-participating transmission systems. Instead, the Markets+ Transmission Contributor model and tariff provisions enable the Markets+ optimization to determine the optimal MW quantity of transfers between different portions of the Markets+ footprint in order to achieve the

[7] Markets+ Transmittal Letter, at 5.

least-cost solution. Those transfer quantities are then scheduled and delivered by the transmission customer using conventional OATT transmission rights, under the contract-path paradigm, across one or more transmission systems that do not participate in Markets+. Importantly, the Markets+ Transmission Contributor provisions of the proposed Tariff define only how Markets+ is informed about the transmission customers' transmission availability and its intention to use those external rights to deliver energy between areas within the Markets+ footprint; it does not—and cannot—modify any aspect of the terms of service for those rights.

The scope of what the Markets+ Transmission Contributor framework accomplishes—and what it does not—is best demonstrated by considering how OATT transmission rights are currently used to deliver supply from one part of the West to load in a different part, and how those rights will be used once that same supply and load participate in an organized (rather than bilateral) market.

The graphic below illustrates "Step 1": how a transmission customer transacts under the existing bilateral market and transmission scheduling constructs. Such a transmission customer must identify a source (from which it purchases or otherwise owns energy supply from), identify a load-serving entity (to whom it sells or otherwise has an obligation to deliver energy to), and then schedule the desired quantity of energy on its transmission service from source to sink using its OATT transmission rights. The efficiency of the current bilateral market environment is limited, however, by a lack of full information, as the transmission customer is not necessarily able to identify the most economic source of supply or the most economic load to deliver the energy supply to, as well as by bilateral market transaction or friction costs, and by the need to transact in hourly or multi-hour blocks in the bilateral markets.

Step 1: Bilateral Markets (Today)



Markets+ will eliminate many of these inefficiencies, by having full information on all available resources and loads in the participating footprint, and by optimizing schedules with hourly and sub-hourly granularity. Once Markets+ is operational, a transmission customer will be able to use its rights to deliver energy from one location in the Markets+ footprint to a different location in the Markets+ footprint, using the same OATT scheduling conventions that exist today. The transmission contract path used for such deliveries and the maximum quantity able to be delivered will not be altered by the existence of Markets+, and will continue to be consistent with the transmission customer's transmission service agreements. "Step 2" in the graphic below illustrates an approach in which the transmission customer decides, on its own, the quantity of energy it will purchase, sell, and deliver in the Markets+ footprint, and does so prior to the

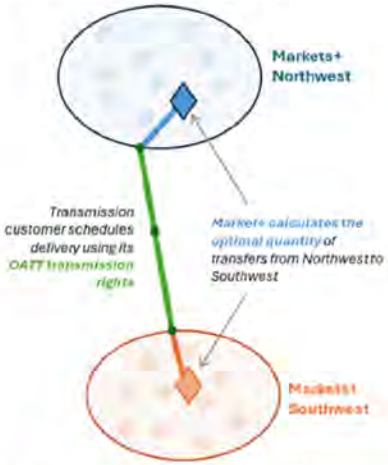
Markets+ optimization process. While far more efficient than the status quo in the prior graphic, the quantity of energy scheduled on its contract path rights and transferred between areas of the Markets+ footprint is determined solely by a market participant, and is therefore unlikely to lead to the most efficient outcome in every interval. "Step 3" in the graphic shows how the Markets+ Transmission Contributor framework addresses this inefficiency, by making the Markets+ optimization "aware" of the market participant's intention to use OATT transmission rights to schedule transfers between the Markets+ sub-regions, and by informing the transmission customer of the optimal quantity of energy to be transferred.

Step 2: Non-Optimized Transfers Between Markets+ Regions



- Complete information about available supply and demand
- Friction-less optimized transactions
- Trade in hourly and sub-hourly intervals
- Transfer quantity determined by individual market participants, may not be optimal

Step 3: Optimized Transfers Between Markets+ Regions



- Complete information about available supply and demand
- Friction-less optimized transactions
- Trade in hourly and sub-hourly intervals
- Optimal transfer quantity determined by Markets+ each interval, scheduled by participant that holds OATT rights

Importantly, the existing OATT framework in place across the region already has the functionality to permit individual transmission customers to schedule transfers from one part of

the Markets+ footprint to another (Step 2), without any need for the Markets+ Transmission Contributor framework in the Markets+ Tariff. The reason for the Markets+ Transmission Contributor framework is only to make the quantities of those transfers arranged more efficient, by informing the Markets+ Transmission Contributor of the most efficient energy quantity to schedule using its OATT rights on the transmission systems of non-participating Transmission Service Providers each interval. In other words, the Markets+ Transmission Contributor provisions are necessary to enable the optimally efficient "Step 3," above, instead of the less-efficient "Step 2."

The Markets+ Transmission Contributor model is designed to fully preserve OATT rights on non-participating transmission systems. OATT-based transmission rights will continue to be held by the transmission customer and scheduled by the transmission customer using e-Tags that are subject to validation by the applicable transmission service provider. The transmission rights will continue to be governed by the terms and conditions of the respective transmission service agreement, by the Commission-approved tariff of the transmission service provider that issues those rights, and by the business practices and protocols of that transmission provider. As explained above, this includes retaining the existing contract-path treatment of those rights, as flow-based transmission modeling would not be applied to the use of the transmission systems of non-participating TSPs. Nothing in the Markets+ Tariff changes which entity is the transmission customer, which entity is the transmission service provider, nor does the Markets+ Tariff in any way change or interfere with the rights and responsibilities of the transmission customer or transmission provider.

III. POWEREX'S UNDERSTANDING IS CONSISTENT WITH THE CLARIFICATIONS REQUESTED BY IDAHO POWER, NV ENERGY AND PORTLAND GENERAL

Powerex is a long-standing firm point-to-point transmission customer of Idaho Power, NV Energy and Portland General. As discussed more fully below, the clarifications sought by these

three transmission service providers are entirely consistent with Powerex's understanding and expectations under the Markets+ Transmission Contributor framework.

A. Response to Idaho Power

Idaho Power requested clarification on several points. First, Idaho Power expresses concern about customer transmission contributions to Markets+ resulting in Markets+ using those transmission rights as "flow-based" rights (instead of contract-path rights) for Markets+ deliveries.[8] This concern is addressed above, and specifically Powerex understands that (1) contract-path transmission rights contributed to Markets+ on a non-participating TSP will not be considered or used as "flow-based" in Markets+; and (2) Markets+ will respect the limits of the transmission capacity contributed by the customer and will not identify any volumes the customer would schedule in excess of those contributed rights.

Second, Idaho Power seeks confirmation that a transmission customer contributing transmission rights on a non-participating TSP can take only actions consistent with that TSP's OATT and transmission service agreements.[9] Powerex agrees that transmission customers may take only such actions that are consistent with the non-participating TSP's OATT and the customer's service agreements with that TSP. In particular, regarding the limitations associated with Network Integration Transmission Service ("NITS"), Powerex recognizes that generally such service may not be used to engage in or facilitate external sales and thus NITS on an external transmission provider's system may be ill suited for contribution to Markets+.

Finally, Idaho Power suggests that the Markets+ Tariff should contain a requirement for the non-participating TSP to approve a transmission customer's contribution of transmission rights to Markets+.[10] Powerex appreciates Idaho Power's concern but believes that such a requirement

[8] Idaho Power Comments at 3.

[9] Idaho Power Comments a 2.

[10] Idaho Power Comments at 3-4.

is unnecessary because, as described above, the customer must still adhere to all requirements of the non-participating TSP's OATT and related service agreements; Markets+ will only inform the customer's scheduling activity, which will still be undertaken in conformance with the OATT. In other words, Markets+ is designed to ensure that a transmission customer contributing transmission rights to Markets+ is acting in compliance with the customer's pre-existing obligations under that TSP's OATT. Powerex also is concerned that such an approval requirement would constitute a new restriction on how OATT transmission rights are used (e.g., to whom energy can be delivered) and that such an approval requirement (which is absent in EDAM), could be a source of undue discrimination. Nonetheless, Powerex does support communication and coordination between SPP and external transmission providers in much the same way that this communication occurs within the WEIM.

B. Response to NV Energy

NV Energy, like Idaho Power and Portland General, seeks confirmation that a transmission customer contributing transmission rights on a non-participating TSP's system "can only take actions consistent with the right that transmission customer has under the agreement with the external transmission provider."[11] NV Energy also specifically believes that a NITS customer would need to respect the rights and obligations under the non-participating TSP's OATT.[12] As addressed above in Section II and in response (above) to similar concerns by Idaho Power, Powerex agrees with these statements.

NV Energy also states that unscheduled rights "do not rest with the transmission customer but revert back to the transmission provider."[13] Powerex agrees that the TSP is generally able to make available unscheduled firm PTP capacity for other uses. However, the capacity of

[11] NV Energy Comments at 4.

[12] NV Energy Comments at 4, 5.

[13] NV Energy Comments at 5 (citing to the Attachment C, Section 7.1 of the NV Energy OATT).

unscheduled firm PTP rights can only be offered as lower-priority service. The firm PTP transmission customer retains the priority of its rights, including the right to adjust schedules intra-day.[14] The TSP's use of unscheduled firm PTP rights for other purposes, including to enable transfers in another organized market, remains subordinate to the customer's use of its firm rights.[15] This includes the non-participating TSP's use of unscheduled firm PTP rights being subordinate to the customer's use of its rights to effectuate deliveries from generation in the Markets+ footprint to load in the Markets+ footprint.

C. Response to Portland General

Portland General requests clarification that a Markets+ Transmission Contributor's actions will be consistent with applicable OATT provisions and any applicable agreements related to their use of their OATT rights, including provisions included in their Transmission Service Agreements. Portland General notes the importance of coordination agreements that, among other things, manage dynamic allocation on the NWACI, a primary transmission corridor in the region. Powerex agrees with Portland General that transmission customers must continue to adhere to applicable OATT provisions and other applicable agreements including dynamic scheduling arrangements. Powerex also supports coordination agreements as enhancements that ensure efficient, reliable use of transmission rights for deliveries across multiple transmission service providers' systems.

Portland General also seeks to ensure interoperability of the Markets+ tariff for WRAP participants, ensuring equal transmission priority for those situated inside or outside the Markets+ footprint. The Markets+ Tariff clearly protects both the supply priority and transmission priority of WRAP deliveries, as described in SPP's transmittal letter and Powerex's comments and Powerex understands that SPP, in its dual role as the Markets+ market operator and the WRAP program operator, is fully committed to ongoing interoperability between these important regional efforts.

[14] [Cite]

[15] [Cite]

IV. THE MARKETS+ DESIGN IS VITAL TO SUPPORTING TRANSMISSION INVESTMENT

Markets+ has been designed to optimize deliveries across the west's OATT-based multi-state transmission footprint. Importantly, numerous transmission service providers in the region collaborated during the Markets+ development process to ensure the design of a transmission framework that respects the OATT rights of transmission customers and transmission service providers. The ability of a transmission customer to use its OATT rights to enable an optimal quantity of energy to be delivered from one part of the Markets+ footprint to another part of the footprint is intended to support the continued use and value of existing rights, as well as continued sales of transmission service to third parties. These in turn are expected to encourage the long-term investments that are necessary to expand the western transmission grid.

Powerex makes significant investments in long-term firm point-to-point OATT transmission service across the west and is a long-term firm transmission customer of Idaho Power, NV Energy and Portland General. Powerex has an extensive and collaborative relationship spanning decades with each of these three transmission service providers and appreciates the constructive dialogue it has had regarding the use of Powerex's firm transmission rights for optimized Markets+ deliveries. Powerex sees the ability to more efficiently schedule deliveries on its OATT rights to be a significant benefit that will support its continued transmission investment in firm rights on transmission providers systems that are external to Markets+.

Driven in part by the value in expanding the bi-directional connectivity between the Northwest and Southwest sub-regions of the Markets+ footprint, Powerex is currently pursuing substantial new long-term investments on both Idaho Power's system and NV Energy's system.

- For example, in April 2024, Powerex executed 400 MW in long-term firm transmission service agreements with Idaho Power, supporting upgrades that will expand the transfer capability on the soon to be constructed Boardman to Hemingway line. In each of these transmission service agreements with Idaho Power, Powerex has explicitly included its intention to use the new transmission service on Idaho Power's system with dynamic service "to establish connectivity for use in a western organized market that Idaho Power may or may not be a participant in."Similarly, Powerex is pursuing expansion of bi-directional connectivity on NV Energy's system between the Northwest and Southwest sub-regions of the Markets+ footprint. More specifically, Powerex has pending requests in NV Energy's long-term transmission queue for 800 MW of northbound firm transmission service and 800 MW of southbound firm transmission service on a new transmission line to be constructed between NV Energy's north system and the Bonneville transmission system. This project will not only unlock this inter-regional diversity in electricity demand, it will also unlock tremendous resource diversity, particularly between the large Northwest hydro fleet and rapidly expanding Southwest solar fleet.

Powerex estimates the foregoing investments combined could exceed $1 billion.

These expansion projects will not only provide reliability, economic and environmental benefits to Powerex and the broader Markets+ footprint, they will also provide third party transmission revenues to Idaho Power and NV Energy that will help offset transmission costs for their native load customers, while also creating economic development within their service territories. The ability for Powerex to use its new and existing firm transmission service rights under the existing OATT framework to provide connectivity in Markets+ is central to Powerex's willingness to commit to investing in such service. More broadly, both the Markets+ Transmission Contributor framework and the virtually identical EDAM/EIM Interchange Rights Holder framework are essential frameworks that will continue to drive ongoing investment in existing firm service by

third parties, preventing cost shifts onto native load customers, as well as expanded investment in urgently needed transmission upgrades and expansion.

V. PACIFICORP MISCHARACTERIZES THE MARKETS+ TRANSMISSION CONTRIBUTOR FRAMEWORK

In contrast to the comments submitted by Idaho Power, Portland General and NV Energy, a fourth transmission service provider, PacifiCorp, asserts that "the "Markets+ Transmission Contributors' transmission availability option is unjust and unreasonable on its face and that the Commission should reject the SPP Proposal on this basis."[16] In explaining its opposition, PacifiCorp alleges that the Markets+ Transmission Contributors proposal entails a transmission customer "mak[ing] . . . decisions on behalf of transmission providers"[17] and "would allow transmission customers to unilaterally revise how ATC is calculated for their own transmission rights."[18]

Given that the Markets+ Transmission Contributor framework neither imposes nor requires any changes to non-participating TSPs OATTs or transmission service agreements, PacifiCorp's assertions are a fundamental mischaracterization of SPP's filing and the Markets+ Tariff structure and should be dismissed.

A. Markets+ Will Result in More Efficient Quantities Being Scheduled Each Interval

PacifiCorp's core contention appears to be that the Markets+ Transmission Contributor proposal would lead to transmission customers more fully utilizing their existing firm transmission rights on PacifiCorp facilities, reducing the quantity of unscheduled capacity available for use by

[16] PacifiCorp Comments, at 7.

[17] PacifiCorp Comments, at 5.

[18] PacifiCorp Comments, at 6.

the transmission service provider in the organized market that PacifiCorp has indicated it will join (CAISO's EDAM).[19] This concern is without merit.

There is no outcome under which PacifiCorp can limit the ability of its transmission customers, including Powerex, to deliver energy from generation located in the Northwest sub-region of the Markets+ footprint to load located in the Southwest sub-region of the Markets+ footprint, consistent with the terms and conditions of the Firm transmission rights the respective transmission customer holds on PacifiCorp's system. These deliveries occur today outside of Markets+ and they will continue after Markets+ and EDAM are both operational. Any effort to prevent transmission customers' legitimate use of their PacifiCorp OATT rights would be inconsistent with PacifiCorp's OATT, with the *pro forma* OATT, and with open access principles, and would also be an abrogation of the multiple transmission service agreements. Indeed, even a rejection of the Markets+ Transmission Contributor provisions, as advocated by PacifiCorp, will not stop such deliveries from taking place; it would only result in less efficient quantities being delivered on these transmission rights (see "Step 2" in the prior graphic). In sum, deliveries pursuant to long-term firm OATT rights on PacifiCorp's facilities can and will continue to occur, just as they occur today.

B. The Markets+ Transmission Contributor Concept is Virtually Identical to the Western EIM "Interchange Rights Holder" Design that has Been in Use for a Decade

There is nothing new about a transmission customer using its OATT transmission rights to deliver energy from one part of an organized market footprint to another, based on optimal delivery quantities determined by that organized market. A decade ago, the Western EIM initiated the use of this very concept to enable transactions between different parts of the market footprint. The first WEIM participant—PacifiCorp—needed transmission capability between the PAC-West

[19] PacifiCorp Comments, at 5.

BAA and the CAISO BAA. There were no remaining (*i.e.*, "unsold") transmission rights available from PacifiCorp's transmission function, so instead PacifiCorp's merchant arm "donated" the use of its long-term Firm OATT rights for this purpose.[20] Thus, the framework that PacifiCorp now claims is unjust and unreasonable is the very same framework that it pioneered a decade ago to enable its own participation in an organized market.

In conditionally accepting the Interchange Rights Holder approach, FERC expressed "appreciat[ion] that without transmission rights between PacifiCorp East and PacifiCorp West, and PacifiCorp West and CAISO, respectively, PacifiCorp's ability to participate in, and thus its customers' ability to benefit from, the EIM will be limited."[21] Indeed, the Commission noted, the use of OATT transmission rights ordinarily used for bilateral transactions to enable participation in the EIM "is a novel approach that appears to be reasonable."[22] Just as the Interchange Rights Holder method was necessary to produce the customer benefits attendant to the EIM, the Transmission Contributor concept is essential to delivering the value underlying Markets+.

The entry of Puget Sound Energy into the WEIM in 2016 provided a further example. Puget was geographically separated from the rest of the WEIM footprint. With no direct interface to any other WEIM participant, Puget connected its geographically distant system to the EIM using 300 MW of bi-directional transmission rights on Bonneville's transmission system between the Puget BAA and the PAC-West BAA, with Bonneville's transmission system external to the WEIM.

In its filing of amendments with the Commission to enable WEIM participation, Puget explained that the Puget BAA lacked direct transmission interconnections with any other WEIM entity, and thus PSE "would require the use of intervening transmission facilities owned and

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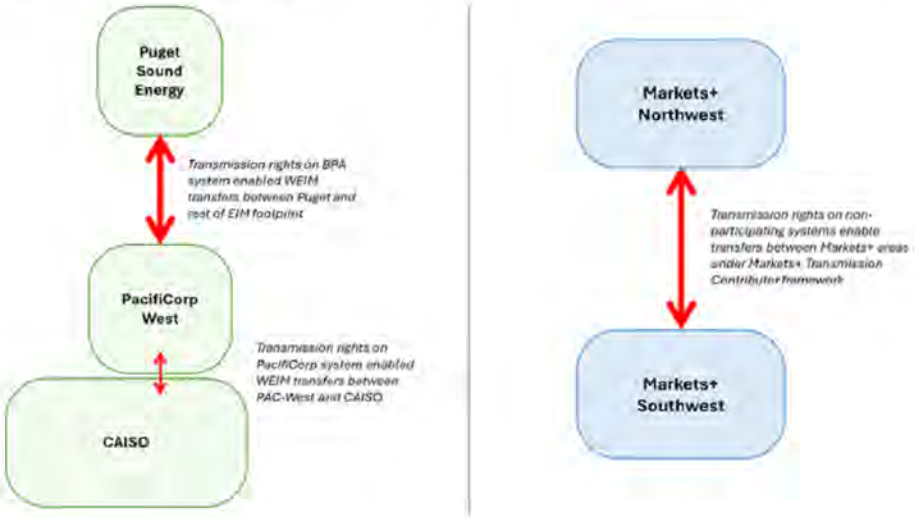
[20] *See, e.g.*, *PacifiCorp*, Filing for Revisions to the OATT to Implement the Energy Imbalance Market, at P 40, Docket No, ER14-1578 (Mar. 25, 2014).

[21] *PacifiCorp*, 147 FERC ¶ 61,227, at P 114 (2014).

[22] *Id.*

operated by BPA to reach the PacifiCorp West BAA."[23] The Commission accepted this proposal, noting that Puget's use of Interchange Rights Holder donations coupled with BPA-based transfer capacity was "reasonable in concept and provide[s] for Puget's ability to participate in the EIM."[24]

Bonneville did not become a WEIM participant until 2022, and hence Puget's approach clearly entailed the use of transmission rights on a non-participating TSP's system to enable transfers in the WEIM. This is precisely what the Markets+ Transmission Contributor framework does in the context of Markets+.



[23] Puget Sound Energy, Inc., Amendments to the Puget Sound Energy, Inc. Open Access Transmission Tariff to Facilitate Entry into the Energy Imbalance Market, at PP 24-25, Docket No. ER16-932 (Feb. 10, 2016).

[24] *Puget Sound Energy, Inc.*, 155 FERC ¶ 61,111, at PP 134-135 (2016) (FERC made this determination without addressing any proposals to "effectuate those requests under Puget's OATT or making any judgments as to other third-party tariffs.").

C. Transmission "Donation" Remains an Integral Part of WEIM Connectivity, Which Would be Lost if PacifiCorp's Arguments Prevail

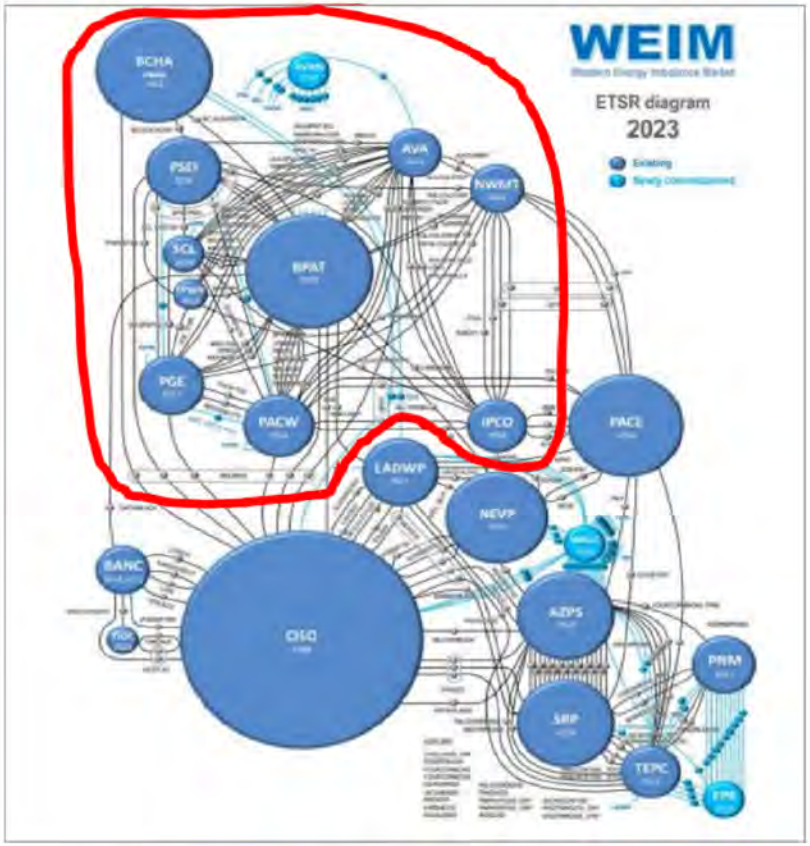
Energy transfers between BAAs in the WEIM are enabled by transmission capacity, which is provided by a transmission service provider in one of two ways:

1. Available transmission capacity of the EIM participating TSP which has not been sold to any transmission customer ("ATC Methodology"); and
2. Transmission capacity that has been sold as Firm transmission service to a transmission customer, with the transmission customer voluntarily electing to make those rights available to support transfers in the WEIM ("donated" OATT rights).

Many of the key transfer paths in the Western EIM are enabled by "donated" OATT rights. This includes:

- Connectivity for nine different Northwest BAAs provided by BPA transmission rights (approximately 700-800 MW on average in each direction in last two years);
- Connectivity for Powerex to and from the BC Hydro transmission system; and
- Connectivity for five Northwest BAAs to connect with the CAISO BAA across the California-Oregon Intertie (approximately 950-1150 MW Northbound; 400-600 MW Southbound on average during the last two years).

The map below illustrates the BAA-to-BAA transfer paths currently used to facilitate economic transfers in the Western EIM. The use of "donated" OATT rights supports most of the connectivity within the area in the red outline.



[*Source*: WEIM 2024 Q1 Benefits Report, pg. 7]

Should PacifiCorp succeed in having the Markets+ Transmission Contributor framework declared unjust and unreasonable, the same outcome would presumably apply equally to all other frameworks for an organized market to optimize deliveries on OATT transmission rights scheduled by transmission customers that participate in that market. This would immediately deprive the WEIM of much of its Northwest connectivity and would also prevent such OATT transmission rights from enabling connectivity in EDAM. Powerex believes such an outcome would be counter

to the objective of increasing the overall efficiency of inter-region transfers in the West, and supporting continued and hopefully expanded, third party transmission investment.

It is now widely anticipated that there will be two day-ahead and real-time organized markets operating in the West (Markets+ and EDAM), and many of the major TSPs in the region will have transmission customers that desire to participate in the organized market that the TSP has not joined. It is notable that at the same time PacifiCorp is seeking to prevent the use in Markets+ of OATT transmission rights on TSP's system that do not participate in that market, PacifiCorp is seeking to ensure that it will be able to use the transmission rights *it* has on Bonneville's system in order to participate in EDAM. Specifically, PacifiCorp recently commented that:

> How Bonneville manages its transmission network in a day-ahead market will have widespread implication for Pacific Northwest customers. Therefore, PacifiCorp believes it is important for Bonneville customers to understand how Bonneville's transmission will be used if there are customers with rights on Bonneville's system that are not in the same market.[25]

Powerex believes it is fully workable and appropriate for OATT transmission rights to be efficiently utilized through transmission "donation" frameworks such as the virtually identical WEIM Transmission Rights Holder approach and the Markets+ Transmission Contributor proposal. Such frameworks are "market neutral," and ensure that access to transmission service, the cost of existing transmission infrastructure, and incentives to fund the expansion of the western grid are not restricted as a result of the organized market decisions of transmission service providers and their customers.

D. Response to Specific PacifiCorp Statements

PacifiCorp makes various other claims about Markets+ that attempt to make controversy where none need exist. First, PacifiCorp states, "the 'Markets+ Transmission Contributors' option

[25] Public Comments (bpa.gov)

treats similarly situated transmission providers and customers differently."[26] Explaining this claim, PacifiCorp alleges that "the 'Markets+ Transmission Contributors' option purportedly empowers transmission customers to 'contribute' their transmission rights on non-participating systems. SPP does not, and cannot, explain how customers would be entitled to make such decisions on behalf of transmission providers . . . ."[27] However, SPP has clearly explained that Markets Participants may "opt-out" their Markets+ transmission service. It logically follows that non-participating resources have "opted out" and thus would not be Transmission Service Providers. Contributions of customers' rights on non-participating systems are simply a mechanism to expand market participation among customers, akin to PacifiCorp's Interchange Rights Holders and Puget's use of the BPA system. PacifiCorp's confusion on this matter is unfounded.

Second, PacifiCorp maintains that "it is unclear how transmission 'contributions' from a transmission system utilizing a rated path ATC calculation methodology could be integrated into SPP's flow-based security constrained economic unit commitment and energy dispatch system."[28] PacifiCorp's concern appears to be focused on the technical implementation details related to how SPP will integrate contract-path rights into a predominantly flow-based security constrained economic unit commitment and energy dispatch system. Such technical implementation details are outside the scope of the Tariff, and properly addressed through applicable business practices, protocols and market software as they do not affect the terms, rates or conditions of service. Moreover, Powerex is confident SPP will be able to achieve such technical solutions given its extensive expertise in designing and operating multi-state organized markets for roughly two decades, just as the California ISO has achieved this outcome by integrating contract path rights

[26] PacifiCorp Comments, at P 4.

[27] *Id.*

[28] *Id.* at P 6.

in the WEIM in conjunction with a flow-based transmission approach applied to its own balancing authority area.

VI. CONCLUSION

Markets+ was designed carefully, with extensive and broad stakeholder input, and with due consideration to the costs and benefits of a new centralized day-ahead market. As explained herein, clarification requests and limited opposition to Markets+ comes from entities that either do not understand the Markets+ tariff as filed or are already committed not to joining Markets+. Indeed, much of the Markets+ design was intentionally designed based on well-demonstrated market mechanisms that the Commission has already accepted in other markets. The Commission should not be distracted by arguments that seek to obfuscate the Markets+ proposal, which is the product of an intensive, transparent, and highly focused stakeholder process. For the foregoing reasons, Powerex urges the Commission to accept the Markets+ proposal as filed by SPP.

Respectfully submitted,

DRAFT

Dated: X

From: Kirby,Elizabeth A (BPA) - BT-3
Sent: Monday, August 7, 2023 11:31 AM
To: Carrie Simpson
Cc: Mantifel,Russell (BPA) - PGL-5; Kochheiser,Todd W (BPA) - TOI-DITT-2
Subject: Transmission/BA language in 8.2

Hey Carrie,

Here are my fast notes on 8.2 from this morning. As a reminder, I'll be out of the office for the next 2 weeks, so cc'ing Russ and Todd.

Concern on 8.2 language: Want to be able to reflect flow gate constraint – flow gate isn't "in" a BA – the constraint isn't mapped to interchange (e.g. folks can have a resource pseudo-tied across our system, so it doesn't reflect in interchange but has a direct impact on the flow gate), want to be able to model that as a singular constraint and have that enforced at a resource level (reflect shift factor of each resource, not just BA-level limit).

For reference for my folks, 8.2 language:

8.2 Obligation to Communicate Transmission Capability

For the Market Operator to constrain the Markets+ dispatch, Markets+ Transmission Service Providers and Markets+ Transmission Service Contributors must communicate, and accurately represent, to the Market Operator, through their participating Balancing Authority, the following information for the appropriate Markets+ timing interval:

(i) transmission capability within a participating Balancing Authority Area

(ii) transmission capability to transfer energy between participating Balancing Authorities;

(iii) rights to transmission capacity in accordance with agreements that permit the Markets+ Transmission Service Contributor's use of another party's transmission system within a participating Balancing Authority Area; and

(iv) rights to transmission capacity in accordance with agreements that permit the Markets+ Transmission Service Contributor's use of another party's transmission facilities used to transfer energy between participating Balancing Authority Areas.

Thanks,

Libby Kirby | Electrical Engineer
Bonneville Power Administration | BTO – Market Initiatives
Desk: (503) 230-4286 | Mobile: (b)(6) [redacted]

29333780

From: Leslie Sink <lsink@spp.org>
Sent: Saturday, April 27, 2024 7:52 AM
To: Mantifel,Russell (BPA) - MTM-3; Dibble,Rachel L (BPA) - PT-5
Cc: Dustin B. Smith
Subject: [EXTERNAL] Markets+ Training update
Attachments: Markets+ Training Program Overview.pdf

Good morning,
I wanted to take a moment to touch base regarding our ongoing M+ training initiatives and to seek your assistance in enhancing our communication and outreach efforts. As you may already know, we've recently finalized our training plan for Markets+ and are excited to start our introductory courses next week. However, as we progress through subsequent phases, we've encountered some challenges in effectively reaching our target audience and ensuring they are aware of the available educational opportunities.

To provide a brief overview, our training approach is designed to start at a high level and progressively delve into more tactical details, culminating in role and job-specific training prior to parallel operations. We are deliberate in selecting our training dates to ensure optimal retention and relevance for participants. That is why many of our specific dates are still to be determined. While we typically utilize channels such as the SPP Learning Center, stakeholder working group meetings, and the M+ exploders to market our training, we've noticed an increasing number of BPA employees who are either unaware of our training curriculum or express an interest in specialized or tactical training. These requests have presented valuable opportunities for engagement and potential resource utilization. However, they have also underscored the importance of reaching all relevant individuals with our training communications.

Given these developments, I'm reaching out to seek your insights and recommendations on how we can improve our communication strategy. Specifically, I'm interested in identifying potential contacts within your organization who could assist us in disseminating information more effectively. Your perspective and any suggestions you may have would be greatly appreciated as we strive to optimize our outreach efforts and better serve our audience.

Thank you for your assistance,

Leslie

Leslie Sink (she/her/hers)| Sr. Manager, Stakeholder Training | lsink@spp.org | (O) 501-688-1669 | (C) (b)(6)
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Working together to responsibly and economically keep the lights on today and in the future.

SPP Southwest Power Pool
Stakeholder Training

MARKETS+

Training Phases

Phase 1



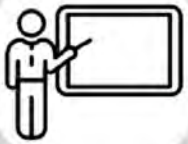
- Introduction to Energy Markets
- May-June, 2024
- 3 Virtual Instructor-Led Trainings
- Recorded for Future Viewing

Phase 2



- Topic-Specific Training
- Markets+ Functions and Processes
- Dates TBD
- Mix of Virtual and Self-Study

Phase 3



- A Day in the Life- Markets+
- In-depth, Scenario-Based Training
- Prior to Parallel Ops
- Face-to-Face, Instructor-Led

Phase 4



- On-Going Training and Support
- Post Go-Live
- Ad-Hoc Training to Address Needs
- Virtual, Instructor-Led, or Self-Study

SPP Stakeholder Training: Proprietary and confidential; unauthorized distribution prohibited: Public Information.

From: Truong,Mai N (BPA) - TSB-TPP-2
Sent: Thursday, February 8, 2024 12:57 PM
To: Kelli Schermerhorn; Kristen Darden; Tyler Moore (APS); Mantifel,Russell (BPA) - MTM-3
Cc: Miller,Todd E (BPA) - LP-7; Doot,Erika A (BPA) - LP-7
Subject: FW: [EXTERNAL] RE: Section 5.1 tariff language with edits from MDWG
Attachments: 04d2-Attachment A_Special Rules and Provisions_Must Offer Obligation_112823 live edits.docx

It was Kelli who sent it to me. Sorry Kristen! ☹

From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Thursday, November 30, 2023 9:58 AM
To: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Subject: [EXTERNAL] RE: Section 5.1 tariff language with edits from MDWG

Here you go! I think this is the proper version but I am checking w KD. Thanks Mai!

From: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Sent: Thursday, November 30, 2023 9:07 AM
To: Kelli Schermerhorn <kschermerhorn@spp.org>
Subject: **External Email** Section 5.1 tariff language with edits from MDWG

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Good morning Kelli,
I forgot to ask for this yesterday – can you provide the section 5.1 tariff language with the red line edits from the MDWG?

Thanks!

Mai Truong
Senior Markets Policy Analyst | Transmission Sales and Marketing | TSB
BONNEVILLE POWER ADMINISTRATION
C: (b)(6) P: 503-230-3905 I mntruong@bpa.gov

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From: Fina, Joe <GFina@SNOPUD.com>
Sent: Thursday, March 7, 2024 12:10 PM
To: Sabers, Cathy; Carrie Simpson; Chris Nolen; Gilhen, Jonathan; Miller,Todd E (BPA) - LP-7; Gorlin, David; Mastrogiacomo, Tim T; Karilee S Ramaley; Hickey, Lisa; Christine Dillard; 'Alaine Ginocchio'; Jason.Kuzma@pse.com; Engelby, Ben; Charles.VonReis@chelanpud.org; 'Irene Scruggs'; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7; elee; Davis,Thomas E (BPA) - LT-7; Kallstrom, Jeffrey; Starnes, Heather; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew; Tabak, Gabe; Rubin, David; mmorais@nationalgridrenewables.com; Gray, Spencer; Simmerson, William; tcreekpaum@ppcpdx.org
Cc: Rachel Kane; Emon Mahony; Joseph Ghormley; Kristen Darden; Trolese, Laura; Cole, Brian; Egge, Eric M; Mantifel,Russell (BPA) - MTM-3; Holman, Mark
Subject: RE: [External Sender] RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

Thanks for everyone's feedback. It looks like we have a path forward. I will report back to the MPEC that: (1) the Legal Group is fine with the tariff without the WAPA-DSW language in Section 6.4, and (2) that no additional changes to the tariff are required.

- Joe

From: Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>
Sent: Thursday, March 7, 2024 11:49 AM
To: Carrie Simpson <csimpson@spp.org>; Chris Nolen <cnolen@spp.org>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Gorlin, David <Gorlin@WAPA.GOV>; Fina, Joe <GFina@SNOPUD.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; Hickey, Lisa <lisa@interwest.org>; Christine Dillard <cdillard@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Cole, Brian <brian.cole@aps.com>; Egge, Eric M <Eric.M.Egge@blackhillscorp.com>; Mantifel, Russ <rxmantifel@bpa.gov>; Holman, Mark <Mark.Holman@powerex.com>
Subject: [External Sender] RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

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Carrie:

I responded a couple of days ago on behalf of Black Hills and indicated we agreed with SPP that the provisions should remain out of the tariff for the same reasons Chris had noted. Just letting you know in case you were not on that particular chain.

Cathy

Cathy Sabers I Black Hills Energy I Associate General Counsel I Desk: 605-721-1914 I Cell: (b)(6)

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From: Carrie Simpson <csimpson@spp.org>
Sent: Thursday, March 7, 2024 11:40 AM
To: Chris Nolen <cnolen@spp.org>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Gorlin, David <Gorlin@WAPA.GOV>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; Hickey, Lisa <lisa@interwest.org>; Christine Dillard <cdillard@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>; Joseph Ghormley <jghormley@spp.org>; Kristen Darden <kdarden@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Cole, Brian <brian.cole@aps.com>; Egge, Eric M <Eric.M.Egge@blackhillscorp.com>; Mantifel, Russ <rxmantifel@bpa.gov>; Holman, Mark <Mark.Holman@powerex.com>
Subject: RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

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All,
I am reaching out to close the loop on this issue because SPP staff needs to follow up with MPEC (promptly) on the WAPA-DSW provisions and needs a recommendation from this sub-group.

I see comments from BPA and Powerex below indicating a desire to keep the provisions in the tariff to create flexibility for WAPA to join later, but (in my opinion) I haven't seen a solution that addresses SPP legal's concerns. Please correct me if I am mistaken.

Returning to Joe's original question (paraphrasing): is there a legal reason why the language should be put back in?

What do we need to do to officially reach a recommendation from this group?

Thanks!

Carrie L. Simpson (she/her/hers) | Senior Director, Seams & Western Services | csimpson@spp.org | [redacted]
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool

---

From: Chris Nolen <cnolen@spp.org>
Sent: Wednesday, March 6, 2024 2:03 PM
To: Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Gorlin, David <Gorlin@WAPA.GOV>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; Hickey, Lisa <lisa@interwest.org>; Christine Dillard <cdillard@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>; Joseph Ghormley <jghormley@spp.org>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Cole, Brian <brian.cole@aps.com>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>
Subject: RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

Want to reiterate...if WAPA-DSW determines that they will participant in M+ at some point in the future, we would make a simple 205 filing amending the then-existing tariff.

The risk to keeping the unnecessary provision outweighs the slight extra effort required to make a future filing adding the WAPA special provision to the tariff if WAPA determines that they are going to participate in the future.

cmn

Christopher M. Nolen
Managing Attorney
Southwest Power Pool, Inc.
cnolen@spp.org
(b) (6) [redacted]

From: Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>
Sent: Wednesday, March 6, 2024 1:10 PM
To: Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Chris Nolen <cnolen@spp.org>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Gorlin, David <Gorlin@WAPA.GOV>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; Hickey, Lisa

29333836

<lisa@interwest.org>; Christine Dillard <cdillard@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>; Joseph Ghormley <jghormley@spp.org>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Cole, Brian <brian.cole@aps.com>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>
Subject: **External Email** RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

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Please click the "Report Phish" button if you are unsure about this email.

All – apologies for responding so late on this. To the greatest extent possible, I think we should preserve the ability for WAPA to join at the outset with their required language included in the tariff, but I appreciate SPP legal's (and Black Hills) perspective on this and do not want to jeopardize approval of the tariff.

I am offering some questions and alternative suggestions here and hoping to get feedback on these.

Is WAPA prepared to file comments/supporting evidence even if WAPA has not made a decision whether to join Markets+ and explain why the provisions are just and reasonable?

To SPP legal's concern below, I note that CAISO, in its EDAM filing, appears to have indicated that certain aspects of its DAME and EDAM proposals were severable (and FERC rejected the EDAM access charge without prejudice). This is not my area of expertise, but could the Markets+ Tariff be filed with the WAPA provision severable from the rest of the tariff if found not to be just and reasonable. If WAPA is prepared to file supporting comments and evidence, I wonder whether this is a viable path particularly as substantially similar language is in IM and WEIS without jeopardizing the whole of the tariff.

If we retain the WAPA language, should the introductory language to Section 6.4 be revised to make it a bit more expressly conditional on WAPA joining/being a Market Participant?

Again, this is not my area of expertise, but hoping there might be a middle ground that works for all. If not, and on balance there is a material risk that FERC may not approve the Markets+ tariff, I would support the legal working group endorsing their removal before filing.

Jonathan

Jonathan Gilhen
Lead Counsel, Power & Renewable Products | Powerex Corp.
Email Jonathan.Gilhen@powerex.com

From: Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>
Sent: Monday, March 4, 2024 11:51 AM
To: Chris Nolen <cnolen@spp.org>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Gorlin, David <Gorlin@WAPA.GOV>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S

Ramaley <Karilee.Ramaley@srpnet.com>; Gilhen, Jonathan <Jonathan.Gilhen@powerex.com>; Hickey, Lisa <lisa@interwest.org>; Christine Dillard <cdillard@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>; Joseph Ghormley <jghormley@spp.org>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Cole, Brian <brian.cole@aps.com>; Egge, Eric M <Eric.M.Egge@blackhillscorp.com>
Subject: RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

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Black Hills agrees with the sentiments expressed by SPP legal staff. If there are no participating WAPA entities any special provisions for those entities should be removed.

Cathy

Cathy Sabers | Black Hills Energy | Associate General Counsel | Desk: 605-721-1914 | Cell: (b)(6)

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From: Chris Nolen <cnolen@spp.org>
Sent: Monday, March 4, 2024 11:58 AM
To: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Gorlin, David <Gorlin@WAPA.GOV>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; 'Gilhen, Jonathan' <Jonathan.Gilhen@powerex.com>; Hickey, Lisa <lisa@interwest.org>; Christine Dillard <cdillard@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>; Joseph Ghormley <jghormley@spp.org>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Cole, Brian

<brian.cole@aps.com>
Subject: RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

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SPP legal has a *strong* preference for removing the unnecessary section.

Retaining the unneeded language is, *at best*, a net neutral and more likely puts the broader tariff in jeopardy.

Post-*NRG*, there are *very* limited circumstances wherein FERC can order the change of tariff language presented in a 205 filing (which is what the M+ tariff filing will be). They give a thumbs up or a thumbs down on the full tariff, all provisions included.

SPP legal cannot represent in its 205 filing that 6.4 is necessary in order for the tariff to be just and reasonable.

Moreover, SPP does not justify the special provisions that apply to the FPMAs; the FPMAs must carry their own water in the docket via comments/testimony in support of their special provisions.

If, in the future, WAPA-DSW determines that it intends to participate in M+, SPP would make a standard 205 filing at FERC of the language then-approved through the M+ stakeholder process.

Thank you!

cmn

Christopher M. Nolen
Managing Attorney
Southwest Power Pool, Inc.
cnolen@spp.org
(b) (6)

From: Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>
Sent: Monday, March 4, 2024 12:25 PM
To: Gorlin, David <Gorlin@WAPA.GOV>; Fina, Giuseppe (Joe) <gfina@snopud.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; 'Gilhen, Jonathan' <Jonathan.Gilhen@powerex.com>; Hickey, Lisa <lisa@interwest.org>; Christine Dillard <cdillard@spp.org>; Chris Nolen <cnolen@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; Engelby, Ben <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Irene Scruggs' <iscruggs@ppcpdx.org>; Sabers, Cathy <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; Starnes, Heather <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; Binette, Matthew <binette@wrightlaw.com>; Tabak, Gabe <gtabak@cleanpower.org>; Rubin, David <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; Gray, Spencer <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: Rachel Kane <rkane@spp.org>; Emon Mahony <emahony@spp.org>; Joseph Ghormley <jghormley@spp.org>; Carrie

Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Cole, Brian <brian.cole@aps.com>
Subject: **External Email** RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

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Joe,

Thank you for quickly getting this issue in front of the M+ Legal Group. While I understand SPP staff's reaction to the letter from WAPA, Bonneville would like to have section 6.4 remain in the tariff that is filed. Our rationale for retaining the section is that while WAPA is not planning on participating now, it will be at least three years before the market starts operations and the tariff becomes effective. That is a long-time period in which WAPA could change their mind about participation in a day ahead market. At this point we do not know who will ultimately commit to join the market. Participants and SPP staff worked hard to pull the whole tariff together and section 6.4 has been approved through the MPEC and the IMIP. From a FERC filing perspective it will be much easier to get section 6.4 approved as a small part of the overall tariff, as opposed to filing later, if WAPA decides to participate, as a single issue filing, in which FERC would only be focused on the special provisions needed to allow WAPA's participation. It would be much easier to leave 6.4 in the tariff for now, and if it is clear that WAPA will not participate in 2027 or soon thereafter, remove the section in a filling just before start-up when other adjustments will be needed to account for actual participation.

I realize that based on the IMIP tariff approval, the Legal Group will need to make a recommendation to retain the provision, MPEC will need to approve, and IMIP will need to have a meeting to decide the one issue, prior to the March 25th SPP Board meeting. Booneville asks that, based on the logic describe above, the Legal group recommend retaining section 6.4 and see where the process takes us from there.

-Todd

From: Gorlin, David <Gorlin@WAPA.GOV>
Sent: Monday, March 4, 2024 10:03 AM
To: Fina, Joe <GFina@SNOPUD.com>; Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; 'Gilhen, Jonathan' <Jonathan.Gilhen@powerex.com>; lisa@interwest.org; 'Christine Dillard' <cdillard@spp.org>; 'Chris Nolen' <cnolen@spp.org>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; 'Engelby, Ben' <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; 'Irene Scruggs' <iscruggs@ppcpdx.org>; 'Sabers, Cathy' <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; elee <elee@cityoftacoma.org>; Davis,Thomas E (BPA) - LT-7 <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; 'Starnes, Heather' <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; 'Binette, Matthew' <binette@wrightlaw.com>; 'Tabak, Gabe' <gtabak@cleanpower.org>; 'Rubin, David' <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; 'Gray, Spencer' <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: 'Rachel Kane' <rkane@spp.org>; 'Emon Mahony' <emahony@spp.org>; 'Joseph Ghormley' <jghormley@spp.org>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Laura Trolese <ltrolese@teainc.org>; Brian Cole (APS) <Brian.Cole@aps.com>
Subject: RE: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

Joe – Thanks for your note and for initiating this discussion.

If I had to categorize WAPA's position at present, it would be neutral. While we understood SPPs preference to remove them given that no WAPA region currently plans to join Markets+, I should note we also saw some benefits to retaining the provisions. They have been vetted and approved by this group and the MPEC, are nearly identical to provisions

established in the Integrated Marketplace and WEIS, and they would establish the foundation by which WAPA could become a market participant in the future without the need for additional tariff revisions.

At the very least, we appreciate SPP's and all stakeholders' engagement throughout this process, and if the WAPA provisions in 6.4 are removed from the tariff, we would expect them to form the basis of any discussions if a WAPA region determined to join Markets+ in the future.

Thanks!

Dave

David Gorlin
Attorney-Advisor
U.S. Department of Energy
Western Area Power Administration
12155 W. Alameda Pkwy.
Lakewood, CO 80228
Phone: (720) 962-7028
Email: gorlin[at]wapa.gov

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From: Fina, Joe <GFina@SNOPUD.com>
Sent: Friday, March 1, 2024 4:28 PM
To: Mastrogiacomo, Tim T <Tim.T.Mastrogiacomo@xcelenergy.com>; Karilee S Ramaley <Karilee.Ramaley@srpnet.com>; 'Gilhen, Jonathan' <Jonathan.Gilhen@powerex.com>; lisa@interwest.org; 'Christine Dillard' <cdillard@spp.org>; 'Chris Nolen' <cnolen@spp.org>; Gorlin, David <Gorlin@WAPA.GOV>; 'Alaine Ginocchio' <agpolsol@outlook.com>; Jason.Kuzma@pse.com; 'Engelby, Ben' <bengelby@azgt.coop>; Charles.VonReis@chelanpud.org; 'Todd Miller' <temiller@bpa.gov>; 'Irene Scruggs' <iscruggs@ppcpdx.org>; 'Sabers, Cathy' <Cathy.Sabers@blackhillscorp.com>; Jennifer.Spina@pinnaclewest.com; eadoot@bpa.gov; elee <elee@cityoftacoma.org>; 'Davis,Thomas E (BPA) - LT-7' <tedavis@bpa.gov>; Kallstrom, Jeffrey <JRKallstrom@SNOPUD.com>; 'Starnes, Heather' <heather@healylawoffices.com>; matt@healylawoffices.com; edward.garvey@aeslconsulting.com; ganguiano@westernenergyboard.org; 'Binette, Matthew' <binette@wrightlaw.com>; 'Tabak, Gabe' <gtabak@cleanpower.org>; 'Rubin, David' <David.rubin@nvenergy.com>; mmorais@nationalgridrenewables.com; 'Gray, Spencer' <sgray@nippc.org>; Simmerson, William <William.Simmerson@xcelenergy.com>; tcreekpaum@ppcpdx.org
Cc: 'Rachel Kane' <rkane@spp.org>; 'Emon Mahony' <emahony@spp.org>; 'Joseph Ghormley' <jghormley@spp.org>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Laura Trolese <ltrolese@teainc.org>; Brian Cole (APS) <Brian.Cole@aps.com>
Subject: [EXTERNAL] Special Rules - Impact of WAPA-DSW Letter

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Markets+ Legal Group,

During today's IMIP meeting, SPP announced that WAPA-DSW had provided notice to exit from its Phase 1 funding agreement. In light of that, SPP recommended that the WAPA-DSW related tariff language be removed. After some discussion, I and SPP Legal identified Article II ("Special Rules"), Section 6.4 as the only section that needed to be removed. The IMIP unanimously voted to approve the tariff without Article II, Section 6.4. However, the IMIP also created an action item for the legal group and then the MPEC to review the revised tariff as approved. SPP Legal was also asked to provide an explanation as to why the WAPA-DSW tariff language should be removed.

I think the questions for our group to answer to help the MPEC in their discussions are:

1. Whether there is a particular legal/practical reason why the language should be put back in; and

2. Assuming the MPEC does not recommend that the WAPA-DSW language be put back in and besides having to re-number Section 6, whether we need to remove or revise any other tariff language besides Article II, Section 6.4.

Please provide your feedback by **COB Wednesday.** I'll also ask SPP Legal and Dave Gorlin from WAPA to provide any additional context. Dave, in particular the group would benefit if WAPA has a preference to include or not include the language, or whether WAPA is neutral.

Here is a link to the tariff: https://spp.org/Documents/70999/Markets%20Plus%20Tariff_Public_012624.docx

Thanks,

Joe

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From: Applegate, Rick <rapplegate@cityoftacoma.org>
Sent: Friday, September 22, 2023 3:33 PM
To: Shawn Smith; Eaton,Sara L (BPA) - PTMA-5; Mantifel,Russell (BPA) - PGL-5; Holman, Mark; Suzanne Cooper (sbcoooper@bpa.gov); Johnson, Ray; Zyskowski, Jason; GFina@SNOPUD.com
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2; 'Cornelius, Adam'; Jeff Spires; Aitken, Meredith; Van Calcar, Pamela M (BPA) - PGS-5; Doot,Erika A (BPA) - LP-7; Willis, Wendy
Subject: RE: [EXTERNAL] Storage Hydro Participation In Markets+

Hi Mark,

I can do Monday 8-9, or anytime Friday, though have a modest preference to it occurring before 10. Looking at other calendars, I am guessing that I will be the only one from Tacoma who will be able to make those dates.

Thanks and best regards,

Rick

From: Shawn Smith <Shawn.Smith@chelanpud.org>
Sent: Friday, September 22, 2023 2:16 PM
To: 'Eaton,Sara L (BPA) - PTMA-5' <sleaton@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Holman, Mark <Mark.Holman@powerex.com>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Jeff Spires <jeff.spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Willis, Wendy <wendy.willis@powerex.com>
Subject: RE: [EXTERNAL] Storage Hydro Participation In Markets+

I have Monday, Sept 25th available from 8-10am and Friday, Sept 29th available 8:00-9:30am.

-Shawn

From: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Sent: Friday, September 22, 2023 2:14 PM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Holman, Mark <Mark.Holman@powerex.com>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Ray Johnson <crjohnson@cityoftacoma.org>; Shawn Smith <Shawn.Smith@chelanpud.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Jeff Spires <jeff.spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Willis, Wendy <wendy.willis@powerex.com>
Subject: RE: [EXTERNAL] Storage Hydro Participation In Markets+

PAUSE TO CONSIDER: The actual sender address for this email is sleaton@bpa.gov.
Do you trust this message and any contents within?
If not, please forward it to our Phishing Hole for analysis. Thank You!

Hi Mark,

Recognizing that schedules are tight, BPA could have at least 1-2 attend for either time slot and date.
Monday would present a conflict for our representative from legal and Friday would likely be a challenge for our hydro manager.
But we could make either work.

Thanks,

Sara Eaton (she/her)
Senior Markets Policy Analyst | Market Policy and Pricing | PTMP
Bonneville Power Administration
C: (b)(6) | W: 503-230-5222 | sleaton@bpa.gov

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Thursday, September 21, 2023 3:44 PM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Ray Johnson <crjohnson@cityoftacoma.org>; Shawn Smith <Shawn.Smith@chelanpud.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Willis, Wendy <wendy.willis@powerex.com>
Subject: RE: [EXTERNAL] Storage Hydro Participation In Markets+

Good afternoon,

I understand several of you are on the road next week Tues-Thursday.

With that in mind, Jeff and I can make ourselves available:

Monday (Sept 25):	8 - 11am
Friday (Sept 29):	Anytime before 2pm

Please respond with your availability during these times, and we'll pick the 1 hour time slot that seems to work best for most.
If that doesn't work for at least 1-2 people from each entity, we'll send times for the following week.

Thanks,

Mark Holman | Managing Director | Powerex Corp. | Direct (b)(6)

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Wednesday, September 20, 2023 8:24 AM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Ray Johnson <crjohnson@cityoftacoma.org>; Shawn Smith <Shawn.Smith@chelanpud.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Spires, Jeff

29333863

<Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Willis, Wendy <wendy.willis@powerex.com>
Subject: Re: [EXTERNAL] Storage Hydro Participation In Markets+

Thanks everyone - I'm just on the road (and Jeff is out of the office too) so we'll send out potential time slots and/or a doodle poll tomorrow.

Thanks

Mark

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From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Tuesday, September 19, 2023 11:18:45 AM
To: Holman, Mark <Mark.Holman@powerex.com>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Ray Johnson <crjohnson@cityoftacoma.org>; Shawn Smith <Shawn.Smith@chelanpud.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com <GFina@SNOPUD.com>
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Subject: RE: [EXTERNAL] Storage Hydro Participation In Markets+

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For us I'll try to make it. Todd K, Sara Eaton, Erika Doot, Pam Van Calcar as well.

Russell Mantifel (he/him/his)
Director | Market Initiatives
BONNEVILLE POWER ADMINISTRATION
rxmantifel@bpa.gov | P 503-230-4372

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Thursday, September 14, 2023 9:41 AM
To: Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Ray Johnson <crjohnson@cityoftacoma.org>; Shawn Smith <Shawn.Smith@chelanpud.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: [EXTERNAL] Storage Hydro Participation In Markets+

Good morning,

29333863

From our discussions with SPP's senior management on this topic, we have concluded that the nature of storage hydro participation in Markets+ should be set forth in the tariff. Based on those discussions, I am reaching out to you to arrange a call to kick-off a group discussion on identifying and drafting the necessary Markets+ tariff elements to facilitate storage hydro participation in Markets+. While work on some of these elements is already underway (e.g., hydro aggregation), it has become clear to us that there are several other elements that will need to be incorporated into the tariff to make Markets+ workable for storage hydro. These topics include:

- Hydro aggregation
- Hydro reference price (Default Energy Bid) for market power mitigation
- Hydro data sharing (a confined list of what data will be shared)
- Hydro operator autonomy over dispatch of individual facilities
- Hydro operator autonomy over reservoir and river management (water management)
- Hydro participant autonomy over offer quantity and offer price (while still being subject to must-offer obligations and related financial charges and to offer price mitigation)

Given the fundamental nature of these issues and their broad applicability to participating storage hydro resources, it seems critical that tariff provisions do not result in a gap in expectations of how storage hydro will participate. We are generally not seeking to carve out new approaches, but rather seeking to adopt standards that are consistent with storage hydro operations, and where possible "port over" the hydro components from the Western EIM and WRAP (Hydro DEB, voluntary nature of participation, data sharing items, etc.).

SPP has encouraged us to work with other hydro stakeholders and "use the governance process" to achieve the tariff language necessary from the outset of Markets+.

The first call is to make sure senior leaders at each of your organizations are aware of the issue and support the direction and elements to be covered in the tariff.

Please 'reply all' with a list of people to attend, and we'll set up a doodle poll for time slots.

Best regards,

Mark Holman
Managing Director | Powerex Corp.
1300 - 666 Burrard Street | Vancouver, BC | V6C 2X8
Direct 604.895.7084 | Fax 604.891.5045 | Cell (b)(6) [redacted]

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From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, September 5, 2023 2:36 PM
To: Detmer, Nick; Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] Extra MDWG Meetings

Hey Nick and Russ –

I figured I'd send a new email string to really pull together some dates on MDWG Meetings:

- **10/4/2023 – 12:00-5:00, CPT**
  - I'd like to cover Virtuals, Scarcity Pricing, and Flex language during this meeting.
- **11/1/2023 – 12:00-5:00, CPT**
  - Second round for transmission following 10/26 FTF; also first review of settlements language here.
- **11/3/2023 – 10:30-5:00, CPT**
  - This meeting we need to cover Congestion Rent and Settlements. So it'll be pretty busy this week for us.
- **11/17/2023 – 10:30-5:00, CPT**
  - I'd like to cover Settlements and this will be the drop date for Congestion Rent approval, if not approved 11/3.

Thoughts?

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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From: Kristen Darden <kdarden@spp.org>
Sent: Friday, September 29, 2023 11:02 AM
To: Mantifel,Russell (BPA) - PGL-5; Detmer, Nick
Subject: [EXTERNAL] October MDWG Agendas
Attachments: 101123 MDWG Agenda_DRAFT.docx; 102623 Joint MTWG MDWG Agenda_DRAFT.docx; 101023 MDWG Agenda_DRAFT.docx

Follow Up Flag: Follow up
Flag Status: Completed

Good morning –

I've attached a few agendas for your review:

- 10/10 will be posted Tuesday, 10/3
- 10/11 will be posted Wednesday, 10/4
- 10/26 will be posted Thursday, 10/19

It's going to be a heavy month! Let me know if you have any questions or modifications to the agendas. The 10/26 agenda is still draft. It's joint with the MTWG and Ken said they need about 2 hours.

Happy Friday!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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SOUTHWEST POWER POOL, INC.
MARKETS+ DESIGN WORKING GROUP MEETING
October 11th, 2023
Net-conference
10:30 a.m. – 2:00 p.m., CPT
(8:30 a.m. – 12:00 p.m., PT)
(9:30 a.m. – 1:00 p.m., MT)

1. Administrative Items ..... Russ Mantifel (5)
    A. Call to order
    B. Statements: Notice of Recording & Anti-trust Statement
    C. Attendance & Agenda Review
2. Education: Seams – Market Awards ..... Tuuli Hakala (45)
3. Scarcity Pricing (Approval Item) ..... Jim Gonzalez (45)
4. Tariff Review (Approval Items) ..... SPP Staff (90)
    A. Attachment A, Sec. 4-4.2.8: Resource Participation Types (30)
    B. Attachment A: Flexibility Products (30)
    C. Attachment A: Virtuals (30)
5. Tariff Review ..... SPP Staff (50)
    A. Attachment A, 5.1: Resource Adequacy (30)
    B. Attachment A: Settlements (10)
    C. Attachment D: Transmission (10)
6. Summary of Motions and Action Items ..... Kristen Darden (1)
7. Future Meetings ..... Kristen Darden (1)
    A. MDWG Future Meeting Registration
    Date: October 26th, 2023
    Location: Arizona Public Service, Phoenix, AZ; Net-Conference
    Time: 8:30 a.m. – 5:00 p.m., PT/9:30 a.m. – 6:00 p.m., MT/10:30 a.m. – 7:00 p.m., CPT
    B. MDWG Future Meeting Registration
    Date: November 1st, 2023

DRAFT

Location: Net-Conference
Time: 12:00 p.m. – 5:00 p.m., CPT/10:00 a.m. – 3:00 p.m., PT/11:00 a.m. – 4:00 p.m., MT

C. MDWG Future Meeting Registration
Date: November 3rd, 2023
Location: Net-Conference
Time: 10:30 a.m. – 5:00 p.m., CPT/8:30 a.m. – 3:00 p.m., PT/9:30 a.m. – 4:00 p.m., MT

D. MDWG Future Meeting Registration
Date: November 17th, 2023
Location: Net-Conference
Time: 10:30 a.m. – 5:00 p.m., CPT/8:30 a.m. – 3:00 p.m., PT/9:30 a.m. – 4:00 p.m., MT

8. Open Discussion ..... All (1)

9. Adjournment ..... Russ Mantifel

DRAFT

SPP Southwest Power Pool

MARKETS+

SOUTHWEST POWER POOL, INC.
JOINT MARKETS+ TRANSMISSION WORKING GROUP &
MARKETS+ DESIGN WORKING GROUP MEETING
October 26th, 2023
Arizona Public Service Commission; Net-Conference
9:00 a.m. – 5:00 p.m., PT
(10:00 a.m. – 6:00 p.m., MT)
(11:00 a.m. – 7:00 p.m., CPT)

MDWG Agenda Items (300)

1. Administrative Items ..... Russ Mantifel/Kristen Darden (1)
    A. Call to order
    B. Statements: Notice of Recording & Anti-trust Statement
    C. Attendance & Agenda Review
2. Review of Past Action Items ..... Kristen Darden (1)
    A. MDWG AI#10: MRATF Must-Offer Obligation Design Recommendation
    B. MDWG AI#13: SPP MMU RSI Education
    C. MDWG AI#14: MMU Attachments B and C Stakeholder feedback
3. Markets+ Service Offering Stoplight ..... Kristen Darden (3)
4. Consent Agenda (Approval) ..... Kristen Darden (1)
    A. 10/10/2023 MDWG Minutes
    B. 10/11/2023 MDWG Minutes
5. Liaison Reports ..... (3)
    A. MCRTF ..... Jeff Spires (3)
6. Tariff Review (Approval Items) ..... SPP Staff (40)
    A. Attachment A: Virtuals (10)
    B. Attachment A, Sec. 5.1: Resource Adequacy (10)
    C. Attachment A, Sec. 3.6 and 3.6.1: Scarcity Pricing (10)
    D. Attachment A, Sec 4.3: Interchange Transaction (10)

DRAFT

7. Markets+ Transmission Policy Discussion ..... (120)
    A. Markets+ Transmission Policy Overview ..... ? (60)
    B. Attachment A: Transmission supporting Markets+ ..... ? (60)
8. Markets+ Greenhouse Gas Policy Discussion ..... (105)
    A. Markets+ GHG Policy Overview ..... (60)
    B. Attachment A: GHG ..... Drew McGilvray (45)
9. Tariff Review ..... SPP Staff (40)
    A. Attachment A, Sec. 5.1: Resource Adequacy (30)
    B. Attachment A: Settlements (10)

MTWG Agenda Items (120)

10.

11.

12. Summary of Motions and Action Items ..... Kristen Darden/Ken Quimby (1)

13. Future Meetings ..... Kristen Darden/Ken Quimby (1)

    A. MDWG Future Meeting Registration
    Date: November 1st, 2023
    Location: Net-Conference
    Time: 12:00 p.m. – 5:00 p.m., CPT (10:00 a.m. – 3:00 p.m., PT/11:00 a.m. – 4:00 p.m., MT)

    B. MDWG Future Meeting Registration
    Date: November 3rd, 2023
    Location: Net-Conference
    Time: 10:30 a.m. – 5:00 p.m., CPT (8:30 a.m. – 3:00 p.m., PT/9:30 a.m. – 4:00 p.m., MT)

    C. MDWG Future Meeting Registration
    Date: November 17th, 2023
    Location: Net-Conference
    Time: 10:30 a.m. – 5:00 p.m., CPT (8:30 a.m. – 3:00 p.m., PT/9:30 – 4:00 p.m., MT)

    D. MDWG Future Meeting Registration
    Date: November 28th, 2023

Location: Net-Conference
Time: 10:30 a.m. – 5:00 p.m., CPT (8:30 a.m. – 3:00 p.m., PT/9:30 a.m. – 4:00 p.m., MT)

14. Open Discussion ..... All (1)

15. Adjournment ..... Russ Mantifel

DRAFT

SPP Southwest Power Pool

MARKETS+

SOUTHWEST POWER POOL, INC.
MARKETS+ DESIGN WORKING GROUP MEETING
October 10th, 2023
Net-conference
10:30 a.m. – 5:00 p.m., CPT
(8:30 a.m. – 3:00 p.m., PT)
(9:30 a.m. – 4:00 p.m., MT)

1. Administrative Items ..... Russ Mantifel (5)
    A. Call to order
    B. Statements: Notice of Recording & Anti-trust Statement
    C. Attendance & Agenda Review
2. Review of Past Action Items ..... Kristen Darden (1)
    A. MDWG AI#10: MRATF Must-Offer Obligation Design Recommendation
    B. MDWG AI#13: MMU Education on Residual Supply Index
    C. MDWG AI#14: Stakeholder Feedback on MMU Tariff Attachments B and C
3. Markets+ Service Offering Stoplight ..... Kristen Darden (2)
4. Consent Agenda (Approval Items) ..... Kristen Darden (1)
    A. 9/15/2023 MDWG Minutes
    B. 9/20/2023 MDWG Minutes
5. Liaison Reports ..... (9)
    A. MGHGTF ..... Drew McGilvray (3)
    B. MCRTF ..... Jeff Spires (3)
6. SPP MMU: Residual Supply Index (RSI) Test for Market Power ..... Ian Wren (45)
7. Hydro Mitigation and Physical Withholding ..... Jared Greenwalt (60)
8. Markets+ Tariff Attachments B & C: Stakeholder Comments ..... Jared Greenwalt/All (120)
    A. Attachment B: Market Power Mitigation Plan (40)
    B. Attachment C: Market Monitoring Plan (40)

DRAFT

C. Attachment A, Sec. 6.2(12), 6.8, 6.9: Market Participant Obligations (40)

9. Tariff Review (Approval Items)..... SPP Staff (85)

A. Attachment B: Market Monitoring Plan (15)

B. Attachment C: Market Power Mitigation Plan (15)

C. Attachment A, Sec. 6.2(12), 6.8, 6.9: Market Participant Obligations (15)

D. Attachment A, Sec. 4-4.2.8: Resource Participation Types (30)

E. Attachment A: Flexibility Products (10)

10. Tariff Review ..... SPP Staff (20)

A. Attachment A: Virtuals (20)

11. Summary of Motions and Action Items ..... Kristen Darden (1)

12. Future Meetings ..... Kristen Darden (1)

A. MDWG Future Meeting Registration
Date: October 11th, 2023
Location: Net-Conference
Time: 10:30 a.m. – 2:00 p.m., CPT / 8:30 a.m. – 12:00 p.m., PT

B. MDWG Future Meeting Registration
Date: October 26th, 2023
Location: Arizona Public Service, Phoenix, AZ; Net-Conference
Time: 8:30 a.m. – 5:00 p.m., PT / 9:30 a.m. – 6:00 p.m., MT / 10:30 a.m. – 7:00 p.m., CPT

C. MDWG Future Meeting Registration
Date: November 1st, 2023
Location: Net-Conference
Time: 12:00 p.m. – 5:00 p.m., CPT/10:00 a.m. – 3:00 p.m., PT/11:00 a.m. – 4:00 p.m., MT

D. MDWG Future Meeting Registration
Date: November 3rd, 2023
Location: Net-Conference
Time: 10:30 a.m. – 5:00 p.m., CPT/8:30 a.m. – 3:00 p.m., PT/9:30 a.m. – 4:00 p.m., MT

E. MDWG Future Meeting Registration
Date: November 17th, 2023

Location: Net-Conference
Time: 10:30 a.m. – 5:00 p.m., CPT/8:30 a.m. – 3:00 p.m., PT/9:30 a.m. – 4:00 p.m., MT

13. Open Discussion ..... All (5)

14. Adjournment ..... Russ Mantifel

DRAFT

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, July 18, 2023 9:16 AM
To: Detmer, Nick; Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] Upcoming MDWG Meetings

Nick and Russ –

Given how the past 2 MDWG meetings have gone, I was thinking about restructuring the upcoming MDWG meetings, given the robust discussions we have been having. For the 7/26 meeting (since it's next week), I was wanting to see your thoughts on adding an additional hour to the meeting? Extend to 3 p.m. PT/4 p.m. MT/5 p.m. CPT? The next net-conference after that is 8/29. We have a couple of options for that one and moving forward:

1) Extend an hour (end at 3 p.m. PT/4 p.m. MT/5 p.m. CPT)
2) Keep the same time plus add another 3-hour session the following morning: Wednesday, 8/30/2023 – 8:30 a.m. PT/9:30 a.m. MT/10:30 a.m. CPT?

Thoughts?

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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From: Chris Nolen <cnolen@spp.org>
Sent: Wednesday, October 11, 2023 9:13 AM
To: Fina, Giuseppe (Joe)
Cc: Gorlin@wapa.gov; Alaine Ginocchio; Jason.Kuzma@pse.com; Engelby, Ben; Charles.VonReis@chelanpud.org; Miller,Todd E (BPA) - LP-7; Karilee S Ramaley; Irene Scruggs; Gilhen, Jonathan; Sabers, Cathy; Jennifer.Spina@pinnaclewest.com; Doot,Erika A (BPA) - LP-7; Lee Engel; Davis,Thomas E (BPA) - LT-7; Kallstrom, Jeffrey; Starnes, Heather; Christine Dillard; Timothy T. Mastrogiacomo (Tim.T.Mastrogiacomo@xcelenergy.com); Hickey, Lisa; Emon Mahony; Rachel Kane; Joseph Ghormley; Kristen Darden; Carrie Simpson; Mantifel,Russell (BPA) - BT-3; Michael Riley
Subject: [EXTERNAL] Re: **External Email** Oct. 12 Markets+ Legal Group Meeting Agenda

The MMU has proposed Duty of Candor-type language (accurate, verifiable, etc.) in multiple sections. My understanding of the MDWG's ask of the M+ legal group is that the group consider and either endorse or recommend against that type language being included in the broad M+ tariff.

If anyone took a different view of the MDWG ask, please weigh in.

cmn

Christopher M. Nolen
Managing Attorney
Southwest Power Pool, Inc.
cnolen@spp.org
501.482.2394 office
(b)(6) mobile

On Oct 11, 2023, at 11:06 AM, Fina, Joe <GFina@snopud.com> wrote:

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - GFina@SNOPUD.com and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Here is my proposed agenda for tomorrow's Legal Group meeting:

I. Common Service Provisions
   a. Force Majeure and Indemnification
II. Attachment G, Meter Agent Services Agreement
III. Attachment E, Market Participant Service Agreement
IV. Update on Special Rules on Use of Tariff
V. Section 6 Duty of Candor Language

I would encourage all of you to review the Meter Agent Services Agreement and the Market Participant Service Agreement in particular. All the documents are on the SharePoint Site. Let me know if there are other items for the agenda.

Thanks, and talk to you all tomorrow.

Joe

Giuseppe "Joe" Fina
Assistant General Counsel
Public Utility District No. 1 of Snohomish County

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From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, February 15, 2024 9:30 AM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] MDWG Updated Markets+ GHG Settlements
Attachments: GHG settlements_Updated_021524.docx

All –

Attached is the updated language for GHG settlements being discussed now at the MDWG.

Thanks.

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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(It may be necessary to cut and paste the above URL if the line is broken)

or send a blank email to leave-126075-234284.4924ede4b09f20571c7af2310687f4ba@spplist.spp.org

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, August 3, 2023 12:22 PM
To: Detmer, Nick; Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] 8/10 MDWG Agenda
Attachments: 081023 MDWG Agenda_DRAFT.docx

Hey there –

I've attached the 8/10 MDWG agenda for your review. The agenda and materials will be posted today. The majority of the conversation will be carryover from the 7/26 call where we didn't get to Flex Products. I also have Market Participant and Market Operator obligations as a discussion item, if time allows.

Question: Do you two have any heartburn on having the meeting run from 8:30-11:30 instead of the originally planned 8:30-12:00? The SPP staff that will be there are taking a 1:56PM flight out so that we do not have to stay an additional night and ending at 11:30 allows us time to get to the airport. I figure that the majority of individuals may be at the "meeting fatigue" stage by then too. ☺

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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SOUTHWEST POWER POOL, INC.
MARKETS+ DESIGN WORKING GROUP MEETING
August 10th, 2023
Bonneville Power Administration
Rates Hearing Room
Portland, OR
8:30 a.m. – 11:30 a.m., PT
(9:30 a.m. – 12:30 p.m., MT)
(10:30 a.m. – 1:30 p.m., CPT)

1. Administrative Items ..... Russ Mantifel/Kristen Darden (2)
    A. Call to order
    B. Statements: Notice of Recording & Anti-trust Statement
    C. Attendance & Agenda Review
2. Review of Past Action Items ..... Kristen Darden (2)
    A. MDWG AI#: 10 MRATF Must-Offer Obligation Design Recommendation Update
    B. MDWG AI#: 11 SPP MMU Virtuals Education
3. Markets+ Service Offering Stoplight ..... Kevin Morelock (10)
4. Consent Agenda (Approval) ..... Kristen Darden (2)
    A. July 26 MDWG Minutes
5. Liaison Reports ..... (10)
    A. MCRTF ..... Jeff Spires (5)
    B. MSWG ..... Tuuli Hakala (5)
6. Tariff Review ..... SPP Staff (30)
    A. Attachment A – 4-4.3.3: Resource Participation Types (Approval)
7. Policy Education Sessions ..... (125)
    A. Flexibility Products ..... Jim Gonzalez/Steve White (110)
    B. Market Operator and Market Participant Obligations ..... Kristen Darden/Chris Nolen (15)
8. Tariff Review ..... SPP Staff (5)

A. Attachment A – 6-7.14: Market Participant and Market Operator Obligations (*Eligible for Approval*)

B. Attachment A – 10: Confidentiality Provisions

C. Attachment F: Non-Disclosure Agreement

9. Summary of Motions and Action Items ..... Kristen Darden (1)

10. Future Meetings ..... Kristen Darden (1)

A. MDWG Future Meeting Registration
Date: August 29th, 2023
Location: Net-Conference
Time: 11:30 a.m. – 4:00 p.m., CPT / 9:30 a.m. – 2:00 p.m., PT

B. MDWG Future Meeting Registration
Date: September 20th, 2023
Location: Net-Conference
Time: 11:30 a.m. – 4:00 p.m., CPT / 9:30 a.m. – 2:00 p.m., PT

11. Open Discussion ..... All (5)

12. Adjournment ..... Russ Mantifel

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Sunday, November 5, 2023 2:55 PM
To: Cook,Joel D (BPA) - K-7
Cc: Mantifel,Russell (BPA) - MTM-3; Spires, Jeff
Subject: [EXTERNAL] Attributing Resources To Load in Markets+
Attachments: Attributing Resources to Load in Markets+.docx

Hi Joel,

Further to our discussion in Phoenix, attached is a draft paper on the topic of attributing resources to loads in Markets+.

A few of us have been discussing this topic beyond the context of Washington's Cap and Invest program.

Please let us know if you are supportive and if you have any edits, as we would like to circulate to several other stakeholders we anticipate will be aligned with the concepts discussed in this paper.

Regards,

Mark

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From: Carman Ruder <cruder@spp.org>
Sent: Wednesday, July 17, 2024 9:21 AM
To: Aaron Shipley <ashipley@spp.org>; Adriane Barnes <abarnes@spp.org>; Amy Casavechia <acasavechia@spp.org>; Brad Johnston <bjohnston@spp.org>; Britney Lloyd <blloyd@spp.org>; Carrie Simpson <csimpson@spp.org>; Contractor-Kevin Morelock <contractor-kmorelock@spp.org>; Derek Wingfield <dwingfield@spp.org>; Gentry Crowson <gtcrowson@spp.org>; Jennelle Primm <jprimm@spp.org>; Jennifer Farley <jfarley@spp.org>; Jillian Janik <jjanik@spp.org>; John Gunter <jgunter@spp.org>; Jordan Foster <jfoster@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Ken Quimby <kquimby@spp.org>; Kim O'Guinn <koguinn@spp.org>; Morelock, Kevin <kmorelock@utilicast.com>; Wolfgang, Tracy <twolfgang@utilicast.com>; Taylor, Joseph <Joseph.c.taylor@xcelenergy.com>; Blair, Twyana <Twyana.Blair@aps.com>; Moore, Tyler <Tyler.moore@aps.com>; Russell, Derek <derek.russell@powerex.com>; Wiencke, Mary <mwiencke@publicgeneratingpool.com>; Breidenich, Clare <cbreidenich@aciem.us>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>; Spires, Jeff <jeff.spires@powerex.com>; Linn, Michael <mlinn@ppcpdx.org>; Hakala, Tuuli <tuuli.hakala@chelanpud.org>; Martin, Marcie <Marcie.Martin@srpnet.com>; Kirby,Elizabeth A (BPA) - MTM-3 <eakirby@bpa.gov>; Freitas, Art <arthur.p.freitas@xcelenergy.com>; Fredrickson,Rebecca E (BPA) - TSB-TPP-2 <refredrickson@bpa.gov>; Myers, Nick <nmyers@azcc.gov>; Gia Anguiano (ganguiano@westernenergyboard.org) <ganguiano@westernenergyboard.org>
Cc: Meghan D. Sever <msever@spp.org>; Adriane Barnes <abarnes@spp.org>; Skylar Kincaid <skincaid@spp.org>; Carrie Dixon <cdixon@spp.org>
Subject: [EXTERNAL] M+ Parking Lot Prioritization - Assignments

Chairs and Secretaries,

Thank you for your collaboration in the first wave of the SPP Markets+ parking lot prioritization efforts for the post initial tariff filing. but part of go-live section of the parking pot. Please see below for your group's assigned items and their associated target approval and implementation dates.

Please reach out to staff with any questions as you take these items to your working groups and task forces and being working on them.

Thank you!

Carman Ruder | Lead Market Design Analyst, Western Services Development | cruder@spp.org | (b) (6)
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

29334233

MDWG

SPP MARKETS+ PARKING LOT ITEMS

Resolution Timeframe	ID	WG/TF Origination	Brief Description	Submission Date	Status	WG/TF Assignment	System Impacting?	Requires M+ Tariff filing?	SPP Prioritization	SPP Target MPEC Approval Date	SPP Target Implementation Date
Post Initial Tariff Filing but Part of Go-Live	14	MSWG	Provide multiday market run look ahead for gas burn projections: Minimum of 5 days for market day ahead look, Tool to include MW forecast for each resource, Forecast to be available by 4:30 am PPT before day ahead.	9/28/2023	Open	MDWG	Yes	No	Low	Q3 2024	Q2 2027
	15	MDWG	SPP staff to revisit Attachment A, Section 9.2.10 (Day-Ahead Make Whole Payment Distribution Amount) and all other Settlement uplift charge types, when the market footprint is better known to allocate market-wide vs. at the BAA level.	11/17/2023	Open	MDWG	Yes	Maybe	High	Q1 2025	Q2 2027
	17	MDWG	Research Energy Offer Mitigation in Attachment B, Section 3.4, for dispatch-limited Energy storage mitigation and determine what modifications are necessary to reflect resource characteristics.	1/11/2024	Open	MDWG	No	Maybe	High	Q3 2024	Q2 2027
	24	MDWG	Attachment A, Section 6.3 Non-Participating Entity Registration - BPA would like to discuss this concept further after the filing	2/15/2024	Open	MDWG	No	No	Low	N/A	Q3 2024

MGHGTF

SPP MARKETS+ PARKING LOT ITEMS

Resolution Timeframe	ID	WG/TF Origination	Brief Description	Submission Date	Status	WG/TF Assignment	System Impacting?	Requires M+ Tariff filing?	SPP Prioritization	SPP Target MPEC Approval Date	SPP Target Implementation Date
Post Initial Tariff Filing but Part of Go-Live	20	MPEC	The MGHGTF, in coordination with SPP Staff, will continue work in progress to develop clear and comprehensive market design elements to support compliance with non-pricing GHG Reduction Programs through dispatch (or alternative mechanisms), tracking and reporting and will work to complete this task with sufficient time before the deadline for utility commitments for Phase II M+ funding decisions .	1/24/2024	Open	MGHGTF	Yes	No	Urgent	Q3 2024	Q2 2027

MRATF

SPP MARKETS+ PARKING LOT ITEMS

Resolution Timeframe	ID	WG/TF Origination	Brief Description	Submission Date	Status	WG/TF Assignment	System Impacting?	Requires M+ Tariff filing?	SPP Prioritization	SPP Target MPEC Approval Date	SPP Target Implementation Date
Post Initial Tariff Filing but Part of Go-Live	16	MRATF	WRAP binding status alignment with M+ Go-Live.	11/30/2023	Open	MRATF	No	No	High	N/A	Q2 2027

MSWG

SPP MARKETS+ PARKING LOT ITEMS									SPP		
Resolution Timeframe	ID	WG/TF Origination	Brief Description	Submission Date	Status	WG/TF Assignment	System Impacting?	Requires M+ Tariff filing?	Prioritization	Target MPEC Approval Date	Target Implementation Date
Post Initial Tariff Filing but Part of Go-Live	13	MSWG	Should CAISO be treated as 1 source/sink or be split into North/South? What flow limitations are in Market limitations model related to boundaries?	9/28/2023	Open	MSWG	No	No	Low	Q1 2025	Q2 2027
	3	MSWG	DA interchange transactions (evaluate options to increase DA interchange volumes due to limited firm/non-firm transmission availability including etag timing requirements).	9/26/2023	Open	MSWG	TBD	TBD	High	Q3 2025	Q2 2027
	19	MPEC	The MSWG will define a seams framework of key components, including evaluation of flexibility reserve to shape development of how we will handle seams issues with CAISO and RTOE post tariff filing, with an estimated completion date of the end of 2024.	1/24/2024	Open	MSWG	No	No	Urgent	N/A	Q4 2024
	21	MPEC	SPP will ensure the definition of High Priority Exports and its implementation do not undermine the balancing services that generators pay their balancing authorities for (especially those that provide hour-ahead to real-time balancing).	1/24/2024	Open	MSWG	Yes	No	High	Q3 2024	Q2 2027

MTWG

SPP MARKETS+ PARKING LOT ITEMS									SPP		
Resolution Timeframe	ID	WG/TF Origination	Brief Description	Submission Date	Status	WG/TF Assignment	System Impacting?	Requires M+ Tariff filing?	Prioritization	Target MPEC Approval Date	Target Implementation Date
Post Initial Tariff Filing but Part of Go-Live	12	MTWG	Identification of TSP OATT Changes	8/25/2023	Open	MTWG	No	No	High	N/A	Q4 2024

29334233

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Thursday, September 14, 2023 7:28 AM
To: Kristen Darden
Cc: Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] RE: MDWG 9/20/23 Meeting Materials

Ok thanks Kristen, I appreciate the quick confirmation.

Jeff

Jeff Spires | Director, Power | Powerex Corp. | Cel(b)(6)

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, September 14, 2023 7:20 AM
To: Spires, Jeff <Jeff.Spires@powerex.com>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: RE: MDWG 9/20/23 Meeting Materials

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Hey Jeff –

There is an MDWG scheduled for Wednesday, 9/20, and those materials will be used for that meeting. Here is the link to the meeting: https://www.spp.org/calendar-list/marketsplus-design-working-group-net-conference-20230920/

I'm sorry for the confusion!

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Thursday, September 14, 2023 9:05 AM
To: Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** FW: MDWG 9/20/23 Meeting Materials

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Hi Kristen,

The materials below refer to meeting on the 20th that I don't see on the SPP calendar. I just wanted to confirm whether there is supposed to be a MDWG meeting on the 20th or if the materials are meant for tomorrow's call?

Thanks
Jeff

From: SPP Markets+ <marketsplus@spp.org>
Sent: Wednesday, September 13, 2023 2:36 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>
Subject: **External Email** MDWG 9/20/23 Meeting Materials

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Markets+ Design Working Group (MDWG) 9/20/23 Meeting Materials have been posted on SPP.org at the link below:

MDWG Meeting Materials

MDWG 9/20/23 Meeting Registration

Please direct questions to Kristen Darden at kdarden@spp.org.

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You are currently subscribed to mdwg as: jeff.spires@powerex.com.

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From: Scott Miller <smiller@wptf.org>
Sent: Tuesday, September 12, 2023 6:45 AM
To: Kristen Darden
Cc: Mantifel,Russell (BPA) - PGL-5; Detmer, Nick; Liotiris, Caitlin
Subject: [EXTERNAL] Re: **External Email** Markets+ Design Working Group 9/15/23 Meeting Materials

Thank you!

Scott Miller
Executive Director
Western Power Trading Forum
410-858-7391

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, September 12, 2023 8:39:56 AM
To: Scott Miller <smiller@wptf.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>; Liotiris, Caitlin <ccollins@energystrat.com>
Subject: RE: **External Email** Markets+ Design Working Group 9/15/23 Meeting Materials

Thank you for letting me know, Scott. (b)(6)

From: Scott Miller <smiller@wptf.org>
Sent: Monday, September 11, 2023 3:55 PM
To: Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>; Liotiris, Caitlin <ccollins@energystrat.com>
Subject: FW: **External Email** Markets+ Design Working Group 9/15/23 Meeting Materials

(b)(6)

Scott Miller
Executive Director
Western Power Trading Forum
410-858-7391
smiller@wptf.org

WPTF WESTERN POWER TRADING FORUM

From: SPP Markets+ <marketsplus@spp.org>
Sent: Monday, September 11, 2023 4:41 PM
To: Scott Miller <smiller@wptf.org>
Subject: **External Email** Markets+ Design Working Group 9/15/23 Meeting Materials

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Markets+ Design Working Group 9/15/23 Meeting Materials have been posted to the SPP website for review at the link below:

MDWG Meeting Materials

MDWG 9/15/23 Online Registration

Please direct questions to Kristen Darden at kdarden@spp.org.

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From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Tuesday, August 8, 2023 8:00 AM
To: Eaton,Sara L (BPA) - PTMA-5; Holman, Mark
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2; Mantifel,Russell (BPA) - PGL-5
Subject: RE: [EXTERNAL] **External Email** Updated MDWG 8/10/23 Meeting Materials

Hi Sara,

We have some additional time on Friday that I have included:

Friday 1 pm – 3 pm
Monday 12:30 – 1:30 pm
Tuesday 10 am - 11 am
Tuesday 3 – 4 pm

Thanks
Jeff

From: Spires, Jeff
Sent: Tuesday, August 8, 2023 7:52 AM
To: 'Eaton,Sara L (BPA) - PTMA-5' <sleaton@bpa.gov>; Holman, Mark <Mark.Holman@powerex.com>
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] **External Email** Updated MDWG 8/10/23 Meeting Materials

Good morning Sara

Here are a few times that could work for us to discuss the grouped hydro and DEB topics.

Please let me know if any of these work for the BPA team:

Friday 2 pm – 3 pm
Monday 12:30 – 1:30 pm
Tuesday 10 am - 11 am
Tuesday 3 – 4 pm

Thanks
Jeff

From: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Sent: Friday, August 4, 2023 5:16 PM
To: Holman, Mark <Mark.Holman@powerex.com>; Spires, Jeff <Jeff.Spires@powerex.com>
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] **External Email** Updated MDWG 8/10/23 Meeting Materials

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Hi Mark,

I think we would agree with you there.
Sounds like a plan.

Have a great weekend,
Sara

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Friday, August 4, 2023 5:14 PM
To: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Subject: Re: [EXTERNAL] **External Email** Updated MDWG 8/10/23 Meeting Materials

Hi Sara,

Thanks for reaching out. We'll get back to you on Monday/Tuesday with some potential time slots. I see the grouped hydro approach and the hydro reference price formula in the tariff (I.e hydro DEB formula from EIM tariff) as topics for the hydro stakeholders to get working on (with SPP).

Have a great weekend .

Get Outlook for iOS

From: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Sent: Friday, August 4, 2023 4:47 PM
To: Holman, Mark <Mark.Holman@powerex.com>; Spires, Jeff <Jeff.Spires@powerex.com>
Cc: Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Subject: FW: [EXTERNAL] **External Email** Updated MDWG 8/10/23 Meeting Materials

Caution: External Email

Hi There,

I believe Jeff might still be on vacation, but returning soon? And Todd is back in the office on Wednesday.
Just wanted to pass along the below FYI and see if there was a good time to get together and discuss grouped hydro tariff language.
Todd and I have made a few edits to the original version that SPP shared at the last MDWG and we were hoping to have something ready for the 8/26 MDWG.

Wondering when would be a good time for us to discuss and review draft language?
Best,

Sara Eaton (she/her)

Senior Markets Policy Analyst | Market Policy and Pricing | PTMP
Bonneville Power Administration
C: (b)(6) | W: 503-230-5222 | sleaton@bpa.gov

From: Eaton,Sara L (BPA) - PTMA-5
Sent: Friday, August 4, 2023 4:13 PM
To: Kristen Darden <kdarden@spp.org>
Cc: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Siewert,Christopher W (BPA) - PGS-5 <cwsiewert@bpa.gov>
Subject: RE: [EXTERNAL] **External Email** Updated MDWG 8/10/23 Meeting Materials

Hi Kristen,

I was taking a look item 07a – and I wanted to flag something for you in advance of our next meeting.
Reviewing it a bit internally , we were thinking it might be beneficial to hold off on the hydro aggregation language until the meeting later in August.

I know BPA said we would work together with a small team to get some draft language together (I know Powerex, TEA, Tacoma and others had expressed interest in workshopping tariff language). We've not yet gotten a team together to review language and I know this is an important topic to many in the region, so want to make sure that we are set-up to have a solid conversation and not feel rushed to make a decision regarding aggregated hydro.

Please feel free to reach out if there are any concerns with this approach.
Best,

Sara Eaton (she/her)
Senior Markets Policy Analyst | Market Policy and Pricing | PTMP
Bonneville Power Administration
C:(b)(6) | W: 503-230-5222 | sleaton@bpa.gov

From: SPP Markets+ <marketsplus@spp.org>
Sent: Friday, August 4, 2023 2:06 PM
To: Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Subject: [EXTERNAL] **External Email** Updated MDWG 8/10/23 Meeting Materials

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The 8/10/23 MDWG Meeting Materials have been updated as follows:

New
07a-supplemental Markets+ Tariff_Hydro Aggregation Language_TP

Updated
01-081023 MDWG Agenda (*Reorganized items on the agenda*)
03-MarketsPlus SO Stoplight_080123

Renumbered
06a-Flexibility Reserve Products Education_081023

07a-Attachment A_Sec 4-4.2.9_Tariff
07b-Attachment A Section 10_Confidentiality Provisions_081023
07c-1 Attachment F Form A Authorized Agency_081023
07c-2 Attachment F Form B Authorized Requestor_081023
08a-MP MO Obligations_081023
09a-Attachment A_Sec 6-7.15_Tariff
10-MDWG Action Items

Please direct questions to Kristen Darden at kdarden@spp.org.

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From: Christine Dillard <cdillard@spp.org>
Sent: Thursday, March 7, 2024 12:03 PM
To: Mantifel,Russell (BPA) - MTM-3
Cc: Chris Nolen; Binette, Matthew
Subject: [EXTERNAL] M+ Resource Adequacy Requirement and Must Offer Obligation

HI Russ,
Please see the summary below of the Resource Adequacy Requirement and Must Offer Obligation that SPP intends to communicate to FERC. If you have time, we would appreciate your thoughts and feedback on this summary.

In its role as Market Operator, SPP will administer and operate centrally-committed and dispatched Day-Ahead and Real-Time Markets for the resources and loads located in the Participating Balancing Authority Areas. To enhance principles of price convergence, as well as reliability, SPP proposes that market participants be required to take collective steps to keep sufficient capacity available for commitment in Day-Ahead and to satisfy load in real-time in Markets+. Relying on a common framework to measure and incent forward capacity procurement will reduce the possibility of conflicting obligations arising from multiple reliability programs.

Market Participants that meet certain criteria[1] are required to offer the same minimum amount of Resource capacity to the Day-Ahead Market, initial RUC process, and RTBM.[2] This approach reduces the potential for price divergence between the financially-binding, voluntary Day-Ahead Market and the Real-Time Balancing Market.

SPP proposes to meet these objectives with the addition of three requirements: (1) Market Participants with load registered in Markets+ must participate in a common, Commission-approved resource adequacy program;[3] (2) Market Participants must make resource capacity available for commitment throughout the Markets+ operations horizon;[4] and (3) for purposes of relieving a capacity shortage, Market Participants must, subject to limited exceptions, identify and make available additional supply that was not otherwise offered to Markets+.[5]

a. Participation in WRAP

SPP proposes that the Commission-approved WRAP serve as the common resource adequacy program for participation in Markets+.[6] As the Commission is aware, the WRAP is a resource adequacy planning and compliance framework where Participants who choose to join and commit are obligated to comply with its requirements or face charges for noncompliance. The WRAP has two primary components: a Forward Showing Program and a real-time Operations Program.

In the Forward Showing Program, WRAP Participants' peak load is forecasted and a Planning Reserve Margin ("PRM") is established based on a probabilistic analysis to satisfy a loss of load expectation of not more than one event-day in ten years.[7] As part of the Forward Showing Program, Participants demonstrate in advance that they have sufficient qualified capacity resources (and supporting transmission) to serve their peak load and share of the PRM.[8] This demonstration is performed using a consistent framework for resource capacity accreditation and load forecasting. Participants who fail to comply with binding aspects of the Forward Showing Program are subject to potential deficiency charges.[9]

In the Operations Program, Participants with excess capacity, based on near-term conditions, are requested to "holdback" a portion of their capacity during critical periods for potential use by Participants who lack, in real-time, sufficient capacity to serve their load.[10] Participants who fail to comply with binding aspects of the Operations Program are subject to potential delivery failure charges.[11]

WRAP is designed to encourage Participants to be in full compliance through their respectively owned or contracted resources rather than leaning on other WRAP participants to meet their needs. SPP anticipates

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that requiring WRAP participation for Market Participants with load registered in Markets+ will meet the overall capacity needs of the Markets+ Footprint by making sufficient capacity resources available in real-time.[12]

b. Must-Offer Requirement

In Markets+, the primary unit commitment will occur in the day-ahead horizon as part of the price-based Day-Ahead Market and initial RUC execution. For the resulting commitments to be reliable, there must be sufficient physical resource capacity available for commitment in Markets+ that is deliverable to the forecasted load. To meet this objective, SPP proposes a minimum obligation for Market Participants[13] [*a footnote will be added here regarding upon whom a must-offer requirement may be imposed per FERC precedent*] to offer resources for Markets+ commitment processes that is consistent with the WRAP framework. The proposed limited must-offer obligation and corresponding penalties for noncompliance are designed to ensure that the supply that will be relied on by Participants to serve load in real-time is available for SPP commitment throughout the Day-Ahead Market, RUC execution and Real-Time Balancing Market.[14]

Market Participants will satisfy the Must Offer Obligation by offering for use in the Day-Ahead Market and initial RUC execution by one of the following methods:

- resource capacity greater than or equal to the sum of that Market Participant's (1) load[15] and (2) Flexibility Reserve Products obligations, [16] adjusted by (3) obligations to supply to or rights to receive from the Resource Adequacy Program and adjusted by (4) net position for each Operating Hour; or
- Resource capacity greater than or equal to the Market Participant's (1) Resource Adequacy Program forward showing requirement during a binding season as defined by the Resource Adequacy Program, [17] adjusted by (2) any obligations to further supply to or rights to receive energy from the Resource Adequacy Program, adjusted by (3) net position, and adjusted for (4) day-ahead forecasted fleet performance. [18]

A Day-Ahead Must Offer Penalty is a charge to a Market Participant that does not satisfy the Day-Ahead must-offer obligation.[19] SPP will then distribute any collected Day-Ahead must-offer penalties for an Operating Hour to Market Participants that are compliant with the Day-Ahead must offer obligation for that Operating Hour, weighted by Resource capacity in excess of the must offer obligation for that Operating Hour.[20]

In real-time, for each Operating Hour, Market Participant obligations to offer Resources for use in the Real-Time Balancing Market are updated to reflect the impacts of the Day-Ahead Market clearing, incremental resource commitments from the RUC processes, and other deviations from the Day-Ahead Market. A corresponding Real-Time Must Offer Penalty will be charged to a Market Participant that does not satisfy the Real-time must-offer obligation.[21] SPP will distribute any collected Real-Time must-offer penalties for an Operating Hour to Market Participants that are compliant with the Real-time must offer obligation for that Operating Hour, weighted by Resource capacity in excess of the must offer obligation for that Operating Hour.[22]

c. Mechanism to relieve a capacity shortage

In addition to the must-offer obligation, the proposed design includes a reliability "backstop" mechanism in the RUC Process. Subject to limited exceptions, this mechanism requires Market Participants to identify additional supply that, while not otherwise offered to Markets+, will be made available for the Market Operator to commit to relieve the capacity shortage.[23]

Thank you,

Christine Dillard | Attorney, Markets & Regulatory Policy

29334525

cdillard@spp.org | (b)(6) (c)

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[1] Markets+ Tariff, Attachment A, Section 5.1.1(A).
[2] Markets+ Tariff, Attachment A, Sections 5.1.1, 5.1.2.
[3] Markets+ Tariff, Attachment A, Section 6.10.
[4] Markets+ Tariff, Attachment A, Sections 5.1.1, 5.1.2.
[5] Markets+ Tariff, Attachment A, Section 2.2.2(b).
[6] SPP currently serves as the Program Operator of the WRAP pursuant to an agreement with the Program Administrator, WPP. However, the WRAP's role in Markets+ is independent of, and will be unaffected by, SPP's role as Program Operator of the WRAP.
[7] WRAP Tariff, Part II, Section 16.
[8] WRAP Tariff, Part II, Section 16.
[9] WRAP Tariff, Part II, Section 16.
[10] WRAP Tariff, Part III, Section 18.
[11] WRAP Tariff, Part III, Section 20.7.
[12] *See Nw. Power Pool*, 182 FERC ¶ 61,063.
[13] *See also* [FERC Order re precedent that limits the ability to impose a day-ahead must offer for non-capacity resources.]
[14] After Day Ahead and initial RUC execution is complete the must offer is recalculated, and a new compliance value is determined for the subsequent RUC and RTBM market executions.
[15] The Market Participant's load for these purposes is its hourly load forecast as set forth in Section 7.5 of Attachment A of the Markets+ Tariff.
[16] The Market Participant's hourly Flexibility Reserve Products obligation is the sum of that Asset Owner's Short-Term Flex Up and Mid-Term Flex Up obligations as estimated by SPP under Section 7.5 of Attachment A of the Markets+ Tariff. Markets+ Tariff, Attachment A, Section 7.4.
[17] The WRAP Tariff defines "Binding Season" as "The Summer Season or the Winter Season," which are defined as "A period of time that commences on June 1 of a Year and terminates on September 15 of the same Year," and "A period of time that commences on November 1 of a Year and terminates on March 15 of the immediately following year," respectively. *See* WRAP Tariff, Part 1, Definitions.
[18] Here the design accommodates performance on a fleet-wide basis to allow Market Participants flexibility in managing their portfolio. The design also requires generator-only Market Participants to represent any WRAP obligations in their must offer, to demonstrate these high-priority transactions.
[19] Markets+ Tariff, Attachment A, Section 9.2.16.
[20] Markets+ Tariff, Attachment A, Section 9.2.17.
[21] Markets+ Tariff, Attachment A, Section 9.3.25.
[22] Markets+ Tariff, Attachment A, Section 9.3.26.
[23] Markets+ Tariff, Attachment A, Section 2.2.2(2)(b).

From: Tuuli Hakala <Tuuli.Hakala@chelanpud.org>
Sent: Monday, April 8, 2024 11:47 AM
To: 'Taylor, Joseph C'; Jeff Spires; Laura Trolese; Mantifel,Russell (BPA) - MTM-3; Tyler.Moore@aps.com; Hofmann Christiaan A (Chris)
Subject: [EXTERNAL] RE: Today's Markets + BA Working Group

Works for me. We can do a quick walk through of the interchange transactions draft protocol and I can highlight what I think are the open policy issues.

From: Taylor, Joseph C <joseph.c.taylor@xcelenergy.com>
Sent: Monday, April 8, 2024 9:34 AM
To: Jeff Spires <jeff.spires@powerex.com>; Laura Trolese <ltrolese@teainc.org>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Tyler.Moore@aps.com; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Hofmann Christiaan A (Chris) <Chris.Hofmann@srpnet.com>
Subject: [External] RE: Today's Markets + BA Working Group

PAUSE TO CONSIDER: The actual sender address for this email is joseph.c.taylor@xcelenergy.com.
Do you trust this message and any contents within?
If not, please forward it to our Phishing Hole for analysis. Thank You!

Will do.

Joe Taylor
C: (b)(6)

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Monday, April 8, 2024 10:00 AM
To: Laura Trolese <ltrolese@teainc.org>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Tyler.Moore@aps.com; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Hofmann Christiaan A (Chris) <Chris.Hofmann@srpnet.com>; Taylor, Joseph C <joseph.c.taylor@xcelenergy.com>
Subject: RE: Today's Markets + BA Working Group

EXTERNAL - STOP & THINK before opening links and attachments.

Hi Laura, that works for me. It won't take long for CRTF.

Jeff

From: Laura Trolese <ltrolese@teainc.org>
Sent: Monday, April 8, 2024 7:41 AM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Tyler.Moore@aps.com; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Hofmann Christiaan A (Chris) <Chris.Hofmann@srpnet.com>; Taylor, Joseph <joseph.c.taylor@xcelenergy.com>
Subject: Today's Markets + BA Working Group

⚠ **Caution: External Email**

Hello Markets + Working Group and Task Force Chairs,
I was wondering if each of you would be willing to give an overview of what has been/is being discussed in your respective working groups and task forces at today's Markets + BA Working Group meeting?

Laura Trolese
Director, Western Markets & Strategy

Mobile: (b)(6)
Email: ltrolese@teainc.org

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From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, August 1, 2023 1:08 PM
To: Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] **External Email** SPP: Markets+ Technical Settlements Workshop Draft Agenda
Attachments: Markets Plus Technical Settlements Workshop Agenda_DRAFT.docx

<=”” tdface="Calibri" color="Yellow" size="3">CAUTION: This email originated from outside of the SPP network. Do not click links or open attachments unless you recognize or can verify the sender, or were expecting an email from the sender. The original sender of this email is kdarden@spp.org

Good afternoon –

I have attached a rough draft agenda for the 8/31-9/1 Markets+ Technical Settlements Workshop that will be hosted in Westminster, CO at the TSGT facilities. This meeting will have a virtual option and be recorded as well.

M+ Technical Settlements Workshop Registration

Please let me know if you have any questions.

Thank you!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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MARKETS+

SOUTHWEST POWER POOL, INC.
MARKETS+ TECHNICAL SETTLEMENTS WORKSHOP MEETING
August 31st, 2023 – September 1st, 2023
Tri-State Generation & Transmission; Denver, CO
Net-conference
Thursday, 8/31/23: 8:30 a.m. – 5:00 p.m., MT
(7:30 a.m. – 4:00 p.m., PT/9:30 a.m. – 6:00 p.m., CPT)
Friday, 9/1/23: 8:30 a.m. – 12:00 p.m., MT
(7:30 a.m. – 11:00 a.m., PT/9:30 a.m. – 1:00 p.m., CPT)

Day One – 8/31/2023

1. Administrative Items ..... Kristen Darden (5)
   - A. Call to order
   - B. Statements: Notice of Recording & Anti-trust Statement
2. Settlements .....
   - A. Introductions ..... Brent Wilcox (10)
   - B. Settlement Timelines ..... Brent Wilcox (30)
   - C. Settlement Reports ..... Steve White (30)
   - D. Settlements Overview – SPP v. CAISO ..... Kyle Kennedy/Li Zhou (30)

BREAK (15)

   - E. Energy Charge Types ..... Kyle Kennedy (60)
     - i) Day-Ahead/Real-Time Energy
     - ii) Day-Ahead/Real-Time Non-Asset Energy
     - iii) Day-Ahead/Real-Time Imports and Exports
     - iv) Day-Ahead/Real-Time Virtuals
   - F. Demand Response ..... Will Nipper (30)
     - i) Day-Ahead/Real-Time
   - G. Demand Response Distribution ..... Will Nipper (30)
     - i) Day-Ahead/Real-Time

DRAFT

LUNCH (60)

H. Make Whole Payments ..... Steve White (120)

i) Day-Ahead Make Whole Payment (DA MWP)

ii) Reliability Unit Commitment (RUC MWP)

BREAK (15)

I. Make Whole Payment Distribution ..... Li Zhou (60)

i) Day-Ahead Make Whole Payment (DA MWP) Distribution

ii) Reliability Unit Commitment (RUC MWP) Distribution

Day Two – 9/1/2023

J. Out-of-Merit Energy (OOME) ..... Kyle Kennedy (45)

i) Energy and Flexibility Reserve Products Eligibility Flags

ii) Distribution Methodology – Balancing Authority (BA) or Market-Wide

K. Revenue Neutrality Uplift (RNU) ..... Li Zhou (45)

i) RNU Inputs

ii) Distribution Methodology

BREAK (15)

L. Combined Interest Resource (CIR) ..... Will Nipper (30)

M. Close Out and Next Steps ..... Brent Wilcox (10)

3. Future Markets+ Meetings

A. MDWG Future Meeting Registration
Date: September 20th, 2023
Location: Net-Conference
Time: 11:30 a.m. – 5:00 p.m., CPT / 9:30 a.m. – 3:00 p.m., PT

4. Open Discussion ..... All (15)

5. Adjournment ..... Kristen Darden

DRAFT

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, August 15, 2023 12:47 PM
To: Trolese, Laura; SPP Markets+
Cc: Mantifel,Russell (BPA) - PGL-5; Detmer, Nick; Taylor, Joseph; Carrie Simpson; Ken Quimby
Subject: [EXTERNAL] RE: MDWG 10/26/23 Face-to-Face Meeting Registration

Hey Laura –

Thank you for reaching out. Yes I did know this conflicted with the MTWG. The MDWG needed a time to approve the large amount of Settlements tariff language that will be coming through, in order to stay on track with the schedule. This was where we landed based on the overall calendar and availability of a host facility. I hate that it overlaps. I would recommend the MTWG readjust their meeting time to one of the potential times below:

- **Thursday, 10/19**
- **Friday, 10/20**
- **Monday, 10/23**
- **Friday, 10/27**

Ken and Joe – Would you be open to this?

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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From: Laura Trolese <ltrolese@teainc.org>
Sent: Tuesday, August 15, 2023 2:31 PM
To: SPP Markets+ <marketsplus@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>; Taylor, Joseph <Joseph.c.taylor@xcelenergy.com>; Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>
Subject: **External Email** RE: MDWG 10/26/23 Face-to-Face Meeting Registration

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Hello,
I just wanted to note that this MDWG meeting conflicts with the Markets + Transmission Work Group. Any thoughts on how to resolve this conflict?

Laura Trolese
Director, Western Markets & Strategy

Mobile: (b)(6)

Email: ltrolese@teainc.org

The Energy Authority®

From: SPP Markets+ <marketsplus@spp.org>
Sent: Tuesday, August 15, 2023 6:03 AM
To: Laura Trolese <ltrolese@teainc.org>
Subject: **External Email** MDWG 10/26/23 Face-to-Face Meeting Registration

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MARKETS+ DESIGN WORKING GROUP FACE-TO-FACE
TIME: October 26, 2023 9:00AM - 5:00PM
TIME ZONE: (UTC-07:00) Mountain Time (US & Canada)
LOCATION: APS Offices, Phoenix, Arizona

MDWG 10/26/23 Meeting Registration - In-person registration closes October 18, 2023 at 8AM. There is also a virtual attendance option.

Per Arizona Public Service (APS) security, **if you are a non-US Persons** (*non-US Persons are anyone who is not a US Citizen, not a US Legal Permanent Resident (green card) or not a US Protected Person (refugee/asylee)*), **please provide a copy of your passport and most recent I-94 form** to MDWG Staff Secretary, Kristen Darden (kdarden@spp.org). An I-94 may be obtained at the following link, once you enter the US: https://i94.cbp.dhs.gov/I94/#/home.

PARKING
The APS parking garage is located just north of Van Buren on the SWC of 5th Street and Fillmore.

SECURITY
When you enter the main lobby of the building, there will be 2 tables set up where APS will register everyone upon arrival. You will be required to show your photo ID (driver's license) upon signing in. Once you are checked in, there will be an APS person taking you in groups of 10 to your location on the 2nd floor. If you need to leave to go outside, please take the elevators to the ground level, there will be an APS person to let you back in. Please indicate that you are with SPP.

Map to APS Headquarters

400 N. 5th Street, Phoenix, AZ 85004

Directions:

- From the I-10 (202) or I-17 Freeways, take **7th Street to Van Buren.**
- Turn **WEST** onto Van Buren St.
- Turn **RIGHT (north) onto 5th Street** (one-way street).
- APS Building is the **first building on the LEFT SIDE OF 5th Street.**
- Pass the building and enter the **PARKING GARAGE.** Park in any non-reserved space and bring your parking ticket with you.
- Enter 400 N. 5th Street and check-in with the Security Desk.



HOTEL OPTIONS

AC Hotel Phoenix
414 North 5th Street
Phoenix, AZ 85004
602-258-1771

Sheraton Phoenix Downtown
340 North 3rd Street
Phoenix, AZ 85004
602-262-2500

Hyatt Regency
122 North 2nd Street
Phoenix, AZ 85004
602-252-1234

Hilton Garden Inn
15 East Monroe Street
Phoenix, AZ 85004
888-428-0751

Please direct questions to Kristen Darden at kdarden@spp.org.

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From: Kristen Darden <kdarden@spp.org>
Sent: Friday, January 19, 2024 9:44 AM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] 1/19 MDWG Material - Settlements
Attachments: 02b-MarketsPlus_Attachment A_Settlements_011624_UPDATED 011924_Modified during meeting.docx

Hello –

Attached is the updated settlements document as discussed during the meeting.

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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9.2.13 Day-Ahead Congestion Rent Available for Allocation Amount

The Market Operator calculates the Congestion Rent on each binding transmission constraint for each hour in the Day-Ahead Market as follows:

1) The Congestion Rent Available for Allocation on each binding transmission constraint in each hour is calculated as follows:

Congestion Rent Available for Allocation =
(Hourly Transmission Constraint Shadow Price of that constraint)
* (Hourly Day-Ahead Market Flow).

a) Hourly Day-Ahead Transmission Constraint Shadow Price is calculated by the Day-Ahead Market solution and is defined in the Markets+ Tariff.

b) Hourly Day-Ahead Market Flow is the hourly flow quantity across that binding transmission constraint calculated by the Day-Ahead Market solution.

9.2.14 Day-Ahead CRETSR Holder Congestion Rent Allocation Distribution Amount

The Market Operator distributes the Congestion Rent collected to each CRETSR Holder for each hour in the Day-Ahead Market as follows:

1) A CRETSR Holder's Total Congestion Rent Allocation in an hour is calculated as follows:

   CRETSR Holder's Total Congestion Rent Allocation = the sum of that CRETSR Holder's Congestion Rent Allocations for all binding transmission constraints.

   a) CRETSR Holder Congestion Rent Allocation = CRETSR Holder Congestion Rent Allocation Factor multiplied by the Congestion Rent Available for Allocation for that binding transmission constraint multiplied by (-1)

      i. Congestion Rent Available for Allocation is the value calculated under Attachment A, Section 9.2.13(1) for that binding constraint.

   b) If the total of all CRETSR Holders' positive MW impacts in the binding flow direction on that binding transmission constraint is greater than or equal to the hourly Day-Ahead Market flow on that binding transmission constraint,

      Then
      CRETSR Holder Congestion Rent Allocation Factor =
      (CRETSR Holder's positive MW impact in the binding flow direction on that binding transmission constraint) / (Total of all CRETSR TSR Holders' positive MW impacts in the binding flow direction on the same binding transmission constraint).

   c) If the total of all CRETSR Holders' positive MW impact in the binding flow direction on that binding transmission constraint is less than the hourly Day-Ahead Market flow on that binding transmission constraint

      Then

CRETSR Holder Congestion Rent Allocation Factor =
(CRETSR Holder's Positive MW Impact in the binding flow direction on that binding transmission constraint) / (Hourly Day-Ahead market flow on that binding transmission constraint).

d) CRETSR Holders' positive MW impact in the binding flow direction on the binding constraint =

(CRETSR Holder's TSR reserved MW quantity) * (Shift factor impact in the binding flow direction on the binding constraint, calculated as part of the Day-Ahead Market solution, for that CRETSR Holder's CRETSR).

i. For Firm or Conditional Firm Point-To-Point TSR Holders, TSR Reserved MW quantity is equal to the Point-To-Point Service Distribution Cap for that CRETSR.

For NITS TSR Holders, TSR reserved MW quantity is equal to the MW amounts identified under Attachment A, Section 7.16(7)(b)(ii).

9.2.15 Day-Ahead Excess Congestion Rent Allocation Distribution Amount

For each hour in the Day-Ahead Market in which the Market Operator collects excess Congestion Rent, the Market Operator will distribute the excess Congestion Rent collected to the applicable Markets+ Transmission Service Providers for distribution to its transmission customers under each Markets+ Transmission Service Provider's respective OATT or other such governing documents, as follows:

1) A Markets+ Transmission Service Provider's Total Congestion Rent Allocation in an hour is calculated as follows:

   Markets+ Transmission Service Provider's Total Congestion Rent Allocation = the sum of that Markets+ Transmission Service Provider's Congestion Rent Allocations for all binding transmission constraints associated with that Markets+ Transmission Service Provider, multiplied by (-1).

   a) Markets+ Transmission Service Provider's Congestion Rent Allocation = Excess Congestion Rent for that binding transmission constraint associated with any excess capacity available to the market in that hour as determined in 9.2.15(1)(b). For elements of a constraint associated with more than one Markets+ Transmission Service Provider, the Market Operator will allocate the Excess Congestion Rent for the constraint based on the percentage of market available capacity associated with each Markets+ Transmission Service Provider.

   b) Excess Congestion Rent = (Congestion Rent Available for Allocation in that hour) plus (the sum of all CRETSR Holder Congestion Rent Allocations for that binding constraint associated with the Markets+ Transmission Service Provider in that hour)

i. Congestion Rent Available for Allocation is equal to the value calculated under Attachment A, Section 9.2.13(1).

ii. CRETSR Holder Congestion Rent Allocation is equal to the value calculated under Attachment A, Section 9.2.14(1)(a).

9.2.16 Day-Ahead Must-Offer Penalty Charge Amount

A Day-Ahead Must Offer Penalty is a charge for each Market Participant that does not satisfy the must-offer obligation and is calculated for each Market Participant for each hour as follows:

A. Each Market Participant will satisfy the must-offer obligation by offering Resource capacity greater than or equal to the sum of that Market Participant's (1) load and (2) Flexibility Reserve Products obligations, adjusted by (3) obligations to supply to, or rights to receive from, the Resource Adequacy Program and adjusted by (4) net position for each Operating Hour based on the following criteria:

(1) A Market Participant's load for purposes of this section will be equal to the Market Participant's hourly load forecast as described in Attachment A, Section 7.5.

(2) A Market Participant's hourly Flexibility Reserve Products obligation will be equal to the sum of that Market Participant's Short-Term Flex Up and Mid-Term Flex Up obligations as estimated by the Market Operator in accordance with Attachment A, Section 7.4.

(3) A Market Participant's obligation to supply to or right to receive Energy from the Resource Adequacy Program is described in the Markets+ Protocols.

(4) A Market Participant's net position is forward purchases minus forward sales impacting an LRE's load obligation, as described in the Markets+ Protocols.

The Resource capacity for a Market Participant is reduced by the total Self-Charging MWs of all MSRs registered to that Market Participant for the Operating Hour.

B. Each Market Participant will satisfy the maximum must-offer obligation by offering Resource capacity greater than or equal to the Market Participant's (1) Resource Adequacy Program forward showing requirement during a binding season as defined by the Resource Adequacy Program, adjusted by (2) any obligations to further supply to or rights to receive Energy from the Resource Adequacy Program, adjusted by (3) net position, and adjusted for (4) Day-Ahead forecasted fleet performance based on the following criteria:

(1) A Market Participant's forward showing requirement is the quantity of capacity required to demonstrate adequacy for the Resource Adequacy Program for each Operating Day during a binding season.

(2) A Market Participant's obligation to supply or rights to receive Energy from the Resource Adequacy Program, is described in the Protocols.

(3) A Market Participant's net position is forward purchases minus forward sales impacting an LRE's load obligation, as described in the Markets+ Protocols.

(4) A Market Participant's adjustment for forecasted day ahead fleet performance is the sum of any forced outages, unplanned unavailability and unplanned change of capacity of Resources registered to the Market Participant for the Operating Hour, and further described in the Markets+ Protocols.

C. To the extent that a Market Participant does not meet the conditions described in (A) or (B) above, the Market Participant will be deemed noncompliant with the must-offer obligation for that hour. The Market Operator will assess a penalty amount equal to the product of the shortfall capacity and the associated Day-Ahead Market LMP as described below.

(1) A Market Participant's shortfall capacity for an Operating Hour is equal to the lesser of the difference between the Resource capacity and Day-Ahead Market must-offer obligation, as described above in (A) and (B).

(2) The must-offer penalty LMP is calculated as the weighted average of the Day-Ahead LMP for the Market Participant's Resources in the Operating Hour with the shortfall. If a Market Participant has no registered Resources, then the

Markets+ Marginal Energy Component will be used. In no case will the penalty be less than $0.00.

(3) The Market Operator will distribute any collected penalties for an Operating Hour to Market Participants that are compliant with the Day-Ahead must-offer obligation for that Operating Hour, weighted by Resource capacity in excess of the must-offer obligation for the Operating Hour, as calculated in Attachment A, Section 9.2.17.

SPP Public Information

9.2.17 Day-Ahead Must Offer Penalty Distribution Amount

The Market Operator will distribute any collected penalties for an Operating Hour to Market Participants that are compliant with the Day-Ahead must offer obligation for that Operating Hour, weighted by Resource capacity in excess of the must offer obligation for the Operating Hour.

(a) The Market Operator will distribute any collected penalty revenue for an Operating Hour to Revenue Neutrality Uplift, as described under Attachment A, Section 9.4, for any Operating Hour in which no Market Participant with a Resource capacity, as described above in Section 9.2.14 (A) and 9.2.14 (B), exceeds the must offer obligation for the Operating Hour.

(b) A market wide total Must Offer Payment Amount = SUM of all Day-ahead Must Offer Penalty Amount from all market participants

(c) A Market Participant's Must Offer Payment Ratio = Total Excess capacity amount of All asset owners under this market participant / SUM of all Excess capacity amount from all market participants

(d) A Market Participant's Must Offer Penalty Distribution Amount = A market wide total Must Offer Payment Amount * The Market Participant's Must Offer Payment Ratio

9.2.18 Day-Ahead Self-Committed Incremental Energy Make Whole Payment Amount

The Day-Ahead self-committed incremental Energy make whole payment amount is a payment to a Market Participant when a Resource's Day-Ahead incremental eligible costs are greater than the eligible Day-Ahead incremental revenues received during those hours when the Resource cleared in Day-Ahead Market above the Resource's Minimum Economic Capacity Operating Limit. The make whole payment is equal to the difference between those incremental costs and revenues.

(1) Eligible costs and revenues for a Day-Ahead self-committed incremental Energy make whole payment are for Resources which cleared above their Day-Ahead Minimum Capacity Operating Limit and when Market Monitoring has not verified the Resource Offers associated with Attachment B, Section 3.4(K) prior to the approval of the Day-Ahead Market or the Resource Offer exceeds the Energy Offer Hard Cap of $2,000.

(2) The Day-Ahead self-committed incremental Energy make whole payment cost is the Energy cost associated with cleared Resource Energy, including MSRs providing a market service, from the Resource Energy Offer as described under Attachment A, Section 2.1.1. This cost is calculated by multiplying the cleared Resource Energy by the cost of such Energy, determined from the Resource's applicable Energy Offer Curve.

The applicable Energy Offer Curve used to determine a Day-Ahead self-committed incremental market make whole payment amount for Energy above the Minimum Economic Capacity Operating Limit is the Day-Ahead Market Energy Offer Curve as verified by the Market Monitor.

(3) Day-Ahead self-committed incremental Energy make whole payment revenue is calculated as follows:

A Market Participant's Day-Ahead Market self-committed incremental Energy make whole payment revenue amount for each eligible Resource that is committed by the

Market Operator as specified in Attachment A, Section 2.1 is equal to the sum of the Energy revenue associated with cleared Resource Energy for all eligible hours.

Energy revenue associated with cleared Resource Energy, including MSRs providing a market service, from Resource Energy Offers as described under Attachment A, Section 2.1.1, is calculated by multiplying Resource Energy above the Minimum Economic Capacity Operating Limit by the Day-Ahead LMP at that Resource Settlement Location.

9.2.19 Day-Ahead Combined Interest Resource Adjustment Amount

A charge or credit will be calculated at each Settlement Location for each Asset Owner with a Resource registered using Combined Interest Resource modeling, as defined in Attachment A, Section 6.2(3)(b), for each Operating Day. The charge or credit represents each Asset Owner's share of all Day-Ahead Market charges and credits associated with the Resource and will be calculated based on the Interest Percent Share for each Asset Owner's registered individual share.

9.3.2 Real-Time Base Obligation Short-Term Flex Up Amount

An RTBM payment or charge for deviations between cleared Real-Time Base Obligation Short-Term Flex Up and cleared Day-Ahead Market Short-Term Flex Up will be calculated at each Settlement Location by Asset Owner for each Dispatch Interval and hour. The Real-Time Base Obligation Short-Term Flex Up Amount is calculated using RTBM cleared Short-Term Flex Up amounts based on the market-wide Day-Ahead Market Short-Term Flex Up requirements. Incremental clearing of RTBM Short-Term Flex Up caused by an increase in the Short-Term Flex Up requirement between the Day-Ahead Market and RTBM are accounted for separately under Attachment A, Section 9.3.3. The calculations are performed as follows:

(a) Real-Time Base Obligation Short-Term Flex Up Dispatch Interval Amount = [(Real-Time MCP) * ((Real-Time Base Obligation Short-Term Flex Up Dispatch Interval Quantity) – (Day-Ahead cleared Short-Term Flex Up Hourly Quantity)) / 12] * (-1)

(i) Real-Time MCP, as defined under Attachment A, Section 3.4, for Short-Term Flex Up associated with the Reserve Zone in which the applicable Resource is located.

(ii) Asset Owner's Real-Time Base Obligation Short-Term Flex Up Dispatch Interval Quantity =

(Day-Ahead Market market-wide Short-Term Flex Up requirement) / RTBM Short-Term Flex Up requirement)

* Asset Owner's Real-Time Short-Term Flex Up Dispatch Interval Quantity.

(iii) Day-Ahead Market market-wide Short-Term Flex Up requirement and Real-Time Short-Term Flex Up requirement are the values set by the Market Operator as described under Attachment A, Section 7.4.

(iv) Asset Owner Real-Time Short-Term Flex Up Dispatch Interval Quantity is the MW quantity associated with cleared Day-Ahead Market Short-Term Flex Up as described under Attachment A, Section 2.3.1.3.

(v) Asset Owner Day-Ahead Cleared Short-Term Flex Up Hourly Quantity is the MW quantity associated with cleared Day-Ahead Market Short-Term Flex Up as described under Attachment A, Section 2.1.3.

(b) Real-Time Base Obligation Short-Term Flex Up Hourly Amount =
Sum of Real-Time Base Obligation Short-Term Flex Up Dispatch Interval Amount
over all Dispatch Intervals in the Hour.

9.3.3 Real-Time Increased Obligation Short-Term Flex Up Amount

An RTBM payment or charge for cleared Real-Time Increased Short-Term Flex Up will be calculated at each Settlement Location by Asset Owner for each Dispatch Interval and summed for each hour. The cleared Real-Time Increased Short-Term Flex Up is equal to the incremental clearing of Real-Time Short-Term Flex Up caused by an increase in the Short-Term Flex Up requirement between the Day-Ahead Market and RTBM. The calculations are performed as follows:

(a) Real-Time Increased Obligation Short-Term Flex Up Dispatch Interval Amount = (Real-Time MCP) * (Real-Time Increased Obligation Short-Term Flex Up Dispatch Interval Quantity) * (-1)

(i) Real-Time MCP, as defined in Attachment A, Section 3.4, for Short-Term Flex Up associated with the Reserve Zone in which the applicable Resource is located.

(ii) Asset Owner's Real-Time Increased Obligation Short-Term Flex Up Dispatch Interval Quantity =

Asset Owner's Real-Time Short-Term Flex Up Dispatch Interval Quantity, (as described in Attachment A, Section 2.3.1.3).

minus

Asset Owner's Real-Time Base Obligation Short-Term Flex Up Dispatch Interval Quantity.

(iii) Asset Owner's Real-Time Base Obligation Short-Term Flex Up Dispatch Interval Quantity is the value calculated under Attachment A, Section 9.3.2.

(b) Real-Time Increased Obligation Short-Term Flex Up Hourly Amount =
Sum of Real-Time Increased Obligation Short-Term Flex Up Dispatch Interval Amount over all Dispatch Intervals in the hour.

9.3.4 Real-Time Short-Term Flex Down Amount

An RTBM payment or charge for deviations between cleared RTBM Short-Term Down Flexibility Reserve and cleared Day-Ahead Market Short-Term Down Flexibility Reserve will be calculated at each Settlement Location by Asset Owner for each Dispatch Interval and each hour as follows:

(a) Real-Time Short-Term Down Flexibility Reserve Dispatch Interval Amount = [(Real-Time MCP) * ((Real-Time Cleared Short-Term Down Flexibility Reserve Dispatch Interval Quantity) – (Day-Ahead Short-Term Down Flexibility Reserve Hourly Quantity)) / 12] * (-1)

(i) Real-Time MCP, as defined under Attachment A, Section 3.4, for Short-Term Down Flexibility Reserve associated with the Reserve Zone in which the applicable Resource is located.

(ii) Asset Owner Real-Time Cleared Short-Term Down Flexibility Reserve Dispatch Interval Quantity is the MW quantity associated with cleared Short-Term Down Flexibility Reserve as described under Attachment A, Section 2.3.1.3.

(iii) Asset Owner Day-Ahead Cleared Short-Term Down Flexibility Reserve Hourly Quantity is the MW quantity associated with cleared Day-Ahead Market Short-Term Down Flexibility Reserve as described under Attachment A, Section 2.1.3.

(b) Real-Time Short-Term Down Flexibility Reserve Hourly Amount = Sum of Real-Time Short-Term Down Flexibility Reserve Dispatch Interval Amount over all Dispatch Intervals in the Hour.

9.3.5 Real-Time Base Obligation Mid-Term Flex Up Amount

An RTBM payment or charge for deviations between cleared Real-Time Base Obligation Mid-Term Flex Up and cleared Day-Ahead Market Mid-Term Flex Up will be calculated at each Settlement Location by Asset Owner for each Dispatch Interval and hour. The Real-Time Base Obligation Mid-Term Flex Up Amount is calculated using RTBM cleared Mid-Term Flex Up amounts based on the system-wide Day-Ahead Market Mid-Term Flex Up requirements. Incremental clearing of RTBM Mid-Term Flex Up caused by an increase in the Mid-Term Flex Up requirement between the Day-Ahead Market and RTBM are accounted for separately under Attachment A, Section 9.3.5. The calculations are performed as follows:

(a) Real-Time Base Obligation Mid-Term Flex Up Dispatch Interval Amount = [(Real-Time MCP) * ((Real-Time Base Obligation Mid-Term Flex Up Dispatch Interval Quantity) – (Day-Ahead cleared Mid-Term Flex Up Hourly Quantity)) / 12] * (-1)

(i) Real-Time MCP, as defined under Attachment A, Section 3.4, for Mid-Term Flex Up associated with the Reserve Zone in which the applicable Resource is located.

(ii) Asset Owner's Real-Time Base Obligation Mid-Term Flex Up Dispatch Interval Quantity =

(Day-Ahead Market system-wide Mid-Term Flex Up requirement) / RTBM Mid-Term system-wide Flex Up requirement)

* Asset Owner's Real-Time Mid-Term Flex Up Dispatch Interval Quantity.

(iii) Day-Ahead Market system-wide Mid-Term Flex Up requirement and Real-Time Mid-Term Flex Up requirement are the values set by the Market Operator as described under Attachment A, Section 7.4.

(iv) Asset Owner Real-Time Mid-Term Flex Up Dispatch Interval Quantity is the MW quantity associated with cleared Day-Ahead Market Mid-Term Flex Up as described under Attachment A, Section 2.3.1.3.

(v) Asset Owner Day-Ahead Cleared Mid-Term Flex Up Hourly Quantity is the MW quantity associated with cleared Day-Ahead Market Mid-Term Flex Up as described under Attachment A, Section 2.1.3.

(b) Real-Time Base Obligation Mid-Term Flex Up Hourly Amount =
Sum of Real-Time Base Obligation Mid-Term Flex Up Dispatch Interval Amount over all Dispatch Intervals in the Hour.

9.3.6 Real-Time Increased Obligation Mid-Term Flex Up Amount

An RTBM payment or charge for cleared Real-Time Increased Obligation Mid-Term Flex Up will be calculated at each Settlement Location by Asset Owner for each Dispatch Interval and summed for each hour. The cleared Real-Time Increased Mid-Term Flex Up is equal to the incremental clearing of Real-Time Mid-Term Flex Up caused by an increase in the Short-Term Flex Up requirement between the Day-Ahead Market and RTBM. The calculations are performed as follows:

(a) Real-Time Increased Obligation Mid-Term Flex Up Dispatch Interval Amount =
(Real-Time MCP) * (Real-Time Increased Obligation Mid-Term Flex Up Dispatch Interval Quantity) * (-1)

(i) Real-Time MCP, as defined under Attachment A, Section 3.4 , for Short-Term Flex Up associated with the Reserve Zone in which the applicable Resource is located.

(ii) Asset Owner's Real-Time Increased Obligation Mid-Term Flex Up Dispatch Interval Quantity =

Asset Owner's Real-Time Mid-Term Flex Up Dispatch Interval Quantity (as described under Attachment A, Section 2.3.1.3).

minus

Asset Owner's Real-Time Base Obligation Mid-Term Flex Up Dispatch Interval Quantity.

(iii) Asset Owner's Real-Time Base Obligation Mid-Term Flex Up Dispatch Interval Quantity is the value calculated under Attachment A, Section 9.3.4.

(b) Real-Time Increased Obligation Mid-Term Flex Up Hourly Amount =
Sum of Real-Time Increased Obligation Mid-Term Flex Up Dispatch Interval Amount over all Dispatch Intervals in the hour.

9.3.7 Real-Time Base Obligation Short-Term Flex Up Distribution Amount

An RTBM charge will be calculated within each Participating Balancing Authority Area for each Asset Owner at each Settlement Location for each hour for the purposes of funding the payments made under Attachment A, Section 9.3.2(b) as follows:

Real-Time Base Obligation Short-Term Flex Up Distribution Amount =
[(Real-Time Base Obligation Short-Term Flex Up Amount) * (Real-Time Load Ratio Share)] * (-1)

(a) The Real-Time Short-Term Flex Up Amount will be equal to the sum of all the payments within each Balancing Authority Area made under Attachment A, Section 9.3.2(b) for the hour.

(b) Real-Time Load Ratio Share is as defined under Section 1 of this Markets+ Tariff.

9.3.8 Real-Time Increased Obligation Short-Term Flex Up Distribution Amount

An RTBM charge will be calculated for each Asset Owner with Uncommitted Import Interchange Transactions at each Interface Settlement Location for each hour for the purposes of funding the payments made under Attachment A, Section 9.3.3(b) as follows:

Real-Time Increased Obligation Short-Term Flex Up Distribution Amount =
[(Real-Time Increased Obligation Short-Term Flex Up Amount) * (Uncommitted Import Interchange Transaction Ratio Share)] * (-1)

(a) The Real-Time Increased Obligation Short-Term Flex Up Amount will be equal to the sum of all the payments within each Participating Balancing Authority Area made under Attachment A, Section 9.3.3(b) for the hour.

(b) Uncommitted Import Interchange Transaction Ratio Share is equal to an Asset Owner's Uncommitted Import Interchange Transaction MW at an External Interface Settlement Location divided by the sum of all Asset Owners' Uncommitted Import Interchange Transaction MWs at all External Interface Settlement Locations for the hour.

9.3.9 Real-Time Short-Term Flex Down Distribution Amount

An RTBM charge will be calculated within each Participating Balancing Authority Area by Asset Owner at each Settlement Location for each hour for the purposes of funding the payments made under Attachment A, Section 9.3.4(b) as follows:

Real-Time Short-Term Down Flexibility Reserve Distribution Amount =
[(Real-Time Short-Term Down Flexibility Reserve Amount) * (Real-Time Load Ratio Share)] * (-1)

(a) The Real-Time Short-Term Down Flexibility Reserve Amount will be equal to the sum of the all payments made within each Balancing Authority Area under Attachment A, Section 9.3.4(b) for Short-Term Down Flexibility Reserve procurement for the hour.

(b) Real-Time Load Ratio Share is as defined under Section 1 of this Markets+ Tariff.

9.3.10 Real-Time Base Obligation Mid-Term Flex Up Distribution Amount

An RTBM charge will be calculated within each Participating Balancing Authority Area for each Asset Owner at each Settlement Location for each hour for the purposes of funding the payments made under Attachment A, Section 9.3.5(b) as follows:

Real-Time Base Obligation Mid-Term Up Flexibility Reserve Distribution Amount = [(Real-Time Base Obligation Mid-Term Up Flexibility Reserve Amount) * (Real-Time Load Ratio Share)] * (-1)

(a) The Real-Time Base Obligation Mid-Term Flex Up Amount will be equal to the sum of all the payments within each Participating Balancing Authority Area made under Attachment A, Section 9.3.5(b), for the hour.

(b) Real-Time Load Ratio Share is as defined under Section 1 of this Markets+ Tariff.

9.3.11 Real-Time Increased Obligation Mid-Term Flex Up Distribution Amount

An RTBM charge will be calculated for each Asset Owner with Uncommitted Import Interchange Transactions at each Interface Settlement Location for each hour for the purposes of funding the payments made under Attachment A, Section 9.3.6(b) as follows:

Real-Time Increased Obligation Mid-Term Flex Up Distribution Amount = [(Real-Time Increased Obligation Mid-Term Flex Up Amount) * (Uncommitted Import Interchange Transaction Ratio Share)] * (-1)

(a) The Real-Time Increased Obligation Mid-Term Flex Up Amount will be equal to the sum of all the payments within each Participating Balancing Authority Area made under Attachment A, Section 9.3.6(b) for the hour.

(b) Uncommitted Import Interchange Transaction Ratio Share is equal to an Asset Owner's Uncommitted Import Interchange Transaction MW at an External Interface Settlement Location divided by the sum of all Asset Owners'

Uncommitted Import Interchange Transaction MWs at all External Interface Settlement Locations for the hour.

9.3.12 Real-Time Short-Term Flexibility Reserve Products Non-Performance Amount

An RTBM charge will be calculated at each Resource Settlement Location within each Participating Balancing Authority Area for each Asset Owner for each Dispatch Interval when a Resource with cleared RTBM Short-Term Flex Up, Short-Term Flex Down or both operates outside of its Operating Tolerance. The amount will be determined as follows:

Real-Time Short-Term Flexibility Reserve Products Non-Performance Amount =
[[{Maximum of [Either Zero or ((Day-Ahead MCP for Short-Term Flex Up) * (Day-Ahead Cleared Short-Term Flex Up Hourly Quantity) + (Real-Time MCP for Short-Term Flex Up) * (Real-Time Cleared Short-Term Flex Up Dispatch Interval Quantity – Day-Ahead Cleared Short-Term Flex Up Reserve Hourly Quantity))]} +
{Maximum of [Either Zero or ((Day-Ahead MCP for Short-Term Flex Down) * (Day-Ahead Cleared Short-Term Flex Flexibility Reserve Hourly Quantity) + (Real-Time MCP for Short-Term Flex Down) * (Real-Time Cleared Short-Term Flex Down Dispatch Interval Quantity – Day-Ahead Cleared Short-Term Flex Down Hourly Quantity))]}] / 12]

(1) Day-Ahead MCP, as defined under Attachment A, Section 3.4 , for Short-Term Flex Up associated with the Reserve Zone in which the applicable Resource is located.

(2) Day-Ahead MCP, as defined under Attachment A, Section 3.4, for Short-Term Flex Down associated with the Reserve Zone in which the applicable Resource is located.

(3) Real-Time MCP, as defined under Attachment A, Section 3.4, for Short-Term Flex Up associated with the Reserve Zone in which the applicable Resource is located.

(4) Real-Time MCP, as defined under Attachment A, Section 3.4, for Short-Term Flex Down associated with the Reserve Zone in which the applicable Resource is located.

(5) An Asset Owner's Day-Ahead Cleared Short-Term Flex Up Hourly Quantity is the MW quantity associated with cleared Short-Term Flex Up as described under Attachment A, Section 2.1.3.

(6) An Asset Owner's Day-Ahead Cleared Short-Term Flex Down Hourly Quantity is the MW quantity associated with cleared Short-Term Flex Down as described under Attachment A, Section 2.1.3.

(7) An Asset Owner's Real-Time Cleared Short-Term Flex Up Dispatch Interval Quantity is the MW quantity associated with cleared Short-Term Flex Up as described under Attachment A, Section 2.3.1.3.

(8) An Asset Owner's Real-Time Cleared Short-Term Flex Down Dispatch Interval Quantity is the MW quantity associated with cleared Short-Term Flex Down as described under Attachment A, Section 2.3.1.3.

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9.3.13 Real-Time Short-Term Flexibility Reserve Products Non-Performance Distribution Amount

An RTBM payment will be calculated within each Participating Balancing Authority Area for each Asset Owner at each Settlement Location for each hour in order to distribute the funds collected under Attachment A, Section 9.3.12. The Asset Owner amount is calculated as follows:

Real-Time Short-Term Flexibility Reserve Products Non-Performance Distribution Amount =
[(Real-Time Short-Term Flexibility Reserve Products Non-Performance Amount) * (Real-Time Load Ratio Share)] * (-1)

(1) The Real-Time Short-term Flexibility Reserve Products Non-Performance Amount within each Balancing Authority Area will be equal to the sum of all charges made under Attachment A, Section 9.3.12 for each hour within each Participating Balancing Authority Area.

(2) Real-Time Load Ratio Share is as defined under Section 1 of this Markets+ Tariff.

9.3.14 Real-Time Mid-Term Flex Up Non-Performance Amount

An RTBM payment or charge will be calculated within each Participating Balancing Authority Area at each Resource Settlement Location for each Asset Owner for each Dispatch Interval when a Resource with cleared RTBM Mid-Term Flex Up does not operate in a responsive manner.

When a Resource with cleared online Mid-Term Flex Up in the current Dispatch Interval is not dispatchable in one or more of the subsequent Dispatch Intervals within the Mid-Term Flex Up response time following the current Dispatch Interval, except when issued an OOME or decommitted by a Markets+ Transmission Service Provider, Participating Balancing Authority, or Reliability Coordinator, which prevents the Resource from being as seen as dispatchable, the amount will be determined as follows:

Real-Time Mid-Term Flex Up Non-Performance Amount =

Real-Time Mid-Term Flex Up Non-Performance Ratio * [[{Maximum of [Either Zero or ((Day-Ahead MCP for Mid-Term Flex Up) * (Day-Ahead Cleared Mid-Term Flex Up Hourly Quantity) + (Real-Time MCP for Mid-Term Flex Up) * (Real-Time Cleared Mid-Term Flex Up Dispatch Interval Quantity – Day-Ahead Cleared Mid-Term Flex Up Hourly Quantity))]}/ 12].

(1) Real-Time Mid-Term Flex Up Non-Performance Ratio is the portion of non-dispatchable intervals in the subsequent Dispatch Intervals within the Mid-Term Flex Up response time.

(2) Day-Ahead MCP, as defined under Attachment A, Section 3.4, for Mid-Term Flex Up associated with the Reserve Zone in which the applicable Resource is located.

(3) Real-Time MCP, as defined under Attachment A, Section 3.4, for Mid-Term Flex Up associated with the Reserve Zone in which the applicable Resource is located.

(4) An Asset Owner's Day-Ahead Cleared Mid-Term Flex Up Hourly Quantity is the MW quantity associated with cleared Mid-Term Flex Up as described under Attachment A, Section 2.1.3.

(5) An Asset Owner's Real-Time Cleared Mid-Term Flex Up Dispatch Interval Quantity is the MW quantity associated with cleared Mid-Term Flex Up as described under Attachment A, Section 2.3.1.3.

When a Resource with cleared offline Mid-Term Flex Up fails to start when called on, the amount will be determined as follows in each interval;

Real-Time Mid-Term Flex Up Non-Performance Amount =

If the Resource failed to start and was ineligible to recover start-up cost associated with an offline Mid-Term Flex Up commitment, then the startup cost is distributed equally over the larger of the Minimum Run Time or the Mid-Term Flex Up response time during a single Operating Day of the eligibility period + [if the Resource was offline in a committed interval in which it was not eligible to recover no-load and Energy at minimum costs due to being associated with an offline Mid-Term Flex Up commitment, the as-committed No-Load Offer + as-committed Energy Offer Curve at minimum cost)/12].

9.3.15 Real-Time Mid-Term Flex Up Non-Performance Distribution Amount

An RTBM payment or charge will be calculated within each Participating Balancing Authority Area for each Asset Owner at each Settlement Location for each hour in order to distribute the funds collected under Attachment A, Section 9.3.14. The Asset Owner amount is calculated as follows:

Real-Time Mid-Term Flex Up Non-Performance Distribution Amount =
[(Real-Time Mid-Term Flex Up Non-Performance Amount) * (Real-Time Load Ratio Share)] * (-1)

(1) The Real-Time Mid-Term Flex Up Non-Performance Amount within each Participating Balancing Authority Area will be equal to the sum of all charges made under Attachment A, Section 9.3.14 for each hour for that Participating Balancing Authority Area.

(2) Real-Time Load Ratio Share is as defined under Section 1 of this Markets+ Tariff.

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9.3.18 Real-Time Out-of-Merit Amount

An RTBM Out-of-Merit Amount payment will be made for each Market Participant with a Resource that meets one of the following conditions when that condition creates a cost to the Market Participant or adversely impacts the Market Participant's Day-Ahead Market position for Energy or Flexibility Reserve Products. The conditions are: 1) The Resource receives an OOME; 2) The Resource or MCR configuration is de-committed by the Markets+ Transmission Service Provider, Participating Balancing Authority, or Reliability Coordinator; or 3) A price correction has occurred under Attachment A, Section 7.8.1. Resources issued an OOME that the Market Monitor determines were selected in a discriminatory manner, as determined pursuant to Attachment A, Section 2.3.1.4.1, and such Resources were affiliated with the issuing party, are not eligible to receive a RTBM OOME payment. RTBM OOME payments made to Market Participants will be recovered as described under Attachment A, Section 9.3.19. The amount will be calculated on a Dispatch Interval basis as follows:

(1) If the instruction is for Energy above the Resource's economic operating point and the Energy Offer Curve cost associated with the Resource's additional injection or withdrawal attributable to its response (instructed MW) is greater than the RTBM LMP, the Market Participant will receive a payment for the difference multiplied by the instructed MW. The payment will be limited to the amount necessary to compensate the Market Participant for any under-recovery resulting from the Resource's response to the instruction. The instructed MW is calculated as the positive difference between (i) the lesser of the actual Resource injection or withdrawal or the Resource's Setpoint Target, OOME floor, or OOME fixed MW, whichever is applicable, and (ii) the Resource's economic operating point. The Resource's economic operating point is calculated as described under Attachment A, Section 9.3.13(4)(e);

(2) If the instruction is for Energy below the Resource's economic operating point (including a Resource de-commitment or movement of an MCR to a configuration with a lower applicable Maximum Economic Capacity Operating Limit) and the RTBM LMP is greater than the Day-Ahead Market LMP, the Market Participant will receive a payment equal to the difference multiplied by the Resource's reduction in output or increased withdrawal attributable to its response (instructed MW). The payment will be limited to the amount necessary to compensate the Market Participant for any increase in net

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settlement costs resulting from its response to the instructed MW. The instructed MW is calculated as the maximum of zero (0) or the difference between the Resource's Day-Ahead Market cleared Energy MW and the greater of (i) actual Resource injection or withdrawal or (ii) the Resource's Setpoint Target, OOME cap, or OOME fixed MW, whichever is applicable;

(3) If an instruction (including a Resource de-commitment instruction or movement of an MCR to a configuration with a lower applicable Maximum Economic Capacity Operating Limit) causes the RTBM cleared amount of a Flexibility Reserve Product to be less than the Day-Ahead Market cleared amount of the corresponding Flexibility Reserve Product and the RTBM MCP is greater than the Day-Ahead Market MCP, the Market Participant will receive a payment for the difference multiplied by the OOME Flexibility Reserve Product MW. The OOME Flexibility Reserve Product MW is calculated as the maximum of zero (0) or the difference between the Resource's Day-Ahead Market cleared Flexibility Reserve Product MW and the Resource's RTBM cleared Flexibility Reserve Product MW.

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9.3.19 Real-Time Out-of-Merit Distribution Amount

Within each Participating Balancing Authority Area, a real-time Out-of-Merit distribution amount charge or payment will be calculated for each Market Participant, at each Settlement Location, for each 5-minute interval to fund payments made under Attachment A, Section 9.3.18 as follows:

Real-Time Out-of-Merit Distribution Amount =

(Real-Time Out-of-Merit Amount) * (Real-Time Load Ratio Share)

(1) Within each Balancing Authority Area, the Real-Time Out-of-Merit Amount is equal to the sum of all Market Participants' charges and payments made under Attachment A, Section 9.3.18.

(2) Real-Time Load Ratio Share as defined under Section 1 of this Markets+ Tariff.

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9.3.20 Real-Time Demand Reduction Amount

A Real-Time Balancing Market payment or charge will be calculated for each Market Participant with registered load Settlement Locations containing one or more Demand Response Loads associated with the difference between actual Demand Response Resource output and cleared Day-Ahead Market Demand Response Resource Offers for each applicable Settlement Location and each Dispatch Interval as follows:

(1) Real-Time Demand Reduction Dispatch Interval Amount =

[(Real-Time LMP) * (Real-Time Total Demand Response Resource Billing Meter Quantity – Day-Ahead Total Demand Response Resource Hourly Quantity)] / 12

(a) Real-Time LMP, as defined under Attachment A, Section 3.2, for a load Settlement Location containing one or more Demand Response Loads associated with committed and dispatched Dispatchable Demand Response Resources.

(b) A Market Participant's Real-Time Total Demand Response Resource Billing Meter Quantity is equal to the sum of that Market Participant's Real-Time Demand Response Resource Billing Meter Quantities for each Demand Response Resource associated with the load Settlement Location referenced in (1) above.

(c) A Market Participant's Real-Time Demand Response Resource Billing Meter Quantity for each Demand Response Resource Settlement Location is:

(i) For a Dispatchable Demand Response Resource selecting the submitted Resource production option as described under Attachment A, Section 4.2.1(1)(a), either:

(1) the five (5) minute actual meter MWh Resource output quantity submitted by the Meter Agent to the Market Operator, multiplied by twelve (12); or

(2) the hourly actual meter MWh Resource output quantity profiled into five (5) minute increments by the Market Operator using the

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method described under Attachment A, Section 9.3.1.1 if the Market Participant elects to submit hourly Meter Data.

(ii) For a Dispatchable Demand Response Resource selecting the calculated Resource production option as described in Attachment A, Section 4.2.1(1)(b), either:

(1) the five (5) minute actual meter MWh output quantity of the associated Demand Response Load submitted by the Meter Agent to the Market Operator, multiplied by twelve (12); or

(2) the hourly actual meter MWh output quantity of the associated Demand Response Load profiled into five (5) minute increments by the Market Operator using the method described in Attachment A, Section 9.3.1.1if the Market Participant elects to submit hourly meter data. The Market Operator then calculates the Demand Response Resource output as described in Attachment A,Section 4.2.1(1)(b)(ii) and multiplies the result by (-1).

(d) A Market Participant's Day-Ahead Total Demand Response Resource Hourly Quantity is the value calculated in Attachment A, Section 9.2.12 for the applicable load Settlement Location.

(2) Real-Time Demand Reduction Hourly Amount =
Sum of Real-Time Demand Reduction Dispatch Interval Amount over all Dispatch Intervals in the Hour.

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9.3.21 Real-Time Demand Reduction Distribution Amount

The real-time demand reduction distribution amount is an hourly payment or charge to Asset Owners at each Settlement Location to account for the sum of the hourly demand reduction amounts calculated under Attachment A, Section 9.3.18(2) and is calculated as:

Real-Time Demand Reduction Distribution Amount =
(Real-Time Demand Reduction Distribution Rate) * (Real-Time Demand Reduction Distribution Quantity)

(1) Within each Balancing Authority Area, Real-Time Demand Reduction Distribution Rate is the sum of all demand reduction payments for the Hour as calculated under Section 9.3.19 of this Attachment A multiplied by (-1), divided by the sum of all Asset Owner's Real-Time Demand Reduction Distribution Quantities for all Settlement Locations within the applicable Balancing Authority Area, for the hour.

(2) An Asset Owner's Real-Time Demand Reduction Distribution Quantity for an hour is equal to that Asset Owner's net actual Energy withdrawals at that Settlement Location for that hour. The net actual Energy withdrawal at a Settlement Location is calculated as the sum of an Asset Owner's load consumption and the real-time Self-Charging MSRs and the positive MWh value for the Asset Owner's net Export and Import Interchange Transactions.

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9.3.22 Real-Time Combined Interest Resource Adjustment Amount

A charge or credit will be calculated at each Settlement Location for each Asset Owner with a Resource registered using Combined Interest Resource modeling, as defined in Attachment A, Section 6.2(3)(b), for each Operating Day. The charge or credit represents each Asset Owner's share of all Real-Time Balancing Market charges and credits associated with the Resource and will be calculated based on the Interest Percent Share for each Asset Owner's registered individual share.

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9.3.23 Real-Time Pseudo-Tie Out Congestion Amount

An RTBM charge or credit will be calculated for each Resource or load that is pseudo-tied out of the Markets+ Footprint for each Dispatch Interval of the Operating Day. The amount is calculated as follows:

Real-Time Pseudo-Tie Congestion Amount =

(Real-Time Pseudo-Tie Quantity)

* [(Real-Time MCC at the sink) - (Real-Time MCC at the source)]

(1) Real-Time Pseudo-Tie Quantity is the telemetered value of the Resource or load that is pseudo-tied out of the Markets+ Footprint.

(2) Real-Time MCC is as defined under Attachment A, Section 1.

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9.3.24 Real-Time Pseudo-Tie Out Loss Amount

An RTBM charge or credit will be calculated for each Resource or load that is pseudo-tied out of the Markets+ Footprint for each Dispatch Interval of the Operating Day. The amount is calculated as follows:

Real-Time Pseudo-Tie Losses Amount =

(Real-Time Pseudo-Tie Quantity) * [(Real-Time MLC at the sink) - (Real-Time MLC at the source)]

(1) Real-Time Pseudo-Tie Quantity is the telemetered value of the Resource or load that is pseudo-tied out of the Markets+ Footprint.

(2) Real-Time MLC is as defined under Attachment A, Section 1.

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9.3.25 Real-Time Uninstructed Resource Deviation Amount

The following rules apply to the calculation of Uninstructed Resource Deviation ("URD").

(1) For the purposes of determining URD exemptions for Resources that are part of a Common Bus, each Market Participant's Resources' combined average ramped MW dispatch instruction and combined actual average MW output at the Common Bus will be used to calculate URD at the Common Bus for the Dispatch Interval for each Market Participant.

(2) A Resource's URD is allocated a portion of the RUC make whole payment costs, in any Dispatch Interval where Resource's Uninstructed Resource Deviation MW is outside of its Operating Tolerance unless that Resource has been exempted from URD.

(3) Resource's Operating Tolerances are as follows:

(a) If a Resource's RTBM Maximum Economic Capacity Operating Limit is greater than fifty (50) MW, the Operating Tolerance in each Dispatch Interval is equal to the Resource's RTBM Maximum Economic Capacity Operating Limit multiplied by five percent (5%), subject to a maximum of twenty (20) MW. If the Resource's RTBM Maximum Economic Capacity Operating Limit is less than or equal to 50 MW, the Resource's Operating Tolerance in each Dispatch Interval is equal to the Resource's RTBM Maximum Economic Capacity Operating Limit multiplied by ten percent (10%).

(b) If Resources' on a Common Bus combined RTBM Maximum Economic Capacity Operating Limit is greater than fifty (50) MW, the Operating Tolerance for each Market Participant registered at a Common Bus is equal to the sum of that Market Participant's Resources' RTBM Maximum Economic Capacity Operating Limits for Resources that are on-line multiplied by five percent (5%), subject to a maximum of twenty (20) MW. If the Resources' combined RTBM Maximum Economic Capacity Operating Limit is less than or equal to fifty (50) MW, the Operating Tolerance for each Market Participant registered at a Common Bus is equal to the sum of that Market Participant's Resources' RTBM Maximum Economic Capacity Operating Limits for Resources that are on-line multiplied by ten percent (10%).

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(c) If the Resource's Uninstructed Resource Deviation MW is greater than the Resource's Operating Tolerance in any Dispatch Interval, the Resource's Dispatch Interval URD is included in the hourly allocation of RUC make whole payment cost allocation. The Hourly URD amount is calculated as the sum of Dispatch Interval URD for the hour. Additionally, if that Resource was eligible to receive a RUC make whole payment, the payment may be reduced.

(d) If the absolute value of an MSR's RTBM Maximum Charge Limit or the Maximum Discharge Limit is greater than fifty (50) MW, the Operating Tolerance in each Dispatch Interval is equal to the greater of the absolute value of the RTBM Maximum Charge Limit and the Maximum Discharge Limit multiplied by five percent (5%), subject to a maximum of 20 MW. If the greater of the absolute value of the RTBM Maximum Charge Limit or the Maximum Discharge Limit is less than or equal to fifty (50) MW, the Resource's Operating Tolerance in each Dispatch Interval is equal to the greater of the absolute value of the RTBM Maximum Charge Limit and the Maximum Discharge Limit multiplied by ten percent (10%).

(e) A Resource's Operating Tolerance in each Dispatch Interval is increased by the quantity of regulation service being maintained on the Resource as indicated in the Ancillary Service Plan (MW) for the Operating Hour.

9.3.25.1 Real-Time Uninstructed Resource Deviation Exemptions

A. A Resource will receive a URD exemption in a Dispatch Interval under the following situations:

(1) The Resource trips off-line or is derated after receiving dispatch instructions; or

(2) There is missing or bad Resource SCADA data in the Dispatch Interval; or

(3) If during Emergency Conditions the URD is due to a Resource output above the Resource's dispatch instruction in a shortage condition or the URD is due to a Resource output below the Resource's dispatch instruction during an excess generation condition; or

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(4) If a Setpoint Target is issued to a Resource beyond the reported capabilities due to the application of a VRL; or

(5) If the URD results from an event of Force Majeure as defined in Part I, Section 3.1 or, in the case of a Variable Energy Resource, if the URD results from extreme weather-related conditions materially and directly impacting a Variable Energy Resource's ability to provide or reduce output of Energy. Market initiated curtailments do not qualify; or

(6) If the Resource has been issued an OOME for Energy; or

(7) If the Resource is part of a Common Bus and the URD calculated at the Common Bus is less than the Operating Tolerance calculated at the Common Bus.

Comment [CD1]: Not in WEIS, consider whether needs to be included. Pick up here in next meeting

B. In the event a Resource does not receive a URD exemption in a Dispatch Interval, the Market Operator will determine through the dispute process, whether an exemption to an Uninstructed Resource Deviation will be given.

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9.3.26 Real-Time Uninstructed Resource Deviation Distribution Amount

Within each Participating Balancing Authority Area, an RTBM charge will be calculated for each Asset Owner at each Settlement Location for each hour for the purposes of funding payments made under Section 9.3.25 as follows:

(1) Real-Time Uninstructed Resource Deviation Distribution Amount =

[(Real-Time Uninstructed Resource Deviation Amount) * (Real-Time Load Ratio Share)] * (-1)

(a) The Real-Time Uninstructed Resource Deviation Amount shall be equal to the sum of the all payments made under Section 9.3.25 for the hour.

(b) Real-Time Load Ratio Share is as defined under Section 1 of this Markets+ Tariff.

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9.3.27 Real-Time Must Offer Penalty Charge Amount

A) Each Market Participant will satisfy the must offer obligation in an Operating Hour by offering Resource capacity greater than or equal to the sum of (1) cleared Day-Ahead Market Energy, (2) cleared Day-Ahead Flexibility Reserve Products, and (3) incremental Market Commitments from the RUC process, adjusted by (4) obligations to supply to or rights to receive from the Resource Adequacy Program and adjusted by (5) deviation in net position.

(1) A Market Participant's cleared Day-Ahead Market Energy is the sum of Energy cleared in the Day-Ahead Market for all Resources registered to the Market Participant for the Operating Hour.

(2) A Market Participant's cleared Day-Ahead Market Flexibility Reserve Products is the sum of Short-Term Flex Up and Mid-Term Flex Up cleared in the Day-Ahead Market for all Resources registered to the Market Participant for the Operating Hour.

(3) A Market Participant's incremental commitments from the RUC process is the sum of energy dispatch associated with incremental commitments from the initial RUC process for all Resources registered to the Market Participant for the Operating Hour, further described in the Protocols.

(4) A Market Participant's obligation to supply energy to or right to receive energy from the Resource Adequacy Program is described in the Protocols.

(5) A Market Participant's deviation in net position is determined by comparing the final net position to the net position that cleared in the Day-Ahead Market for the Operating Hour and further described in the Protocols.

The resource capacity of a Market Participant is reduced by the total Self-Charging MWs of all MSRs registered to that Market Participant for the Operating Hour.

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B) During the binding season each Market Participant will satisfy the must offer obligation by offering Resources greater than or equal to the higher of the Day-Ahead compliance amount described in Section 5.1.1(B) and the Real-Time must offer amount described in Section 5.1.2(A) (1, 2 & 3), adjusted by (1) further obligation to supply energy to or receive energy from the Resource Adequacy Program not accounted for in the Day-Ahead Market, adjusted by (2) net position not accounted for in the Day-Ahead Market and adjusted by (3) fleet performance changes not accounted for in the Day-Ahead Market.

During a non-binding season each Market Participant will satisfy the must offer obligation by offering Resources during the non-binding season greater than or equal to the Real-Time must offer amount described in Section 5.1.2, adjusted by (2) net position not accounted for in the Day-Ahead Market and adjusted by three (3) fleet performance changes not accounted for in the Day-Ahead Market.

(1) A Market Participant's obligation to supply energy to or receive energy from the Resource Adequacy is described in the Protocols.

(2) A Market Participant's net position not accounted for in the Day-Ahead Market are further described in the Protocols.

(3) A Market Participant's adjustment for fleet performance changes not accounted for in the Day-Ahead Market is the sum of unplanned unavailability or reduction of capacity of Resources registered to the Market Participant for the Operating Hour compared to the unplanned unavailability or reduction of capacity of the Market Participant for the Operating Hour offered into the Day-Ahead Market and further described in the Protocols.

C) A Market Participant not meeting the conditions described in Sections 5.1.2(A) or (B) , the Market Participant will be deemed noncompliant with the must offer obligation for that Operating Hour. The Market Operator will assess a penalty amount equal to the product of the shortfall capacity and the associated RTBM LMP as described below.

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(1) A Market Participant's shortfall capacity for the Operating Hour is equal to the lesser of the difference between the resource capacity and Real Time Balancing Market must offer obligation, as described above in Section 5.1.2 (A) and (B).

(2) The Must-Offer Penalty LMP is calculated as the weighted average of the RTBM LMP for the Market Participant's Resources in the Operating Hour with the shortfall. If a Market Participant has no registered Resources, then the Markets+ Marginal Energy Component will be used. In no case will the penalty be less than $0.00

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9.3.28 Real-Time Must Offer Penalty Distribution Amount

The Market Operator will distribute any collected penalties for an Operating Hour in the RTBM to Market Participants deemed compliant with the must offer obligation for that Operating Hour, weighted by resource capacity in excess of the must offer obligation for the Operating Hour.

(a) The Market Operator will distribute any collected penalty revenue for an Operating Hour using the Revenue Neutrality Uplift allocation method, as described under Attachment A, Section 9.4, for any Operating Hour in which no Market Participant with a Resource capacity, as described above in Section 9.3.23 (A) and 9.3.23 (B), exceeds the must offer obligation for the Operating Hour.

(b) A market wide total Real-time Must Offer Payment Amount = SUM of all Real-time Must Offer Penalty Amount from all Market Participants

(c) A Market Participant's Real-time Must Offer Payment Ratio = Total Excess capacity amount of All Asset Owners under this Market Participant / SUM of all Excess capacity amount from all Market Participants

(d) A Market Participant's Real-time Must Offer Penalty Distribution Amount = A market wide total Real-time Must Offer Payment Amount * The Market Participant's Real-time Must Offer Payment Ratio

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9.3.29 Real-Time Incremental Energy Make Whole Payment Amount

(1) The Real-Time incremental Energy make whole payment amount is a payment to a Market Participant when a Resource's Real-Time incremental Energy costs are greater than the eligible Real-Time incremental revenues received during dispatch intervals when the Resource is dispatched in Real-Time above the Resource's Day-Ahead cleared Energy MW. The make whole payment is equal to the difference between the incremental costs and revenues. Recovery of such compensation will be collected in accordance with Attachment A, Section 9.3.17.

(2) Eligible costs and revenues for a Real-Time incremental Energy make whole payment are for Resources dispatched in Real-Time above a Resource's Day-Ahead cleared Energy MW and when the Market Monitor has not verified the Resource Offers associated with Attachment B Section 3.4(K) prior to the approval of RTBM or the Resource Offer exceeds the Energy Offer Hard Cap of $2,000.

(3) The Real-Time incremental Energy make whole payment cost is the Energy cost associated with actual Resource Energy, including MSRs providing a market service, from the Resource Energy Offer as described under Attachment A, Section 2.3.1.1. This cost is calculated by multiplying actual Resource Energy by the cost of such Energy as calculated from the Resource's applicable Energy Offer Curve.

The applicable Energy Offer Curve used to determine a Real-Time incremental make whole payment amount for Energy above Day-Ahead cleared MW is the Real-Time Energy Offer Curve as verified by the Market Monitor.

a. Cost Disallowances:

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A Market Participant's Uninstructed Resource Deviation Cost Disallowance, Non-Dispatchable Cost Disallowance, or Minimum Limit Cost Disallowance is equal to the positive difference between the Resource's Energy cost at actual injection or withdrawal as calculated from the Resource's current Dispatch Interval Energy Offer Curve and the Resource's Energy cost at the Resource's economic operating point as calculated from the Resource's current Dispatch Interval Energy Offer Curve. A Resource's economic operating point is the MW injection or withdrawal where the cost on the Resource's current Dispatch Interval Energy Offer Curve first exceeds the Real-Time LMP for that Resource.

i. If a Resource has operated outside of its Operating Tolerance in any Dispatch Interval, any cost associated with Energy injection or withdrawal above the Resource's Desired Dispatch is not eligible for recovery for that Dispatch Interval where such cost is calculated.

ii. If a Resource becomes non-dispatchable in any Dispatch Interval, any cost associated with Energy injection or withdrawal above the Resource's Desired Dispatch is not eligible for recovery for that Dispatch Interval where such cost is calculated.

iii. If a Resource's Minimum Economic Capacity Operating Limit is increased above the Resource's Minimum Economic Capacity Operating Limit that was used to make the commitment decision, the increase is greater than the Resource's Operating Tolerance and the Resource remains dispatchable in any Dispatch Interval, any cost associated with Energy injection or withdrawal above the Resource's Desired Dispatch is not eligible for recovery for that Dispatch Interval where such cost is calculated, or;

iv. If a Resource is committed, and, subsequent to that commitment, the Resource's originally submitted limits are modified such that the Resource's availability switches from injection to withdrawal or from withdrawal to injection, any cost associated with Energy output above the

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Resource's Desired Dispatch is not eligible for recovery for the Dispatch Interval for which such cost is calculated.

(4) Real-Time incremental Energy make whole payment revenue is calculated as follows:

A Market Participant's Real-Time incremental Energy make whole payment revenue amount for each eligible Resource for Real-Time dispatched MWs that exceed Day-Ahead cleared MW is equal to the sum of the Energy revenue associated with cleared Resource Energy for all eligible Dispatch Intervals.

Energy revenue associated with cleared Resource Energy, including MSRs providing a market service, from Resource Energy Offers as described under Attachment A, Section 2.3.1.1, is calculated by multiplying Resource Energy above Day-Ahead cleared MW by Real-Time LMP at that Resource Settlement Location.

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9.3.30 Reliability Unit Commitment Self-Incremental Energy Make Whole Payment Amount

(1) The RUC self-incremental Energy make whole payment amount is a payment to a Market Participant when a Resource's RUC incremental eligible costs are greater than the eligible RUC incremental revenues received during those dispatch intervals where the Resource's actual output is above the Resource's RUC as committed Minimum Economic Capacity Operating Limit. The make whole payment is equal to the difference between the incremental costs and revenues.

(2) Eligible costs and revenue for a RUC self-incremental Energy make whole payment are for Resources where actual output is above the Resource's RUC as committed Minimum Economic Capacity Operating Limit and when the Market Monitor has not verified the Resource Offers associated with Attachment B Section 3.4(K) prior to the approval of the RTBM or the Resource Offer exceeds the Energy Offer Hard Cap of $2,000.

(3) The RUC self-incremental Energy make whole payment cost is the Energy cost associated with cleared Resource Energy, including MSRs providing a market service, from the Resource Energy Offer as described under Attachment A, Section 2.3.1.1. This cost is calculated by multiplying actual Resource Energy by the cost of such Energy determined from the Resource's applicable RTBM as dispatched Energy Offer Curve.

The Energy Offer Curve used to determine a RUC self-incremental make whole payment amount for Energy above the Minimum Economic Capacity Operating Limit is the RTBM as Dispatched Energy Offer Curve as verified by the Market Monitor.

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a. Cost Disallowances:

A Market Participant's Uninstructed Resource Deviation Cost Disallowance, Non-Dispatchable Cost Disallowance, or Minimum Limit Cost Disallowance is equal to the positive difference between the Resource's Energy cost at actual injection or withdrawal as calculated from the Resource's current Dispatch Interval Energy Offer Curve and the Resource's Energy cost at the Resource's economic operating point as calculated from the Resource's current Dispatch Interval Energy Offer Curve. A Resource's economic operating point is the MW injection or withdrawal where the cost on the Resource's current Dispatch Interval Energy Offer Curve first exceeds the Real-Time LMP for that Resource.

i. If a Resource has operated outside of its Operating Tolerance in any Dispatch Interval, any cost associated with Energy injection or withdrawal above the Resource's Desired Dispatch is not eligible for recovery for that Dispatch Interval where such cost is calculated.

ii. If a Resource becomes non-dispatchable in any Dispatch Interval, any cost associated with Energy injection or withdrawal above the Resource's Desired Dispatch is not eligible for recovery for that Dispatch Interval where such cost is calculated.

iii. If a Resource's Minimum Economic Capacity Operating Limit is increased above the Resource's Minimum Economic Capacity Operating Limit that was used to make the commitment decision, the increase is greater than the Resource's Operating Tolerance and the Resource remains dispatchable in any Dispatch Interval, any cost associated with energy injection or withdrawal above the Resource's Desired Dispatch is not eligible for recovery for that Dispatch Interval where such cost is calculated, or;

iv. If a Resource is committed, and, subsequent to that commitment, the Resource's originally submitted limits are modified such that the Resource's availability switches from injection to withdrawal or from

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withdrawal to injection, any cost associated with Energy output above the Resource's Desired Dispatch is not eligible for recovery for the Dispatch Interval for which such cost is calculated.

(4) RUC self-incremental Energy make whole payment revenue is calculated as follows:

A Market Participant's RUC self-incremental Energy make whole payment revenue amount for each eligible Resource that is committed by the Market Operator as specified in Attachment A, Section 2.3.1.1 is equal to the sum of the Energy revenue associated with cleared Resource Energy for all eligible Dispatch Intervals.

Energy revenue associated with cleared Resource Energy, including MSRs providing a market service, from Resource Energy Offers as described under Attachment A, Section 2.3.1.1, calculated by multiplying Resource Energy above Resources Minimum Economic Capacity Operating Limit by Real-Time LMP at that Resource Settlement Location.

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9.4 Revenue Neutrality Uplift Distribution Amount

The Market Operator will perform the following calculation for each hour of the Operating Day for each Asset Owner and Settlement Location to ensure that the Market Operator is revenue neutral over the Operating Day. The Market Operator will calculate hourly summations to each Market Participant for all Asset Owners it represents and will calculate daily summations as specified in the Markets+ Protocols. The calculations below can result in residual amounts due to rounding. SPP will sum up those residual amounts per Operating Day and include them in the Markets + budgeted expenses used to calculate the service cost.

Revenue Neutrality Uplift ("RNU") Distribution Amount =
Daily RNU Distribution Rate * RNU Distribution Volume * (-1)

(a) The Daily RNU Distribution Rate is equal to the Daily RNU Distribution Amount divided by the Daily RNU Distribution Volume.

(i) The Daily RNU Distribution Amount is equal to:

(1) The sum of all Asset Owners' charges and payments calculated under Section 9.2, 9.3, 9.5, and 9.6 for the Operating Day; plus

(2) Any other charges and credits not accounted for under Section 9.2. 9.3 for the Operating Day.

(ii) The Daily RNU Distribution Volume is equal to the sum of all Asset Owners' RNU Distribution Volumes for the Operating Day.

(b) An Asset Owner's RNU Distribution Volume at a Settlement Location for an hour is equal to the sum of:

(i) The absolute value of actual metered generation or load in the hour; and

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(ii) The absolute value of scheduled Interchange Transactions in the hour.

(iii) The absolute value of cleared Virtual Energy Offers and Bids in the hour.

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From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, July 27, 2023 11:17 AM
To: Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] **External Email** July 26th MDWG Summary of Motions, Action Items, and Future Meetings
Attachments: July 26 MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx

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Good afternoon –

Attached is the draft 7/26 MDWG summary of motions, action items, and future meetings. Please review and let me know if you have any edits.

Link to the recording:
Link:
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(b)(6) /playback
Password: (b)(6)

***Upcoming face-to-face meetings:**

- 8/9/2023 Joint MDWG/MGHGTF
- 8/10/2023 MDWG
- 8/31/2023-9/1/2023 Technical Settlements Workshop

Thank you!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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MARKETS+

SOUTHWEST POWER POOL, INC.
MARKETS+ DESIGN WORKING GROUP MEETING
7/26/2023
Net-Conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

1. **Agenda Item 3 – Consent Agenda: July 12th, MDWG Minutes**

   Motion: Russ Mantifel (BPA) motioned to approve the consent agenda with the modification of adding Justin Thompson (APS) to the 7/12/2023 MDWG attendance record. Scott Miller (WPTF) provided the second. Motion carried unanimously.

2. **Agenda Item 7 – Cost Allocation Methodology**

   Motion: Paul Dietz (GCPUD) to approve moving forward with the BAA distribution cost allocation methodology based on cost-causation with the intent to go into each charge type detail during a future MDWG meeting, and reassess the cost allocation methodology after Markets+ go-live. Laura Trolese (TEA) provided the second. Motion carried unanimously.

3. **Agenda Item 8 – Markets+ Virtuals Effective Date**

   Motion: Russ Mantifel (BPA) motioned for Virtuals to be effective at a delayed implementation date six months from the overlapping Day-Ahead and Real-Time Balancing Market footprint post go-live, with built-in circuit breakers. Virtuals, or lack thereof, will not impact must-offer obligations. Markets+ boundary interface settlement locations are not eligible for Virtuals. SPP will perform an assessment of the eligible Markets+ boundary interface settlement locations at a later date. Paul Dietz (GCPUD) provided the second. Motion carried with two abstentions (NV Energy and TEA).

ACTION ITEMS:

Action Item: SPP staff will provide an update during a future MDWG meeting on the must-offer obligation design recommendation from the MRATF. The MDWG will ensure the MRATF proposed design does not impact the Virtuals effective date.

Action Item: SPP staff will work internally with the SPP MMU on providing education during a future MDWG meeting on Virtuals.

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FUTURE MEETINGS:

Meeting: August 9th Joint MDWG and MGHGTF Meeting
Date: August 9th, 2023
Location: Hyatt Regency Portland at the Oregon Convention Center; Net-conference
Time: 3:00 p.m. – 7:00 p.m., CPT / 1:00 p.m. – 5:00 p.m., PDT / 2:00 p.m. – 6:00 p.m., MT

Meeting: August 10th MDWG Meeting
Date: August 10th, 2023
Location: Bonneville Power Administration; Rates Hearing Room; Net-conference
Time: 10:30 a.m. – 2:00 p.m., CPT / 8:30 a.m. – 12:00 p.m., PDT / 9:30 a.m. – 1:00 p.m., MT

Meeting: August 29th MDWG Meeting
Date: August 29th, 2023
Location: Net-conference
Time: 11:30 a.m. – 5:00 p.m., CPT / 9:30 a.m. – 3:00 p.m., PDT / 10:30 a.m. – 4:00 p.m., MT

DRAFT

From: Kristen Darden <kdarden@spp.org>
Sent: Friday, August 11, 2023 1:29 PM
To: Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] **External Email** Markets+ Summary of Motions - 8/9 Joint MDWG/MGHGTF & 8/10 MDWG
Attachments: 8 9 Joint MGHGTF MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx; 8 10 Joint MGHGTF MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx

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Good afternoon all –

Thank you for a great week of robust discussions. Those who were able to make it in person, it was so nice to see you all again! I hope you made it home safely and smoothly.

I've attached two documents for your review:

1) 8/9 Joint MDWG/MGHGTF Summary of Motions, Action Items, and Future Meetings
2) 8/10 MDWG Summary of Motions, Action Items, and Future Meetings

Reminder: Please register for the 8/31-9/1 Technical Settlements Workshop to be hosted at TSGT in Denver, CO. There is also a virtual option.

Thank you!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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MARKETS+ DESIGN WORKING GROUP &
MARKETS+ GREENHOUSE GAS TASK FORCE JOINT MEETING
8/9/2023
Hyatt Regency; Portland, OR

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

No motions were made.

ACTION ITEMS:

No new action items were taken.

FUTURE MEETINGS:

Meeting: August 22nd MGHGTF Meeting
Date: August 22nd, 2023
Location: Net-conference
Time: 11:00 a.m. – 3:00 p.m., CPT / 9:00 a.m. – 1:00 p.m., PT

Meeting: August 29th MDWG Meeting
Date: August 29th, 2023
Location: Net-conference
Time: 11:30 a.m. – 5:00 p.m., CPT / 9:30 a.m. – 3:00 p.m., PDT / 10:30 a.m. – 4:00 p.m., MT

Meeting: August 31st and September 1st Technical Settlements Workshop
Date: August 31st – September 1st, 2023
Location: Tri-State Generation & Transmission; Denver, CO; Net-conference
Day 1: 8:30 a.m. – 5:00 p.m., MT / 9:30 a.m. – 6:00 p.m., CPT / 7:30 a.m. – 4:00 p.m., PDT
Day 2: 8:30 a.m. – 12:00 p.m., MT / 9:30 a.m. – 1:00 p.m., CPT / 7:30 a.m. – 11:00 a.m., PDT

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MARKETS+

SOUTHWEST POWER POOL, INC.
MARKETS+ DESIGN WORKING GROUP MEETING
8/10/2023
Bonneville Power Administration; Rates Hearing Room; Portland, OR

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

1. **Agenda Item 4 – Consent Agenda: July 26th MDWG Minutes**

   Motion: Lindsey Schlekeway (NVE) motioned to approve the consent agenda. Russ Mantifel (BPA) provided the second. Motion carried unanimously.

2. **Agenda Item 7a – Tariff Review: Attachment A – 4-4.2.9 (Resource Participation Types)**

   Motion: Russ Mantifel (BPA) motioned to approve Markets+ Tariff Attachment A Section 10 (Confidentiality Provisions) and Attachment F (Non-Disclosure Agreement) as presented. Adam Cornelius (SCPUD) provided the second. Motion carried unanimously.

ACTION ITEMS:

Action Item: SPP staff and the MDWG will add to the parking lot for Markets+ Phase 2, follow up discussion on Flexibility Products and the potential of them being biddable, cost allocation, day-ahead to real-time deviation, and reserve zones deliverability.

FUTURE MEETINGS:

Meeting: August 29th MDWG Meeting
Date: August 29th, 2023
Location: Net-conference
Time: 11:30 a.m. – 5:00 p.m., CPT / 9:30 a.m. – 3:00 p.m., PDT / 10:30 a.m. – 4:00 p.m., MT

Meeting: August 31st and September 1st Technical Settlements Workshop
Date: August 31st – September 1st, 2023
Location: Tri-State Generation & Transmission; Denver, CO; Net-conference
Day 1: 8:30 a.m. – 5:00 p.m., MT / 9:30 a.m. – 6:00 p.m., CPT / 7:30 a.m. – 4:00 p.m., PDT
Day 2: 8:30 a.m. – 12:00 p.m., MT / 9:30 a.m. – 1:00 p.m., CPT / 7:30 a.m. – 11:00 a.m., PDT

Meeting: September 20th MDWG Meeting
Date: September 20th, 2023
Location: Net-conference
Time: 11:30 a.m. – 5:00 p.m., CPT / 9:30 a.m. – 3:00 p.m., PDT / 10:30 a.m. – 4:00 p.m., MT

29334609

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, July 13, 2023 7:19 AM
To: Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] **External Email** July 12th MDWG Summary of Motions, Action Items, and Future Meetings
Attachments: July 12 MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx

<="" tdface="Calibri" color="Yellow" size="3">CAUTION: This email originated from outside of the SPP network. Do not click links or open attachments unless you recognize or can verify the sender, or were expecting an email from the sender. The original sender of this email is kdarden@spp.org

Good morning –

I have attached the draft 7/12 MDWG summary of motions, action items, and future meetings. Please review and let me know if you have any edits.

***Reminder**: Please register for the 8/10/2023 Joint MDWG/MGHGTF meeting if you plan to attend in person. There will be a limit on in-person attendees.

Thank you!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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From: Gentry Crowson <gtcrowson@spp.org>
Sent: Thursday, July 20, 2023 8:26 AM
To: Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] **External Email** Secondary Short Term Transmission Sales Presentation
Attachments: 04_b_2023-07-20 Eligiblity of PTP TSR Redirects and Resales.pptx

<=""" tdface="Calibri" color="Yellow" size="3">CAUTION: This email originated from outside of the SPP network. Do not click links or open attachments unless you recognize or can verify the sender, or were expecting an email from the sender. The original sender of this email is gtcrowson@spp.org

MCRTF Members,

The attached PowerPoint presentation will be used for today's MCRTF meeting on agenda item 4 B. Following today's meeting, the presentation will be posted with the Meeting Minutes on www.spp.org.

Thanks,
Gentry Crowson

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Eligibility of Resold and Redirected PTP TSRs

MARKETS+ CONGESTION RENT TASK FORCE

7/20/23

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Background:
Transmission Resales and Redirects

A Point-to-Point (PTP) Transmission Service Reservation (TSR) may be *resold* to a third party or *redirected* to a different POR/POD combination, subject to available transmission capacity (ATC).

Today, BPA system includes substantial TSR redirect activity and a robust TSR resale secondary market

All TSR resale and redirect information posted on TSP's Open Access Same-Time Information System (OASIS)

- Resale/redirect can be for a shorter time period than parent TSR
- Resale/redirect can be for a portion of parent TSR capacity
- TSRs may be redirected (subject to ATC) before a resale (by the seller per request of the buyer), or after resale (by the buyer)

Background: Short-term Resales and Redirects

Resale/redirect can be for a shorter time period than parent TSR

- 100 MW Annual Firm Parent TSR can be resold to 3rd party customer and/or redirected to new POR/POD (assuming ATC) on an annual, monthly, weekly, daily, or hourly basis

Benefits of short-term resales and redirects

- When Long-Term Firm (LTF) on desired path is unavailable, transmission customer typically seeks shorter-term options that may not be available from TSP.
  - In some cases, annual/monthly firm is not available and customers must seek weekly/daily/hourly firm
- Helps transmission customers manage dynamic nature of transmission scheduling (e.g., a resource may be intended to serve different loads at different times)
- Ability to resell and redirect TSRs across all time scales is part of the value proposition driving decisions to invest in LTF
  - Flexibility associated with redirect capability
  - Resale capability helps offset cost of LTF TSRs

MTWG Comments and Discussion

Snohomish Comments (6/8/23)

Market Transmission Use (MTU) charge intended for TSPs to recover anticipated loss of short-term transmission sales revenue

Transmission customers may expect a similar loss of ST transmission resale revenue and should therefore also be eligible for compensation via the MTU charge

Feedback from MTWG members (6/23/23)

General understanding of the concern we raised

Procedural challenges with including resale revenue recovery in MTU

Congestion rent framework is the appropriate avenue for cost recovery for transmission customers

PTP TSR Eligibility Recommendations

1. Market operator pulls TSR data from OASIS on a *daily* basis at 10:00 AM (day-ahead market close); TSR eligibility determined with hourly granularity
   - Daily snapshot will reflect up-to-date firm resales and redirects, including link to parent AREF
2. TSR eligibility for allocation of congestion rent should transfer with resale
   - If parent TSR is eligible -> resold child TSR should be eligible even if duration of resale is shorter than eligibility threshold
3. TSR eligibility should transfer with firm redirect to a different POR/POD pair
   - If parent TSR is eligible -> firm redirected child TSR should be eligible even if duration of redirect is shorter than eligibility threshold

Recommendation #2
Daily resale example

- TSR Owner #1 has Monthly* Firm TSR from POR A to POD B for July
- July 20 @ 6AM, TSR Owner #1 resells firm TSR scheduling rights to Owner #2 for July 21.
- July 20 @ 10AM, Market operator takes OASIS snapshot for July 21
  - July 21 Snapshot: Owner #2 has TSR from POR A to POR B and parent TSR was Monthly Firm
- Result of daily snapshots for July:
  - **Owner #1** receives congestion rent allocation from **POR A** to **POD B** on **July 1-20** and **July 22-31**
  - **Owner #2** receives congestion rent allocation from **POR A** to **POD B** on **July 21**.

*Assumes original TSR eligibility threshold is monthly



Recommendation #3
Daily redirect example

- TSR Owner #1 has Monthly* Firm TSR from POR A to POD B for July
- July 20 @ 6AM, TSR Owner #1 redirects TSR to new path: POR C to POD D for July 21. Daily firm redirect approved.
- July 20 @ 10AM, Market operator takes OASIS snapshot for July 21
  - July 21 Snapshot: Owner #1 has TSR from POR C to POD D and parent TSR was Monthly Firm
- Result of daily snapshots for July:
  - **Owner #1** receives congestion rent allocation from **POR A** to **POD B** on **July 1-20** and **July 22-31**
  - **Owner #1** receives congestion rent allocation from **POR C** to **POD D** on **July 21.**

*Assumes original TSR eligibility threshold is monthly



Benefits of Recommended Framework

Improves market participants' ability to hedge anticipated exposure to congestion

- Avoids mismatches in congestion rent allocation associated with mid-month redirects and resales (SPP slides 8-11)
- Transfer of eligibility to resales and redirects enables market participants who may not be able to acquire LTF rights from TSP to hedge exposure to congestion on shorter-term basis
- Daily determination of eligible TSRs allows customers to more closely match timing of potential exposure to congestion
- Eligibility of redirected TSRs enables customers to utilize available transmission to more closely match location of potential exposure to congestion.

Mitigates concerns raised in MTWG around loss of secondary ST transmission resale revenue

- 7/13: Snohomish proposed tabling potential vote on inclusion of lost ST transmission resale revenue in MTU framework pending outcomes in MCRTF

Recommended Framework Fits within Scope of Service Offering

"Supports incentives for customers to continue to invest in LTF transmission service and make LTF TSRs available for market use" (pg 50)

- Redirected/resold TSRs would *only* be eligible for congestion rent if associated with an eligible LTF parent TSR
- Value of LTF TSRs includes ability to resell and redirect transmission (subject to ATC) for short durations. Today all rights associated with LTF TSRs transfer with resale and/or redirect.
- If short-duration resales/redirects are not eligible for congestion rent allocation -> child TSR is fully exposed to congestion costs -> value of resales/redirects is reduced

"During phase one, the details for how transmission customers and TSPs will confirm and communicate to SPP the TSRs, including source, sink, MW limit and **time period eligible for the congestion rent allocation**."

TSR Verification Process and Timing

In monthly proposal, SPP proposes pulling monthly snapshot on 15th of prior month to provide time for transmission customer verification of eligible TSRs

We believe TSR verification can be handled by customers on a daily basis

Assumption: TSR eligibility is not an input to Day-ahead Market optimization and is only used for settlements

- As long as snapshot is taken ahead of the Day-ahead market, can verification and discrepancies be managed after the fact, on settlement timelines?

Questions/Feedback?

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Appendix

TSR EXAMPLES

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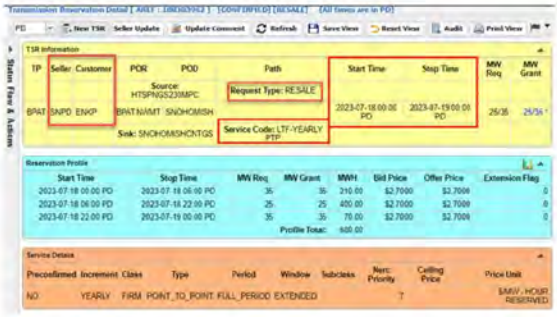
Resale TSR Example

RESALE TSR



PARENT TSR



LTF yearly TSR held by SNPD
Resold for single day duration to ENKP
Service code (e.g., LTF-Yearly) transfers from parent to child in resale

Redirect TSR Example

REDIRECT TSR



PARENT TSR



LTF monthly TSR held by SNPD from BPAPOWER (POR) to SNOHOMISH (POD)
Redirected to SNOHOMISH (POR) to BPAT.CHPD (POD) for single day duration on hourly firm
Service code (e.g., STF-Monthly) does not transfer from parent to child in redirect, but redirect includes link to parent AREF in "related" field.

	Original Monthly TSR	Daily Redirect	Column1
Original Monthly TSR	31		
Daily Redirect	20	1	10

From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, August 23, 2023 7:36 AM
To: Meyers,Andrew P (BPA) - B-3
Cc: Mantifel,Russell (BPA) - PGL-5
Subject: RE: [EXTERNAL] **External Email** Markets+ Design Working Group 8/29/23 Meeting Materials
Attachments: 07a-Attachment A_Sec 4-4.2.9_Tariff.docx

Hey Andy –

I plan on posting that language today or tomorrow at the latest. We are still kicking around ideas internally on the language to accommodate feedback we have received. There are two main concepts in the language that we expect to have true sustenance changes and that will be: 1) Hydro Aggregation (Group hydro) and 2) Resource-Must-Run (RMR) commit status. If you'd like to review the previous language from the 8/10 meeting (attached in this document), it should all pretty much stay the same except those two concepts. If you have any questions though, please don't hesitate to reach out.

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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Working together to responsibly and economically keep the lights on today and in the future.

From: Meyers,Andrew P (BPA) - B-3 <apmeyers@bpa.gov>
Sent: Tuesday, August 22, 2023 6:45 PM
To: Kristen Darden <kdarden@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: FW: [EXTERNAL] **External Email** Markets+ Design Working Group 8/29/23 Meeting Materials

Hi Kristen,

Wondering if you can clarify something for me. I see that Resource Participation Types is noted as an approval item for next week. In the zipped meeting materials I didn't see that section of the tariff. I know if was previously shared ahead of the 8.10 MDWG meeting. Is the version shared for the 8.10 meeting still the most current or should we expect an updated one.

Thanks,
Andy

Andy Meyers
apmeyers@bpa.gov
(w) 503-230-3014 | (c) (b)(6)
Bonneville Power Administration

Market Initiatives
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

From: SPP Markets+ <marketsplus@spp.org>
Sent: Tuesday, August 22, 2023 2:35 PM
To: Meyers,Andrew P (BPA) - B-3 <apmeyers@bpa.gov>
Subject: [EXTERNAL] **External Email** Markets+ Design Working Group 8/29/23 Meeting Materials

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Markets+ Design Working Group 8/29/23 Meeting Materials have been posted to the SPP website for your review at the link shown below:

MDWG Meeting Materials

MDWG 8/29/23 Online Registration

Please direct questions to Kristen Darden at kdarden@spp.org.

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4. Resource Participation

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4.1 General Resource Participation

Beginning seven (7) days prior to the Operating Day, Market Participants may begin to submit Offers for use in the Day-Ahead Market and Offers for use in the RTBM. Day-Ahead Market Offers may be updated up to the close of the Day-Ahead Market, and RTBM Offers may be updated thirty (30) minutes prior to each Operating Hour. Offer submittals shall conform to the following:

(1) Day-Ahead Market Offers are independent from RTBM Offers;

(2) Day-Ahead Market and RTBM Offers will automatically roll forward to the same hour in the following Operating Day within each respective market until an updated Resource Offer has been submitted for that hour;

(3) Day-Ahead Market and RTBM Offers may vary for each hour of the Operating Day, except the Offer parameters related to unit commitment as defined in the Markets+ Protocols for which a single value is submitted;

(4) RTBM Offers are also used in the RUC;

(5) Resource Offers are limited by the Offer caps and floors specified in Section 5.3 of this Attachment A;

(6) The Resource Offer parameters that must be included to constitute a valid Offer for use in either the Day-Ahead Market or RTBM, are defined in the Markets+ Protocols;

(7) Market Participants must specify one of the Resource commitment statuses defined below:

a) **Market** – The Resource is available for Market Operator economic commitment if it is off-line;

b) **Self –** The Market Participant is committing the Resource and SPP should include it as committed in either the DA Market and/or RUC as specified;

c) **Reliability Must Run (RMR) –** The Resource has been committed by the Participating Balancing Authority, local Transmission Operator, or Reliability Coordinator and SPP should include it as committed in either the DA Market and/or RUC as specified;

d) **Outage –** The Resource is unavailable to the market, or, in the case of an MCR, the configuration is unavailable to the market;

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e) **Not Participating** – The Resource is otherwise available but has elected not to participate in the DA Market. This option is not available for use in RTBM Offers.

(8) Intra-operating hour adjustments to Resource Offer physical operating parameters due to changes in a Resource's capability. Market Participants shall notify the Market Operator of a change in a Resource Offer physical operating parameter during an Operating Hour. For the current Operating Hour the Market Operator will make the requested modification to the Resource Offer physical operating parameter. For subsequent hours the Market Participant shall remain responsible for accurately reflecting Resource operating parameters in its Resource Offer submissions.

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4.2 Additional Resource Participation Types

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4.2.1 Demand Response Resources

Market Participants registering a Dispatchable Demand Response Resource must:

(1) Identify an associated Demand Response Load Meter Data Submittal Location; and

(2) Identify an associated Demand Response Load Settlement Location.

In addition to requirements above, Market Participants registering a Dispatchable Demand Response Resource must also specify either the submitted resource production option or calculated resource production option for calculation of the Dispatchable Demand Response Resource output.

The Market Operator will notify the applicable retail provider and the relevant electric retail regulatory authority of the registration and the expected MW level of participation. Additional notification will be provided if modifications are made to the expected megawatt level of participation. If either the relevant electric retail regulatory authority or applicable retail provider disputes the accuracy of the pending registration information or attestations, the Market Operator will notify the Market Participant of the dispute and may pause the Resource's registration, prohibit the Resource in question from participating in the Energy and Flexibility Reserve Products markets, or not accept the modification until the issue is resolved between the Market Participant and the disputing entity. If resolution has not been reached between the registering Market Participant, relevant electric retail regulatory authority, and, if applicable, the retail provider, within 90 days of the Market Participant's notification of the dispute, the Resource's pending registration or the modification to the existing registration may be cancelled.

(1) Dispatchable Demand Response Resource - A Dispatchable Demand Response Resource is modeled in the Commercial Model the same as any other Resource, except that the Settlement Location associated with the Dispatchable Demand Response Resource must contain the Price Node, or aggregated Price Node as described in Section XYZ of this Attachment B, associated with the Demand Response Load. The Market Participant must submit the real-time value of the Demand Response Load to the Market Operator via telemetering meeting necessary technical requirements. A Dispatchable Demand Response Resource

shall submit Energy Offer Curves based on the criteria in Section XYZ of Attachment B of this Tariff. For purposes of these Resources, the short-run marginal cost may equal opportunity cost. A Dispatchable Demand Response Resource may select one of two options for reporting of the actual Dispatchable Demand Response Resource output:

(a) Submitted Resource production option:

The Dispatchable Demand Response Resource output is sent directly to the Market Operator by the Market Participant via telemetering for real-time operational purposes and the Meter Agent submits either five (5) minute or hourly actual output values to the Market Operator for use in settlements. The submitted Resource production option is only allowed for Demand Response Resources that are: (1) utilizing strictly Behind-The-Meter Generation to provide the response and are utilizing real-time metering capable of reporting both the Behind-The-Meter Generation output and the load; (2) Demand Response Resources where the Market Participant is offering the Resource under a retail tariff provision that includes near real-time measurement and verification terms that are compliant with the Business Practices for Measurement and Verification of Wholesale Electricity Demand Response of the North American Energy Standards Board, incorporated by reference in FERC's regulations; or (3) Demand Response Load utilizing near real-time measurement and verification capability that is compliant with the Business Practices for Measurement and Verification of Wholesale Electricity Demand Response of the North American Energy Standards Board, incorporated by reference in FERC's regulations.

(b) Calculated Resource production option:

(i) For each Dispatch Interval in each hour in which the Demand Response Resource has been committed, the Demand Response Resource output for real-time operational purposes is calculated by the Market Operator as the greater of zero (0) or the difference between:

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- The lesser of the real-time consumption of the Demand Response Load associated with the Demand Response Resource in the Dispatch Interval immediately preceding initial commitment of the Demand Response Resource or the hourly baseline as described in (3) below for the hour, and
- The actual value of the associated Demand Response Load received via telemetering.

(ii) For each Dispatch Interval in each hour in which the Demand Response Resource has been committed, the Demand Response Resource output for settlement purposes is calculated by the Market Operator as the maximum of zero (0) or the difference between:

- The lesser of the real-time consumption of the Demand Response Load associated with the Demand Response Resource in the Dispatch Interval immediately preceding initial commitment of the Demand Response Resource or the hourly baseline as described in (3) below for the hour, and
- The actual value of the associated Demand Response Load received from the Meter Agent either on a five (5) minute basis or an hourly basis.

(3) Hourly Baseline

(a) The Market Participant must submit an hourly baseline for the Demand Response Load indicating the level of energy consumption expected at that location in MWh if the Demand Response Resource is not dispatched. The baseline must cover, at a minimum, all hours the Resource is submitting Offers for in the Energy and Flexibility Reserve Products markets. This baseline must be submitted by 1100 hours on the day prior to the Operating Day and may be updated up to thirty (30) minutes in advance of the Operating Hour. The baseline should be based on the

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average of the hourly integrated Demand Response Load for the same hours in the last thirty (30) calendar days when the Resource was not dispatched, adjusted by the Market Participant as necessary to account for changes in the expected level of energy consumption by the Demand Response Load.

(b) If there have been deviations in hourly integrated metered load from the hourly baseline during periods when the Resource was not dispatched the hourly baseline will be adjusted as follows by the Market Operator prior to the calculation of the Demand Response Load. If the average of the hourly deviation between integrated metered load and submitted hourly baseline for the hours in the last thirty (30) calendar days when the Resource was not dispatched is more than five percent (5%) below the hourly baseline, the hourly baseline will be adjusted by the average deviation. The Market Operator will perform this assessment each day starting on the thirty-first (31st) day of participation and notify the Market Participant of any adjustment.

(c) If the hourly baseline has not been submitted, the Market Operator shall set the hourly baseline equal to the real-time consumption of the Demand Response Load associated with the Demand Response Resource in the Dispatch Interval immediately preceding initial commitment of the Demand Response Resource.

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4.2.2 Electric Storage Resource

ESRs may register as any valid Resource type and are subject to the same service provision rules as any other Resource within that type.

(1) If not registered as an MSR, the energy withdrawal from the Markets+ Footprint must be included in a Load Settlement Location and are subject to the same rules as other Load.

(2) If an ESR is registered as an MSR, the following applies:

a) MSRs may provide Flexibility Reserve Product services upon meeting the technical and applicable requirements for these services.

b) MSRs must provide Offer parameters.

c) MSR Offer Curves may include negative MW values to account for the entire dispatchable range of the MSR.

d) As with other Resources, the metering requirements for MSRs include real-time and settlement quality metering.

e) For MSRs that are not directly connected to the Transmission System, metering may include facilities used by the distribution company. In the event that the MSR is not directly connected to the Transmission System and the distribution company is unable or unwilling to separate the charging activity from other retail service, the MSR will not be subject to settlement by the Market Operator for energy consumption.

f) The real-time Energy consumption is settled at the LMP.

g) MSRs are not considered continuously dispatchable in a given interval if a directional commitment limitation exists for that interval. A directional commitment limitation occurs when the Minimum Charge Time is not equal to zero, Minimum Discharge Time is not equal to zero, Minimum Charge Limit is not equal to zero, or Minimum Discharge Limit is not equal to zero. If such a limitation exists, the MSR may offer either charge or discharge capacity in a given interval but not both. MSRs that do not have a directional commitment limitation are considered continuously dispatchable and will be evaluated for

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commitment and dispatch from the Maximum Charge Limit to the Maximum Discharge Limit.

4.2.3 Hybrid Storage Market Resource

HSMRs may register as any valid Resource type and are subject to the same service provision rules as any other Resource within that type. HSMRs are also eligible to register as MSRs.

(1) HSMRs directly connected to the Markets+ Footprint will have the generating resource(s) be modeled separately behind a single point of interconnection in the Network Model. Physical and operational characteristics, real-time telemetry and other information for the generating resource(s) and the ESR(s) must be provided for individual components to the Market Operator for situational awareness, grid security, and also for informational purposes through telemetry in the Network Model. The submitted revenue Meter Data for settlement of the Resource response will represent the total combined HSMR response at the point of interconnection.

(2) If an HSMR is not registered as an MSR, then the Energy withdrawal from the Markets+ Footprint must be included in a load Settlement Location and is subject to the same rules as other load.

(3) If an HSMR is registered as an MSR then rules in Section 4.2.2(2) of this Attachment A apply.

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4.2.4 Variable Energy Resources (VERs)

VERs may register as any valid Resource type and are subject to the following rules:

(1) The Minimum Limits submitted as part of the Day-Ahead Market and/or RTBM Resource Offer must be submitted as zero MW. If these limits are not submitted as zero MW, the Resource Offer will be rejected;

(2) For Dispatchable Variable Energy Resources (DVERs) with a Maximum Limit of less than 200MW, the maximum ramp rate between MW specified in the Ramp-Rate-Up curve and Ramp-Rate Down curve in the RTBM Resource Offer multiplied by 5 cannot exceed 40MW. For DVERs with a Maximum Limit greater than or equal to 200MW, the maximum ramp rate between MW levels specified in the Ramp-Rate-Up curve and Ramp-Rate-Down curve in the RTBM Resource Offer multiplied by 5 cannot exceed 20% of the DVER's Emergency Maximum Capacity Operating Limit;

(3) For the RUC process, the maximum operating limit shall be the lesser of the Emergency Maximum Capacity Operating Limit as specified in the DVER RTBM Offer and SPP's output forecast for that DVER.

(4) DVERs for which SPP is calculating an output forecast are not eligible to receive RUC make whole payments;

(5) For the Real-Time Balancing Market, SPP will provide a dispatch flag to the DVER indicating whether or not the DVER should "follow" or "ignore" its Dispatch Target.

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4.2.5 Fuel-Limited Resources

Fuel-limited Resources may register as any valid Resource type and are subject to the same service provision rules as any other Resource within that type.

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4.2.6 Grouped Hydro

DRAFT

4.2.7 Long-Lead Resources

For each available Long-Lead Resource, SPP calculates a commitment cost in dollars that is equal to:

(i) The sum of 1) the Resources Start-Up Offer, 2) the Resource's No-Load Offer multiplied by the greater of the Resource's Minimum Run Time (in Hours) or the number of hours the Resource would be committed ignoring the Minimum Run Time, and 3) the Resources average cost to operate at Minimum Economic Capacity Operating Limit, Minimum Discharge Limit or Minimum Charge Limit as applicable and as calculated from the Resource's Energy Offer Curve, multiplied by the greater of the Resource's Minimum Run Time (in Hours), Minimum Discharge or Minimum Charge Time as applicable, or the number of hours the Resource would be committed ignoring the Minimum Run Time, Minimum Discharge Time or Minimum Charge Time as applicable.

(ii) SPP then creates a merit order list starting with the least cost Resource bases upon the commitment cost calculated in (i) above. SPP then selects Resources for commitment in merit order until sufficient capacity is committed to relieve the anticipated capacity shortage with the objective of minimizing the total capacity committed to meet the anticipated shortage at the lowest overall commitment cost.

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4.2.8 Jointly Owned Units (JOUs)

A Market Participant may register Jointly Owned Units (JOUs) using the Individual Resource option or the Combined Interest Resource option.

(1) As part of market registration, the following offer parameters representing the physical characteristics of the entire JOU ("Physical JOU Resource") must be submitted either by or on behalf of the Market Participant identified at registration ("designated Market Participant"):

  (a) JOU maximum physical capacity operating limit;

  (b) JOU maximum physical 10-minute response from an off-line state (if a Fast-Start Resource).

(2) The following Offer parameters as submitted by or on behalf of each Market Participant for its JOU share that has registered under the Individual Resource Option must meet the following criteria in order to be accepted as valid offers, otherwise, all Offers related to the Physical JOU Resource will revert to the last valid offer;

  (a) The sum of the Maximum Emergency Capacity Operating Limits of each JOU share associated with the Physical JOU Resource must be less than or equal to the Physical JOU Resource maximum physical capacity operating limit.

(3) Commitment of individual JOU shares that have registered under the Individual Resource Option will be evaluated by the Simultaneous Co-optimization Methodology based on the individually submitted Offers for each JOU share;

(4) If committed, each JOU share under the Individual Resource Option will be considered separately for the purposes of dispatch, Flexibility Reserve Products clearing and settlement and the Physical JOU Resource will receive a single Setpoint Target for the purposes of Energy and Flexibility Reserve Products deployment;

  (a) If a JOU share is committed by the Market Operator in the DA Market, that JOU share is cleared for Energy based on the submitted Energy Offer Curve and Ramp Rate and is cleared for Flexibility Reserve Products based on the submitted Flexibility Reserve Products Offers and Ramp Rate;

DRAFT

(b) Each JOU share committed by the Market Operator in the DA Market is eligible to receive a DA Market make whole payment under the same eligibility rules as any other Resource;

(c) In the RTBM, each JOU share is dispatched for Energy based on the submitted Energy Offer Curve, Ramp-Rate-Up and Ramp-Rate-Down and is cleared based on the submitted Flexibility Reserve Product Offers, Ramp-Rate-Up and Ramp-Rate-Down. The Market Operator sends to each Market Participant its independent Setpoint Target and cleared amount(s) of Flexibility Reserve Product for its individual JOU share.

The Market Operator will also, for information purposes, send to the operating Market Participant each Market Participant's independent Dispatch Targets and the sum of these independent Dispatch Targets, and each Market Participant's independent Setpoint Targets and the sum of the Market Participant's independent Setpoint Targets.

If a JOU share is committed by the Market Operator in any RUC process, that individual JOU share is eligible to receive a RUC make whole payment under the same eligibility rules as any other Resource.

Each JOU share will be subject to charges associated with Uninstructed Resource Deviation that exceeds the JOU share Operating Tolerance and Flexibility Reserve Product deployment failure charges based on Setpoint Targets for each JOU and the actual output submitted by each respective Meter Agent for each JOU.

The Meter Agent(s) assigned to the Physical JOU Resource registered under the Individual Resource Option must account for all physical Energy produced and properly reflect this Energy in each individual JOU share Meter Data submittal.

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4.2.9 Combined Cycle Resource

Market Participants shall select from one of the four following options regarding submitting Resource Offers for their registered combined cycle Resources, which will be declared during asset registration as described under Sections 6.2 of this Attachment A:

(1) A Resource Offer may be submitted for a single aggregate combined cycle Resource, where the aggregate will represent a Market Participant selected operating configuration of combustion turbines and steam turbines. Under this option, the combined cycle Resource will be committed, dispatched and settled the same as any other Resource; or

(2) A Resource Offer may be submitted for each combined cycle Resource combustion turbine and/or steam turbine and each component will be committed and dispatched independently and settled the same as any other single Resource; or

(3) A Resource Offer may be submitted for each pseudo combined cycle Resource, where each pseudo combined cycle Resource will represent the combination of one combustion turbine and a portion of the steam turbine. Under this option, each pseudo combined cycle Resource must be capable of being committed and dispatched independently the same as any other Resource and each pseudo combined cycle Resource will be settled the same as any other Resource; or

(4) A Resource Offer may be submitted for each registered combined cycle configuration, where each configuration represents an operating state of the combined cycle Resource with a distinct set of physical operating characteristics, as dictated by the physical attributes of the combined cycle Resource. The Transmission Provider will determine the most economic commitment configuration, if requested to do so by the Market Participant

DRAFT

as part of the submitted Resource Offer, and once committed, the most economic configuration to transition to for use in both the Day-Ahead Market and Real-Time Balancing Market. Settlement for a combined cycle Resource submitting offers in this manner will occur in the same manner as any other Resource except for Flexibility Reserve during transitions as described under Section 9.2.5 and Section 9.3.4 of this Attachment A. Under this option, Market Participants must define during asset registration the:

(a) Valid configurations, one of which must represent the maximum capacity of the combined cycle Resource;

(b) Valid transitions between configurations as defined in the Market Protocols; and

(c) One or more sets of physical units that can participate in a configuration.

DRAFT

From: Kristen Darden <kdarden@spp.org>
Sent: Friday, January 19, 2024 12:51 PM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] Jaunary 19th, 2024 MDWG Summary of Motions, Action Items, and Future Meetings
Attachments: 1 19 MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx

Good afternoon MDWG members and stakeholders –

WHAT A WEEK! Thank you all for your patience during this time while we all were navigating some challenging weather. I've attached the summary of motions for your review. Please let me know if you have any modifications.

I look forward to seeing everyone next week in Denver. Safe Travels!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O - 501.482.2395 | C (b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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SOUTHWEST POWER POOL, INC.
MARKETS+ DESIGN WORKING GROUP MEETING
1/19/2024
Net-Conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

1. **Agenda Item 2a – Attachment A, Sec. 10: Billing**

   Motion: Adam Cornelius (SCPUD) motioned to approve Attachment A, Section 10 (Billing) as modified during the meeting. Vincent Ching (PSE) provided the second. Motion carried unanimously.

2. **Agenda Item 2b – Attachment A: Settlements**

   Motion: Jeff Spires (Powerex) motioned to approve Attachment A, Sections 9.2.13, 9.2.14, and 9.2.15 as presented. Adam Cornelius (SCPUD) provided the second.

   Motion: Jeff Spires (Powerex) withdrew his previous motion to approve Attachment A, Sections 9.2.13-9.2.15, due to previous approval of the referenced sections during the January 11th, 2024 MDWG meeting.

   Motion: Dan Williams (TEA) motioned to approve Markets+ Settlements as modified during the meeting, including Attachment A, Sections 9.2.16-9.2.19, 9.3.2-9.3.15, and 9.3.18-9.4. Justin Thompson (APS) provided the second. Motion carried unanimously.

3. **Agenda Item 3a – Markets+ Attribution of Resources**

   Motion: Russ Mantifel (BPA) motioned to approve the modified resource attribution language, originally approved during the January 16th, 2024 MDWG meeting. SPP will report back to the MDWG during a future meeting, with any analysis on consistency with the remainder of the tariff. Jeff Spires (Powerex) provided the second. Motion carried unanimously.

ACTION ITEM:

No new action items were documented.

FUTURE MEETINGS:

Meeting: February 13th, 2024 MDWG Meeting Registration
Date: February 13th, 2024

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Location: Net-conference
Time: 11:00 a.m. – 5:00 p.m., CPT (9:00 a.m. – 3:00 p.m., PT/10:00 – 4:00 p.m., MT)

Meeting: March 12th, 2024 MDWG Meeting Registration
Date: March 12th, 2024
Location: Net-conference
Time: 11:00 a.m. – 5:00 p.m., CPT (9:00 a.m. – 3:00 p.m., PT/10:00 – 4:00 p.m., MT)

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From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, August 30, 2023 9:09 AM
To: Mantifel,Russell (BPA) - PGL-5
Subject: [EXTERNAL] **External Email** August 29th MDWG Summary of Motions, Action Items, and Future Meetings
Attachments: 8 29 MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx

<="" tdface="Calibri" color="Yellow" size="3">CAUTION: This email originated from outside of the SPP network. Do not click links or open attachments unless you recognize or can verify the sender, or were expecting an email from the sender. The original sender of this email is kdarden@spp.org

Good morning –

Attached is a draft summary of the 8/29 MDWG meeting motions, action items, and future meetings. Please review and let me know if you have any edits.

Link to the recording:
Link:
https://mysppmeeting.webex.com/recordingservice/sites/mysppmeeting/recording/playback/(b)(6)
(b)(6)
Password: (b)(6)

Thank you!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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MARKETS+ DESIGN WORKING GROUP MEETING
8/29/2023
Net-conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

1. **Agenda Item 4 – Consent Agenda: August 9th Joint MDWG and MGHGTF Minutes and August 10th MDWG Minutes**

   Motion: Nick Detmer (Xcel) motioned to approve the consent agenda, containing the 8/9 Joint MDWG/MGHGTF minutes and modified 8/10 MDWG. Adam Cornelius (SCPUD) provided the second. Motion carried unanimously.

2. **Agenda Item 7 – Flexibility Product Design**

   Motion: Lindsey Schlekeway (NVE) motioned to approve SPP's proposal to have the following products and associated requirements in Markets+ at go-live: 1) Short-Term Flexibility Product Up, 2) Short-Term Flexibility Product Down, and 3) Mid-Term Flexibility Product, with the removal of an explicit offer for online Mid-Term Flexibility Up. Further discussion on the option to offer maximum or minimum clearing quantity per resource in the Protocols and not Tariff will be discussed for initial tariff filing. Discussion for including the potential for biddable/offerable Flexibility Products and associated cost allocation will occur following FERC filing of the Markets+ Tariff. Laura Trolese (TEA) provided the second. Motion carried with three abstentions (PGP, SCPUD, and TAC).

ACTION ITEMS:

No new action items were taken.

FUTURE MEETINGS:

Meeting: August 31st and September 1st Technical Settlements Workshop
Date: August 31st – September 1st, 2023
Location: Tri-State Generation & Transmission; Denver, CO; Net-conference
Day 1: 8:30 a.m. – 5:00 p.m., MT / 9:30 a.m. – 6:00 p.m., CPT / 7:30 a.m. – 4:00 p.m., PDT
Day 2: 8:30 a.m. – 12:00 p.m., MT / 9:30 a.m. – 1:00 p.m., CPT / 7:30 a.m. – 11:00 a.m., PDT

Meeting: September 15th MDWG Meeting
Date: September 15th, 2023
Location: Net-conference

29334693

Time: 12:00 p.m. – 5:00 p.m., CPT / 10:00 a.m. – 3:00 p.m., PDT / 11:00 a.m. – 4:00 p.m., MT

Meeting: September 20th MDWG Meeting
Date: September 20th, 2023
Location: Net-conference
Time: 11:30 a.m. – 5:00 p.m., CPT / 9:30 a.m. – 3:00 p.m., PDT / 10:30 a.m. – 4:00 p.m., MT

Meeting: October 10th MDWG Meeting
Date: October 10th, 2023
Location: Net-conference
Time: 11:30 a.m. – 5:00 p.m., CPT / 9:30 a.m. – 3:00 p.m., PDT / 10:30 a.m. – 4:00 p.m., MT

DRAFT

From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, January 17, 2024 7:52 AM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] January 16th 2024 MDWG Summary of Motions, Action Items, and Future Meetings
Attachments: 1 16 MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx

Good morning MDWG participants and stakeholders –

The 1/16/2024 MDWG Summary of Motions, Action Items, and Future Meetings are attached for your review. Please let me know if any changes are needed.

Also, please register for this Friday's MDWG meeting, if you have not already. We will cover Markets+ Settlements. I would encourage you to invite your Settlements team to participate as well.

Thank you!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C (b)(6)
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MARKETS+ DESIGN WORKING GROUP MEETING
1/16/2024
Net-Conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

1. **Agenda Item 2a – Attachment A: Outs-ins/Internals**

   Motion: Tyler Moore (APS) motioned to approve Attachment A, Section 9.1.2 (Markets+ Internal Energy Schedule Settlement Amount) and associated definitions as modified during the meeting, and the language provided by Powerex and to find the best location for the language, while ensuring the MGHGTF is aware of the changes prior to the January 23rd - 24th, 2024 MPEC meeting. Jeff Spires (Powerex) provided the second. Motion carried unanimously.

2. **Agenda Item 2b – Attachment A, Sec. 6.8: Outage Reporting and Scheduling**

   Motion: Nick Detmer (Xcel) motioned to approve Attachment A, Section 6.8 (Outage Reporting and Scheduling) as endorsed by the Markets+ Operations and Reliability Working Group (MORWG). Kent Walter (APS) provided the second. Motion carried unanimously.

3. **Agenda Item 3a – Section II: Special Rules on Use of Tariff**

   Motion: Kent Walter (APS) motioned to approve Section II (Special Rules on Use of Tariff). Vincent Ching (PSE) provided the second. Motion carried unanimously.

4. **Agenda Item 3b – Balancing Authority Agreement**

   Motion: Kent Walter (APS) motioned to approve Attachment L (Balancing Authority Agreement). Sara Eaton (BPA) provided the second. Motion carried unanimously.

5. **Agenda Item 3c – Transmission Service Provider Agreement**

   Motion: Sara Eaton (BPA) motioned to approve Attachment M (Transmission Service Provider Agreement). Kent Walter (APS) provided the second. Motion carried unanimously.

6. **Agenda Item 3d – Stakeholder Agreement**

   Motion: Nick Detmer (Xcel) motioned to approve the Stakeholder Agreement. Sara Eaton (BPA) provided the second. Motion carried unanimously.

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ACTION ITEM:

Action Item: Agenda Item 2a – Markets+ Internal Energy: 1) SPP staff will determine best location for MDWG approved Powerex language; and 2) SPP staff will make the MGHGTF aware of the language, ahead of the 1/23 MPEC, and request additional feedback from the MPEC during their 1/23/24 meeting.

FUTURE MEETINGS:

Meeting: January 19th, 2024 MDWG Meeting Registration
Date: January 19th, 2024
Location: Net-conference
Time: 11:00 a.m. – 3:00 p.m., CPT (9:00 a.m. – 1:00 p.m., PT/10:00 – 2:00 p.m., MT)

Meeting: February 13th, 2024 MDWG Meeting Registration
Date: February 13th, 2024
Location: Net-conference
Time: 11:00 a.m. – 5:00 p.m., CPT (9:00 a.m. – 3:00 p.m., PT/10:00 – 4:00 p.m., MT)

Meeting: March 12th, 2024 MDWG Meeting Registration
Date: January 16th, 2024
Location: Net-conference
Time: 11:00 a.m. – 5:00 p.m., CPT (9:00 a.m. – 3:00 p.m., PT/10:00 – 4:00 p.m., MT)

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From: Kristen Darden <kdarden@spp.org>
Sent: Friday, January 12, 2024 10:01 AM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] January 11th 2024 MDWG Summary of Motions, Action Items, and Future Meetings
Attachments: 1 11 MDWG Summary of Motions Action Items Future Meetings_DRAFT.docx

Good morning MDWG participants and stakeholders –

The 1/11/2024 MDWG Summary of Motions, Action Items, and Future Meetings are attached for your review. Please let me know if any changes are needed.

Thank you!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C (b)(6)
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MARKETS+ DESIGN WORKING GROUP MEETING
1/11/2024
Net-Conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

1. **Agenda Items 3a and 3b – Consent Agenda**

   Motion: Russ Mantifel (BPA) motioned to approve the Consent Agenda as presented. Nick Detmer (Xcel) provided the second. Motion carried unanimously.

2. **Agenda Items 4ab – Attachment B and C: Market Power Mitigation Plan and Market Monitoring Plan**

   Motion: Kent Walter (APS) motioned to approve Attachments B and C as modified during the meeting. SPP will add to the Markets+ Parking Lot the follow Action Item for post-FERC filing of the Markets+ Tariff and prior to go-live, to research Energy Offer Mitigation in Attachment B, Section 3.4, for dispatch-limited Energy storage mitigation and determine what modifications are necessary to reflect resource characteristics. Russ Mantifel (BPA) provided the second. Motion carried unanimously.

3. **Agenda Item 4d – Attachment A: Uncommitted Supply**

   Motion: Nick Detmer (Xcel) motioned to approve Attachment A, Section 7.4 (Flexibility Reserves and Instantaneous Load Capacity Requirements) as presented by the Markets+ Seams Working Group (MSWG). Sara Eaton (BPA) provided the second. Motion carried unanimously.

4. **Agenda Item 4e – Attachment A: Congestion Rent**

   Motion: Adam Cornelius (SCPUD) motioned to approve Congestion Rent definitions and Attachment A, Sections 7.16, 7.16.1, 9.2.13, 9.2.14, and 9.2.15 (Congestion Rent) as presented. Paul Dietz (GCPUD) provided the second. Motion carried with one opposition (NVE).

5. **Agenda Item 4f – Attachment A: Greenhouse Gas**

   Motion: Vijay Satyal (WRA) motioned to approve the Markets+ Greenhouse Gas Task Force (MGHGTF) proposed action item. Russ Mantifel (BPA) provided the second. Motion carried unanimously.

- **Establish Initiative - Action Item:** *The MGHGTF, in coordination with SPP Staff,* will *continue work in progress to develop clear and comprehensive market design elements to support compliance with non-pricing GHG Reduction Programs through dispatch (or alternative mechanisms), tracking and reporting and will work to complete this task with sufficient time before the deadline for utility commitments for Phase II M+ funding decisions*

Motion: Russ Mantifel (BPA) motioned to approve Greenhouse Gas market design language as presented by the Markets+ Greenhouse Gas Task Force (MGHGTF), and the Markets+ Design Working Group (MDWG) correction of a section reference in 4.6.2. Tuuli Hakala (CCPUD) provided the second. Motion carried with two oppositions (AEPCO, NVE) and three abstentions (BEPC, RNW, WRA).

- **AEPCO, NVE, and WRA Reason for Opposition:** AEPCO, NVE, and WRA do not support the Type 1A design that increases the costs outside the GHG zone from a special market design that allows contracted resources to be treated like an internal GHG zone resources.

ACTION ITEM:

No new action items were documented.

FUTURE MEETINGS:

Meeting: January 16th, 2024 MDWG Meeting Registration
Date: January 16th, 2024
Location: Net-conference
Time: 11:00 a.m. – 3:00 p.m., CPT (9:00 a.m. – 1:00 p.m., PT/10:00 – 2:00 p.m., MT)

Meeting: February 13th, 2024 MDWG Meeting Registration
Date: February 13th, 2024
Location: Net-conference
Time: 11:00 a.m. – 5:00 p.m., CPT (9:00 a.m. – 3:00 p.m., PT/10:00 – 4:00 p.m., MT)

Meeting: March 12th, 2024 MDWG Meeting Registration
Date: January 16th, 2024
Location: Net-conference
Time: 11:00 a.m. – 5:00 p.m., CPT (9:00 a.m. – 3:00 p.m., PT/10:00 – 4:00 p.m., MT)

DRAFT

From: Mantifel,Russell (BPA) - MTM-3
Sent: Monday, November 20, 2023 3:06 PM
To: Spires, Jeff; Carrie Simpson; Kristen Darden; Yasser Bahbaz; Jim Gonzalez; Drew McGilvray
Subject: RE: [EXTERNAL] RE: Request for Time at 11/28 MDWG

That would work for me.

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Monday, November 20, 2023 2:55 PM
To: Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Yasser Bahbaz <ybahbaz@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Drew McGilvray <dmcgilvray@spp.org>
Subject: [EXTERNAL] RE: Request for Time at 11/28 MDWG

Yes, although it would be just a few sentences in the initial tariff filing to establish the concept. If you have any time tomorrow morning I can give you an update by phone, I am free anytime prior to noon PT.

Jeff

Jeff Spires | Director, Power | Powerex Corp. | Cell (b)(6)

From: Carrie Simpson <csimpson@spp.org>
Sent: Monday, November 20, 2023 2:18 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Yasser Bahbaz <ybahbaz@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Drew McGilvray <dmcgilvray@spp.org>
Subject: RE: Request for Time at 11/28 MDWG

⚠ **Caution: External Email**

I see. Are you looking for a solution to be incorporated into the initial Tariff filing? Or is this issue intended to address something coming out of the GHG language?

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Monday, November 20, 2023 11:15 AM
To: Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: Request for Time at 11/28 MDWG

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - Jeff.Spires@powerex.com and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Hi Carrie,

It would be a complementary concept. We envision the bilateral settlements scheduled would be one part of the solution (to address the settlements outcomes), whereas the more broad attribution framework we are proposing would generally enable assigning a specific resource to a specific load for multiple purposes (e.g., RA, GHG pricing, non-GHG pricing state programs, must offer quantity, etc).

Jeff

From: Carrie Simpson <csimpson@spp.org>
Sent: Monday, November 20, 2023 8:29 AM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: RE: Request for Time at 11/28 MDWG

⚠ **Caution: External Email**

Jeff- Is this different or in addition to our "bilateral settlements schedule" solution that enables market participants to identify bilateral transactions outside of the market and adjust settlements after-the-fact?

Carrie

EXAMPLE: TAGS THAT STAY IN M+ FOOTPRINT

Example Tag Path: **M+BA1->M+BA2**
Tags internal to the M+ footprint (2 or more M+BAs).

MP 1 – owns G1A and PTP from G1A to Int C
MP 2 – owns L2, owns PTP from Int C to L2
Bilateral trade was for $25 at G1A.
Parties agree to have SPP account for energy transfer in settlements

Settlement as an internal (at the source)
MP1 paid $25 by MP2 (settled outside M+)
MP1 paid by MO $19 to produce at G1A
MP1 charged $19 by MO for sale at G1A
=25+19-19=$25

MP2 pays $25 to MP1(settled outside M+)
MP2 charged by MO $20 for load L2
MP2 paid by MO $19 for receiving at G1A
= -25-20+19=-$26

MP1 and MP2 would be eligible for Congestion Rent payment pursuant to their allocation rights



Location	LMP
G1A	$19
L2	$20

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EXAMPLE : INTERNAL BA TAG

Example Tag Path: **M+BA1(MP1)->M+BA1(MP2)**
Tags internal to a single M+BA.

MP 1 – owns G1A
MP 2 – owns L1, owns network service to L1
Bilateral trade was for $25 at G1A
Parties agree to have SPP account for energy transfer in settlements

Settlement as an internal (at the source)
MP1 paid $25 by MP2 (settled outside M+)
MP1 paid by MO $19 to produce at G1A
MP1 charged by MO $19 for sale at G1A
=25+19-19=$25

MP2 charged $25 to MP1(settled outside M+)
MP2 charged by MO $20 for load L1
MP2 paid by MO $19 for receiving at G1A
= -25-22+19=-$28

MP2 would be eligible for Congestion Rent payment pursuant to their allocation rights



Location	LMP
G1A	$19
L1	$22

SPP

MARKETS+

29334924

EXAMPLE: M+ OUT AND IN (WHEEL THROUGH NON-M+ BA)

Example Tag Path: **M+BA1->BA4->M+BA2**
Tags that start in a M+ BA leave, wheel through one or more non-M+ BA(s) and back into another M+BA.

MP 1 – owns G1A and PTP from G1A to BA4
MP 2 – owns L2, owns PTP from BA4 to L2
Bilateral trade was for $25 at G1A
Parties agree to have SPP account for energy transfer in settlements

Settlement as an internal (at the source)
MP1 paid $25 by MP2 (settled outside M+)
MP1 paid by MO $19 to produce at G1A
MP1 charged $19 by MO for sale at G1A
=25+19-19=$25

MP2 pays $25 to MP1(settled outside M+)
MP2 charged by MO $20 for load L2
MP2 paid by MO $19 for receiving at G1A
= -25-20+19= -$26

MP1 and MP2 would be eligible for Congestion Rent payment pursuant to their allocation rights



Location	LMP
G1A	$19
BA4 Int	$10
L2	$20

SPP MARKETS+

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Monday, November 20, 2023 9:47 AM
To: Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** Request for Time at 11/28 MDWG

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - Jeff.Spires@powerex.com and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Hi Kristin, Carrie and Russ

I would like to request 20-30 minutes at the 11/28 MDWG to present a concept and some proposed tariff language to support the ability for Markets+ to incorporate the attribution of specific generation resources to specific loads. I know we will likely have a lot to get through that day but this is something we think is important so I hope you can accommodate some time. I am working on a few slides to help explain the concept and can share them with you asap.

Regards,
Jeff

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This email and any attachments are for the sole use of the intended recipient(s) and may contain confidential information. If you receive this email in error, please notify the sender, delete the original and all copies of the email and destroy any other hard copies of it.

From: Mantifel,Russell (BPA) - MTM-3
Sent: Monday, March 11, 2024 10:19 AM
To: Dibble,Rachel L (BPA) - PT-5; Kim O'Guinn; Chong Tim,Marcus H (BPA) - L-7
Cc: Paul Suskie; Len Tao; Antoine Lucas; Carrie Simpson
Subject: RE: [EXTERNAL] Markets+ Next Steps

Same for me.

From: Dibble,Rachel L (BPA) - PT-5 <rldibble@bpa.gov>
Sent: Monday, March 11, 2024 9:38 AM
To: Kim O'Guinn <koguinn@spp.org>; Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Paul Suskie <psuskie@spp.org>; Len Tao <ltao@spp.org>; Antoine Lucas <alucas@spp.org>; Carrie Simpson <csimpson@spp.org>
Subject: RE: [EXTERNAL] Markets+ Next Steps

Anytime after noon PST works for me.

From: Kim O'Guinn <koguinn@spp.org>
Sent: Monday, March 11, 2024 8:58 AM
To: Chong Tim,Marcus H (BPA) - L-7 <mhchongtim@bpa.gov>; Dibble,Rachel L (BPA) - PT-5 <rldibble@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Paul Suskie <psuskie@spp.org>; Len Tao <ltao@spp.org>; Antoine Lucas <alucas@spp.org>; Carrie Simpson <csimpson@spp.org>
Subject: [EXTERNAL] Markets+ Next Steps

Good morning, All,

I hope this message finds you well. As you know, the tariff for Markets+ has been approved by the MPEC and IMIP. It is scheduled for approval by the SPP Board of Directors at a Special Meeting on March 25, 2024. We would like to schedule a brief meeting to discuss our plans regarding the FERC filing. Would you be available for a 15-minute call on **Wednesday, March 13, 2024**, at a time that works best for you? Please let me know if this date works for you; if you need a different day and time, suggest an alternate day and time that would be more convenient.
Thank you for your time and commitment. We look forward to speaking with you soon.

Best Regards,
Kim

Kim O'Guinn | Senior Director, State Regulatory Policy | koguinn@spp.org | (b)(6)
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

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From: Mantifel,Russell (BPA) - MTM-3
Sent: Monday, June 10, 2024 10:16 AM
To: Detmer, Nicholas J; Kelli Schermerhorn
Subject: RE: [EXTERNAL] RE: Approval items for MDWG

Thanks Kelli, I spaced who I'm working with on this one 😊

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Monday, June 10, 2024 8:38 AM
To: Kelli Schermerhorn <kschermerhorn@spp.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: [EXTERNAL] RE: Approval items for MDWG

I agree with you Russ.

From: Kelli Schermerhorn <kschermerhorn@spp.org>
Sent: Saturday, June 8, 2024 6:23 PM
To: Detmer, Nicholas J <nick.detmer@xcelenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: Re: Approval items for MDWG

EXTERNAL - STOP & THINK before opening links and attachments.

Hi Russ & Nick,

Carman and Tracy are the interim staff secretaries for MDWG- so I forwarded this to Carman.

Thank you,

Get Outlook for iOS

From: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Sent: Friday, June 7, 2024 9:12:55 AM
To: Kelli Schermerhorn <kschermerhorn@spp.org>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: **External Email** Approval items for MDWG

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - rxmantifel@bpa.gov and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Hi Kelli and Nick,

I wanted to flag some items that are up for approval next week. The highlighted sections were only shared at the last meeting and haven't gone through comment submittal and review…
Also, to my recollection, they were not highlighted as items that would be up for approval at the last MDWG. Is that memory right? If so it might be that we need to keep approval until a later MDWG but can discuss in the meeting if needed.

1. Markets+ Protocols: Approval..... SPP Staff (60)

   A. Section 2 (Introduction) **and** Section 3 (Overview)

   B. Section 4.2 (Pre-Day Ahead Activities) **to** Section 4.2.5.2 (Multi-Day Forecast Analysis Results)

   C. Section 4 (Energy and Flexibility Reserve Products Markets Requirements and Processes) **to** Section 4.1.6 (Outage Scheduling and Reporting)

   D. Section 4.3 (Day-Ahead Activities) **to** Section 4.4.4.1.2 (Load Deviation Exemptions)

Russell Mantifel (he/him/his)
Director: Market Initiatives | MTM | Business Transformation Office
BONNEVILLE POWER ADMINISTRATION
rxmantifel@bpa.gov | O: 503-230-4372



From: Mantifel,Russell (BPA) - MTM-3
Sent: Wednesday, December 13, 2023 8:39 AM
To: Antoine Lucas; Dibble,Rachel L (BPA) - PT-5
Subject: RE: [EXTERNAL] Markets+ Phase 2 Next Steps

Looks good. Thanks

Sent from Workspace ONE Boxer

On Dec 13, 2023 8:35 AM, "Dibble,Rachel L (BPA) - PT-5" <rldibble@bpa.gov> wrote:
Looks like we're both open at 12:30PST today if that works for you.

From: Antoine Lucas <alucas@spp.org>
Sent: Tuesday, December 12, 2023 1:10 PM
To: Dibble,Rachel L (BPA) - PT-5 <rldibble@bpa.gov>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: [EXTERNAL] Markets+ Phase 2 Next Steps

Rachel/Russ,

Do you have a 30 minute time block over the next couple of days to discuss Markets+ Phase 2? After aggregating the survey data and thinking through it, I'd like to talk through a few thoughts on it with you. I'll make myself available anytime you can be available tomorrow, and I should be able to make anytime work on Thursday afternoon.

Thanks,

Antoine Lucas
Vice President, Markets
Southwest Power Pool
Phone: *501-614-3382*
Email: *alucas@spp.org*

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From: Mantifel,Russell (BPA) - BT-3
Sent: Tuesday, October 10, 2023 11:33 AM
To: Cornelius, Adam; Spires, Jeff; Michael Linn; Applegate, Rick; Eaton,Sara L (BPA) - PTMA-5; tuuli.hakala@chelanpud.org; Doot,Erika A (BPA) - LP-7; Truong,Mai N (BPA) - TSB-TPP-2
Subject: RE: [EXTERNAL] Re: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

I do think the second and third bullets below would go to a vote today or tomorrow unless we ask for more time.

From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Tuesday, October 10, 2023 11:30 AM
To: Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Michael Linn <mlinn@ppcpdx.org>; Applegate, Rick <rapplegate@cityoftacoma.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; tuuli.hakala@chelanpud.org; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>
Subject: RE: [EXTERNAL] Re: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

Russ – that's a good question and I've been thinking about the timing of our behind-the-scenes work on our paper relative to the public process. Are you anticipating a vote on B & C today or tomorrow. I'm not sure the issues in our paper will be resolved today, so recognizing that anyone can make a motion at any time, I'm wondering if there is anything process-wise we can or should do to try and head that off.

Specific issues that I don't think will get resolved today include:

- Appropriateness of the proposed RSI test, including consideration of a zonal approach (not necessarily hydro specific)
- Spring period within the hydro mitigated offer – is only using DA peak price appropriate or potentially over-restricting with the removal of all other floors, especially in a dry year. Alan's response to my question on how to reflect changes to the runoff period that aren't known in advance made me a little concerned about rigidity.
- Relationship between legitimate hydro management and appearance of either physical withholding or uneconomic supply – I know these topics are coming up, but not clear to me that the language is there yet.

For now, I just copied folks that I see on MDWG this morning. Apologies if I missed someone.

Thanks,
Adam

From: Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>
Sent: Tuesday, October 10, 2023 8:21 AM
To: Michael Linn <mlinn@ppcpdx.org>; Fina, Joe <GFina@SNOPUD.com>; Jeff Spires <Jeff.Spires@powerex.com>; Cornelius, Adam <ACCornelius@Snopud.com>; Willis, Wendy <wendy.willis@powerex.com>; Mark Holman <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Marr, Garrison <GBMarr@Snopud.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Bellcoff,Steve

29334998

(BPA) - PGPR-5 <srbellcoff@bpa.gov>; Janet Jaspers <janet.jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>; Shawn Smith <shawn.smith@chelanpud.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: RE: [EXTERNAL] Re: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

One question I have is whether today's MDWG agenda meets our request of SPP/MMU given that they already planned to discuss much of this. Are we asking them to change moving forward? I just want to recognize the timing of this vis-à-vis what they've already scheduled.

From: Michael Linn <mlinn@ppcpdx.org>
Sent: Monday, October 9, 2023 4:44 PM
To: Joe Fina <gfina@snopud.com>; Jeff Spires <Jeff.Spires@powerex.com>; Adam Cornelius <ACCornelius@Snopud.com>; Willis, Wendy <wendy.willis@powerex.com>; Mark Holman <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Garrison Marr <gbmarr@snopud.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Jason Zyskowski <JAZyskowski@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Bellcoff,Steve (BPA) - PGPR-5 <srbellcoff@bpa.gov>; Janet Jaspers <janet.jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>; Shawn Smith <shawn.smith@chelanpud.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: [EXTERNAL] Re: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

Good Afternoon -

The email looks good to us as well.

Mike

From: Shawn Smith <Shawn.Smith@chelanpud.org>
Sent: Monday, October 9, 2023 4:26:58 PM
To: Joe Fina <gfina@snopud.com>; Jeff Spires <jeff.spires@powerex.com>; Adam Cornelius <ACCornelius@Snopud.com>; Willis, Wendy <wendy.willis@powerex.com>; Mark Holman <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Garrison Marr <gbmarr@snopud.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Russ Mantifel <rxmantifel@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Jason Zyskowski <JAZyskowski@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser (BPA), Todd <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Steve Bellcoff <srbellcoff@bpa.gov>; Janet Jaspers <janet.jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Michael Linn <mlinn@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: RE: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

All,

I am good with the email that is going to Antoine.

-Shawn

From: Fina, Joe <GFina@SNOPUD.com>
Sent: Monday, October 9, 2023 4:03 PM
To: Jeff Spires <jeff.spires@powerex.com>; Cornelius, Adam <ACCornelius@Snopud.com>; Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Marr, Garrison <GBMarr@Snopud.com>; Shawn Smith <Shawn.Smith@chelanpud.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; rxmantifel@bpa.gov; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser (BPA), Todd <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; srbellcoff@bpa.gov; Janet Jaspers <Janet.Jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Michael Linn <mlinn@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: [External] RE: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

PAUSE TO CONSIDER: The actual sender address for this email is GFina@SNOPUD.com.
Do you trust this message and any contents within?
If not, please forward it to our Phishing Hole for analysis. Thank You!

All,

I thought I would remind us of some history that may be helpful. Back in 2015, the Northwest Power Pool Market Assessment and Coordination Committee (which I believe everyone here was a member of) submitted a petition for declaratory order to FERC related to the region's development of a Centrally Cleared Energy Dispatch Market. One of the requested declarations was the following:

A decision by a generation owner/operator not to offer to sell generation in any interval in the voluntary CCED Market will not by itself demonstrate intent to manipulate the market and, in evaluating the presence of intent, the Commission will take into account the unique factors affecting the operations and marketing of power from hydroelectric resources.

Unfortunately, the petition was later withdrawn so FERC did not issue an order on it. However, the supporting argument in the petition is very well reasoned. See pp. 23-27. There is also good background information at the beginning of the petition that supports the argument.

Here is a link to the petition: https://elibrary.ferc.gov/eLibrary/filedownload?fileid=01D6EA58-66E2-5005-8110-C31FAFC91712. Jon Schneider with the Stinson law firm in DC helped the group at the time and submitted the petition. My recollection is that he, along with several committee members, had talked to FERC enforcement staff prior to the filing and that the petition was informed by the input received during those meetings.

The petition certainly doesn't get into details, but depending on SPP's response to the document, we may want to fold in some of the petition's language.

- Joe

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, October 6, 2023 4:30 PM
To: Cornelius, Adam <ACCornelius@Snopud.com>; Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Marr, Garrison <GBMarr@Snopud.com>; Shawn Smith <Shawn.Smith@chelanpud.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; rxmantifel@bpa.gov; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Fina, Joe <GFina@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser (BPA), Todd <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; srbellcoff@bpa.gov; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Michael Linn <mlinn@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: RE: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

Hi Adam

Thanks to all of you for the quick turnaround on providing your feedback on the document. We are good with the edits. We also have a preference for Option 2 regarding data sharing and propose we use that version for purposes of sharing with SPP, subject to BPA's confirmation that they are comfortable with the edits and with using Option 2.

With respect to uneconomic production, we agree that there is likely some additional work required in that area, including defining potential guardrails around 4.6.1 (a) (1), or adding language that the section it is not applicable to hydro resources. That said, the solution might be more clear depending on the outcome of the Hydro DEB discussion, so we would propose sharing the document as is, pending future evaluation of the specific refinements needed to address this concern as the discussion continues.

Lastly, below is draft joint email to Antoine and Jim Gonzalez for this group's review and feedback. Ideally we would send this first thing Monday (or Tuesday given the holiday).

Regards,
Jeff

Draft email:

Antoine and Jim,

Please see attached a paper from a group of Markets+ stakeholders that have worked together to establish a set of principles and draft tariff language focused on topics related to the future participation of hydro resources in Markets+. We are hoping to follow up with you to discuss next steps, once you have had the opportunity to read the paper and discuss it internally.

On a separate note, we would also like to encourage SPP, and its MMU, to support stakeholders' ability to discuss important Markets+ topics prior to SPP or its market monitor developing and presenting policy positions and associated draft tariff language as the starting point for such discussions. We believe it will be a much more constructive and efficient process for SPP and its MMU to comment on policy proposals and draft tariff language that is developed collectively by the stakeholders in each group or sub-group (with input from SPP and its MMU during that development process).

This email and the attached paper is a joint communication from BPA, Chelan County PUD, Powerex Corp, Public Power Council, Snohomish County PUD and Tacoma Public Utilities.

From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Friday, October 6, 2023 3:42 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Marr, Garrison <GBMarr@Snopud.com>; Shawn Smith <Shawn.Smith@chelanpud.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; rxmantifel@bpa.gov; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Fina, Joe <GFina@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser (BPA), Todd <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; srbellcoff@bpa.gov; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Michael Linn <mlinn@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: RE: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

⚠ **Caution: External Email**

Thank you to Powerex and BPA for your efforts on pulling together this document on a short time frame. Attached are a few relatively minor suggestions from Snohomish (Tacoma and Chelan had no further edits). As for data sharing, Snohomish and Tacoma both prefer Option 2, but can live with Option 1. Chelan is fine with either.

One consideration that I noted in comments is whether we should make some more specific recommendations when it comes to uneconomic production. I appreciate that the paper mentions that when legitimate water management activities require an increased volume of water be released that it shouldn't be considered uneconomic production. However, unlike in CAISO, one of the flags for uneconomic production in SPP is a resource offering below its mitigated offer. We may want to consider at some point whether any specific guardrails around 4.6.1 (a) (1) below are needed in light of the proposed mitigated offer for hydro.

> **4.6.1 Uneconomic Production**
>
> The Market Monitor will monitor for cases where uneconomic production by a Resource causes congestion on transmission facilities or price separation between Reserve Zones that is not justified by reliability concerns. For an MSR, both charging and discharging are considered production. The provisions of this Section 4.6.1 do not apply to Demand Response Resources.
>
> (a) Potential uneconomic production will be indicated, and subject to further analysis as described in (b) of this Section 4.6.1, when the Resource has a positive Resource-to-Load Distribution Factor and any of the following conditions are met:
>
> (1) a Resource is identified with an incremental energy offer price less than 50 percent of its mitigated offer as shadow calculated by the Market Monitor; or
>
> (2) a Resource is determined to be generating outside of its Operating Tolerance; or

(3) a Resource is subject to a time-based or other resource offer parameter (non-time and non-dollar based) that appears to facilitate production that is otherwise uneconomic.

(b) For any Resource meeting the conditions described in (a) of this Section 4.6.1, the Market Monitor will determine whether: (i) the MW impact from uneconomic production associated with such Resource is exacerbating the transmission congestion or binding a Reserve Zone; and (ii) the uneconomic production is not obviously justified by reliability or other operational concerns.

The Market Monitor will conduct evaluations as specified above and other related assessments to determine if there is sufficient credible information to justify referral to FERC.

Thanks,

Adam Cornelius
Principal Utility Analyst | Power Supply | Snohomish County PUD
2320 California St, Everett, WA 98201
cell: (b)(6) | office: (b)(6)
ACCornelius@snopud.com

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Thursday, October 5, 2023 3:21 PM
To: Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Marr, Garrison <GBMarr@Snopud.com>; Shawn Smith <Shawn.Smith@chelanpud.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; rxmantifel@bpa.gov; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Fina, Joe <GFina@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser (BPA), Todd <twkochheiser@bpa.gov>; Cornelius, Adam <ACCornelius@Snopud.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; srbellcoff@bpa.gov; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Michael Linn <mlinn@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

CAUTION: THIS EMAIL IS FROM AN EXTERNAL SENDER.
Do not click on links or open attachments if the sender is unknown or the email is suspect.

Good afternoon,

Please see attached an updated draft of the confidential "Principles For Storage Hydro Participation in Markets+" document (in clean and redline) that reflects collaboration between Powerex and BPA on refinements to the initial draft for the group's review.

We look forward to the discussion tomorrow morning.

Regards,
Jeff

This email may contain information that is confidential. If you are not the intended recipient you may not distribute or copy this email or any attachments. If you have received this email in error, please notify the sender and delete this email and attachments from your system immediately. Thank you.

From: Mantifel,Russell (BPA) - BT-3
Sent: Tuesday, October 10, 2023 3:50 PM
To: Cornelius, Adam; Applegate, Rick; Spires, Jeff; Michael Linn; Fina, Joe; Willis, Wendy; Holman, Mark; Aitken, Meredith; Marr, Garrison; Eaton,Sara L (BPA) - PTMA-5; Suzanne Cooper (sbcoooper@bpa.gov); Johnson, Ray; Zyskowski, Jason; Kochheiser,Todd W (BPA) - TOI-DITT-2; Van Calcar, Pamela M (BPA) - PGS-5; Doot,Erika A (BPA) - LP-7; Bellcoff,Steve (BPA) - PGPR-5; Janet Jaspers; Liechty, Joy; Shawn Smith
Cc: Truong,Mai N (BPA) - TSB-TPP-2; Tuuli Hakala; Mike Bradshaw; Lauren Tenney Denison; Irene Scruggs
Subject: RE: [EXTERNAL] RE: Response Requested: Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

Same here. My question was more tactical, about today and tomorrow, given the agenda. This works for me and I think the approach will be welcomed by the rest of the MDWG.

Russ

From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Tuesday, October 10, 2023 3:27 PM
To: Applegate, Rick <rapplegate@cityoftacoma.org>; Spires, Jeff <Jeff.Spires@powerex.com>; Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>; Michael Linn <mlinn@ppcpdx.org>; Fina, Joe <GFina@SNOPUD.com>; Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Marr, Garrison <GBMarr@Snopud.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Bellcoff,Steve (BPA) - PGPR-5 <srbellcoff@bpa.gov>; Janet Jaspers <janet.jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>; Shawn Smith <shawn.smith@chelanpud.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: [EXTERNAL] RE: Response Requested: Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

AS is Snohomish.

From: Applegate, Rick <rapplegate@cityoftacoma.org>
Sent: Tuesday, October 10, 2023 3:23 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>; Michael Linn <mlinn@ppcpdx.org>; Fina, Joe <GFina@SNOPUD.com>; Cornelius, Adam <ACCornelius@Snopud.com>; Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Marr, Garrison <GBMarr@Snopud.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Bellcoff,Steve (BPA) - PGPR-5 <srbellcoff@bpa.gov>; Janet Jaspers <janet.jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>; Shawn Smith <shawn.smith@chelanpud.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw

<mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: RE: Response Requested: Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

Sorry for a bit of miscommunication on this Jeff. Tacoma is good with sending the document.

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Tuesday, October 10, 2023 3:16 PM
To: Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>; Michael Linn <mlinn@ppcpdx.org>; Joe Fina <gfina@snopud.com>; Adam Cornelius <ACCornelius@Snopud.com>; Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Garrison Marr <gbmarr@snopud.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Jason Zyskowski <JAZyskowski@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Bellcoff,Steve (BPA) - PGPR-5 <srbellcoff@bpa.gov>; Janet Jaspers <janet.jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>; Shawn Smith <shawn.smith@chelanpud.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: Response Requested: Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

Hi everyone,

Given that today's MDWG was another instance of the discussion being mostly focused on MMU's positions and proposed draft tariff language, it seems like the wording of the email as drafted is still applicable.

We are still waiting for confirmation to send the document from **BPA, Snohomish** and **Tacoma**. Can you please let us know and we can send it to Antoine today?

Jeff

Antoine and Jim,

Please see attached a paper from a group of Markets+ stakeholders that have worked together to establish a set of principles and draft tariff language focused on topics related to the future participation of hydro resources in Markets+. We are hoping to follow up with you to discuss next steps, once you have had the opportunity to read the paper and discuss it internally.

On a separate note, we would also like to encourage SPP, and its MMU, to support stakeholders' ability to discuss important Markets+ topics prior to SPP or its market monitor developing and presenting policy positions and associated draft tariff language as the starting point for such discussions. We believe it will be a much more constructive and efficient process for SPP and its MMU to comment on policy proposals and draft tariff language that is developed collectively by the stakeholders in each group or sub-group (with input from SPP and its MMU during that development process).

This email and the attached paper is a joint communication from BPA, Chelan County PUD, Powerex Corp, Public Power Council, Snohomish County PUD and Tacoma Public Utilities.

From: Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>
Sent: Tuesday, October 10, 2023 8:21 AM
To: Michael Linn <mlinn@ppcpdx.org>; Joe Fina <gfina@snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Adam Cornelius <ACCornelius@Snopud.com>; Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Garrison Marr <gbmarr@snopud.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Jason Zyskowski <JAZyskowski@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Bellcoff,Steve (BPA) - PGPR-5 <srbellcoff@bpa.gov>; Janet Jaspers <janet.jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>; Shawn Smith <shawn.smith@chelanpud.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: RE: [EXTERNAL] Re: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

⚠ Caution: External Email

One question I have is whether today's MDWG agenda meets our request of SPP/MMU given that they already planned to discuss much of this. Are we asking them to change moving forward? I just want to recognize the timing of this vis-à-vis what they've already scheduled.

From: Michael Linn <mlinn@ppcpdx.org>
Sent: Monday, October 9, 2023 4:44 PM
To: Joe Fina <gfina@snopud.com>; Jeff Spires <Jeff.Spires@powerex.com>; Adam Cornelius <ACCornelius@Snopud.com>; Willis, Wendy <wendy.willis@powerex.com>; Mark Holman <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Garrison Marr <gbmarr@snopud.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Mantifel,Russell (BPA) - BT-3 <rxmantifel@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Jason Zyskowski <JAZyskowski@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Bellcoff,Steve (BPA) - PGPR-5 <srbellcoff@bpa.gov>; Janet Jaspers <janet.jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>; Shawn Smith <shawn.smith@chelanpud.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: [EXTERNAL] Re: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

Good Afternoon -

The email looks good to us as well.

Mike

From: Shawn Smith <Shawn.Smith@chelanpud.org>
Sent: Monday, October 9, 2023 4:26:58 PM
To: Joe Fina <gfina@snopud.com>; Jeff Spires <jeff.spires@powerex.com>; Adam Cornelius <ACCornelius@Snopud.com>; Willis, Wendy <wendy.willis@powerex.com>; Mark Holman <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Garrison Marr <gbmarr@snopud.com>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; Russ Mantifel <rxmantifel@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Jason Zyskowski <JAZyskowski@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser (BPA), Todd <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Steve Bellcoff <srbellcoff@bpa.gov>; Janet Jaspers <janet.jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Michael Linn <mlinn@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: RE: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

All,

I am good with the email that is going to Antoine.

-Shawn

From: Fina, Joe <GFina@SNOPUD.com>
Sent: Monday, October 9, 2023 4:03 PM
To: Jeff Spires <jeff.spires@powerex.com>; Cornelius, Adam <ACCornelius@Snopud.com>; Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Marr, Garrison <GBMarr@Snopud.com>; Shawn Smith <Shawn.Smith@chelanpud.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; rxmantifel@bpa.gov; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser (BPA), Todd <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; srbellcoff@bpa.gov; Janet Jaspers <Janet.Jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Michael Linn <mlinn@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: [External] RE: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

PAUSE TO CONSIDER: The actual sender address for this email is GFina@SNOPUD.com.
Do you trust this message and any contents within?
If not, please forward it to our Phishing Hole for analysis. Thank You!

All,

I thought I would remind us of some history that may be helpful. Back in 2015, the Northwest Power Pool Market Assessment and Coordination Committee (which I believe everyone here was a member of) submitted a petition for declaratory order to FERC related to the region's development of a Centrally Cleared Energy Dispatch Market. One of the requested declarations was the following:

A decision by a generation owner/operator not to offer to sell generation in any interval in the voluntary CCED Market will not by itself demonstrate

intent to manipulate the market and, in evaluating the presence of intent, the Commission will take into account the unique factors affecting the operations and marketing of power from hydroelectric resources.

Unfortunately, the petition was later withdrawn so FERC did not issue an order on it. However, the supporting argument in the petition is very well reasoned. See pp. 23-27. There is also good background information at the beginning of the petition that supports the argument.

Here is a link to the petition: https://elibrary.ferc.gov/eLibrary/filedownload?fileid=01D6EA58-66E2-5005-8110-C31FAFC91712. Jon Schneider with the Stinson law firm in DC helped the group at the time and submitted the petition. My recollection is that he, along with several committee members, had talked to FERC enforcement staff prior to the filing and that the petition was informed by the input received during those meetings.

The petition certainly doesn't get into details, but depending on SPP's response to the document, we may want to fold in some of the petition's language.

- Joe

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, October 6, 2023 4:30 PM
To: Cornelius, Adam <ACCornelius@Snopud.com>; Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Marr, Garrison <GBMarr@Snopud.com>; Shawn Smith <Shawn.Smith@chelanpud.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; rxmantifel@bpa.gov; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Fina, Joe <GFina@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser (BPA), Todd <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; srbellcoff@bpa.gov; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Michael Linn <mlinn@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: RE: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

Hi Adam

Thanks to all of you for the quick turnaround on providing your feedback on the document. We are good with the edits. We also have a preference for Option 2 regarding data sharing and propose we use that version for purposes of sharing with SPP, subject to BPA's confirmation that they are comfortable with the edits and with using Option 2.

With respect to uneconomic production, we agree that there is likely some additional work required in that area, including defining potential guardrails around 4.6.1 (a) (1), or adding language that the section it is not applicable to hydro resources. That said, the solution might be more clear depending on the outcome of the Hydro DEB discussion, so we would propose sharing the document as is, pending future evaluation of the specific refinements needed to address this concern as the discussion continues.

Lastly, below is draft joint email to Antoine and Jim Gonzalez for this group's review and feedback. Ideally we would send this first thing Monday (or Tuesday given the holiday).

Regards,
Jeff

Draft email:

Antoine and Jim,

Please see attached a paper from a group of Markets+ stakeholders that have worked together to establish a set of principles and draft tariff language focused on topics related to the future participation of hydro resources in Markets+. We are hoping to follow up with you to discuss next steps, once you have had the opportunity to read the paper and discuss it internally.

On a separate note, we would also like to encourage SPP, and its MMU, to support stakeholders' ability to discuss important Markets+ topics prior to SPP or its market monitor developing and presenting policy positions and associated draft tariff language as the starting point for such discussions. We believe it will be a much more constructive and efficient process for SPP and its MMU to comment on policy proposals and draft tariff language that is developed collectively by the stakeholders in each group or sub-group (with input from SPP and its MMU during that development process).

This email and the attached paper is a joint communication from BPA, Chelan County PUD, Powerex Corp, Public Power Council, Snohomish County PUD and Tacoma Public Utilities.

From: Cornelius, Adam <ACCornelius@Snopud.com>
Sent: Friday, October 6, 2023 3:42 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Marr, Garrison <GBMarr@Snopud.com>; Shawn Smith <Shawn.Smith@chelanpud.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; rxmantifel@bpa.gov; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Fina, Joe <GFina@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser (BPA), Todd <twkochheiser@bpa.gov>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; srbellcoff@bpa.gov; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Michael Linn <mlinn@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: RE: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+



Thank you to Powerex and BPA for your efforts on pulling together this document on a short time frame. Attached are a few relatively minor suggestions from Snohomish (Tacoma and Chelan had no further edits). As for data sharing, Snohomish and Tacoma both prefer Option 2, but can live with Option 1. Chelan is fine with either.

One consideration that I noted in comments is whether we should make some more specific recommendations when it comes to uneconomic production. I appreciate that the paper mentions that when legitimate water management activities require an increased volume of water be released that it shouldn't be considered uneconomic production. However, unlike in CAISO, one of the flags for uneconomic production in SPP is a resource offering below its mitigated offer. We may want to consider at some point whether any specific guardrails around 4.6.1 (a) (1) below are needed in light of the proposed mitigated offer for hydro.

4.6.1 Uneconomic Production

The Market Monitor will monitor for cases where uneconomic production by a Resource causes congestion on transmission facilities or price separation between Reserve Zones that is not justified by reliability concerns. For an MSR, both charging and discharging are considered production. The provisions of this Section 4.6.1 do not apply to Demand Response Resources.

(a) Potential uneconomic production will be indicated, and subject to further analysis as described in (b) of this Section 4.6.1, when the Resource has a positive Resource-to-Load Distribution Factor and any of the following conditions are met:

(1) a Resource is identified with an incremental energy offer price less than 50 percent of its mitigated offer as shadow calculated by the Market Monitor; or

(2) a Resource is determined to be generating outside of its Operating Tolerance; or

(3) a Resource is subject to a time-based or other resource offer parameter (non-time and non-dollar based) that appears to facilitate production that is otherwise uneconomic.

(b) For any Resource meeting the conditions described in (a) of this Section 4.6.1, the Market Monitor will determine whether: (i) the MW impact from uneconomic production associated with such Resource is exacerbating the transmission congestion or binding a Reserve Zone; and (ii) the uneconomic production is not obviously justified by reliability or other operational concerns.

The Market Monitor will conduct evaluations as specified above and other related assessments to determine if there is sufficient credible information to justify referral to FERC.

Thanks,

Adam Cornelius
Principal Utility Analyst | Power Supply | Snohomish County PUD
2320 California St, Everett, WA 98201
cell: (b)(6) | office: (b)(6)
ACCornelius@snopud.com

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Thursday, October 5, 2023 3:21 PM
To: Willis, Wendy <wendy.willis@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Marr, Garrison <GBMarr@Snopud.com>; Shawn Smith <Shawn.Smith@chelanpud.org>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; rxmantifel@bpa.gov; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Johnson, Ray <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; Fina, Joe <GFina@SNOPUD.com>; Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser (BPA), Todd <twkochheiser@bpa.gov>; Cornelius, Adam <ACCornelius@Snopud.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; srbellcoff@bpa.gov; Jaspers,

Janet <Janet.Jaspers@chelanpud.org>; Liechty, Joy <JLiechty2@cityoftacoma.org>
Cc: Truong,Mai N (BPA) - TSB-TPP-2 <mntruong@bpa.gov>; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Mike Bradshaw <mike.bradshaw@chelanpud.org>; Lauren Tenney Denison <tenney@ppcpdx.org>; Michael Linn <mlinn@ppcpdx.org>; Irene Scruggs <iscruggs@ppcpdx.org>
Subject: [External Sender] Updated Draft and Confidential Document for Storage Hydro Participation In Markets+

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Good afternoon,

Please see attached an updated draft of the confidential "Principles For Storage Hydro Participation in Markets+" document (in clean and redline) that reflects collaboration between Powerex and BPA on refinements to the initial draft for the group's review.

We look forward to the discussion tomorrow morning.

Regards,
Jeff

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From: Mantifel,Russell (BPA) - MTM-3
Sent: Wednesday, January 10, 2024 1:34 PM
To: Christine Dillard; Fina, Giuseppe (Joe); Kristen Darden
Cc: Chris Nolen; Rachel Kane
Subject: RE: [EXTERNAL] RE: [External Sender] RE: Special Rules

Thanks for working that out folks.

From: Christine Dillard <cdillard@spp.org>
Sent: Wednesday, January 10, 2024 1:34 PM
To: Fina, Giuseppe (Joe) <gfina@snopud.com>; Kristen Darden <kdarden@spp.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Subject: [EXTERNAL] RE: [External Sender] RE: Special Rules

Sure thing! Thanks for getting everyone together, Joe.

Christine Dillard | Attorney, Markets & Regulatory Policy
cdillard@spp.org | (b)(6) (c)

Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Fina, Joe <GFina@SNOPUD.com>
Sent: Wednesday, January 10, 2024 3:24 PM
To: Christine Dillard <cdillard@spp.org>; Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Subject: **External Email** RE: [External Sender] RE: Special Rules

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Christine,

Can you reply all to the legal group invite for Friday to let folks know the Special Rules are available and when you expect the Stakeholder Agreement to be available?

Thanks

From: Christine Dillard <cdillard@spp.org>
Sent: Wednesday, January 10, 2024 1:22 PM
To: Fina, Joe <GFina@SNOPUD.com>; Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>
Subject: RE: [External Sender] RE: Special Rules

Hi all,
I will upload the attached Special Rules to the legal drive.

Thanks,

Christine Dillard | Attorney, Markets & Regulatory Policy
cdillard@spp.org | (b)(6) (c)

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From: Fina, Joe <GFina@SNOPUD.com>
Sent: Wednesday, January 10, 2024 3:14 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>; Christine Dillard <cdillard@spp.org>
Subject: **External Email** RE: [External Sender] RE: Special Rules

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Kristen, it looks like the PMAs are available this Friday, so I am scheduling the legal group's meeting for Friday 11-12:30 p.m. pacific. In light of that, we can go with option 1. Because of timing, I would still suggest including the draft Special Rules and Stakeholder Agreement in the materials for the 1/16 MDWG meeting assuming they are going out tomorrow afternoon.

From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, January 10, 2024 11:57 AM
To: Fina, Joe <GFina@SNOPUD.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>; Christine Dillard <cdillard@spp.org>
Subject: [External Sender] RE: Special Rules

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Hey Joe –

I am good with Option 2 as well, if Russ and Chris are. If we go that route, when would you have you MLEG meeting? 1/16 MDWG approval pending MLEG review; with the MLEG meeting still this Friday?

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C (b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
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From: Fina, Joe <GFina@SNOPUD.com>
Sent: Wednesday, January 10, 2024 12:54 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Chris Nolen <cnolen@spp.org>; Rachel Kane <rkane@spp.org>; Christine Dillard <cdillard@spp.org>
Subject: **External Email** Special Rules

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Kristen and Russ,

We've had some delay in getting the legal group to review the BPA and WAPA Special Rules provisions of the tariff. I am hoping that we will at least have the draft provisions available for the lawyers to start reviewing by the end of today. Here are some options to think about:

1. We can try to have the legal group meet this Friday and then have the Special Rules on the MDWG agenda for 1/16 (assuming the lawyers give their green light).
2. The MDWG can share the draft Special Rules with its members for discussion on 1/16 subject to final review by the legal group. This way the Special Rules can go straight from the legal group to MPEC.
3. MDWG schedules another meeting maybe on Wednesday to consider the Special Rules. We can schedule the legal group meeting for Tuesday afternoon.

My preference is option 2, but we can make work any of the options. Also, SPP is preparing a draft Stakeholder Agreement that the legal group will also need to review.

Joe

Giuseppe "Joe" Fina
Senior FERC Counsel
Public Utility District No. 1 of Snohomish County

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From: Mantifel,Russell (BPA) - MTM-3
Sent: Tuesday, November 21, 2023 10:45 AM
To: Spires, Jeff; Carrie Simpson; Kristen Darden; Yasser Bahbaz; Jim Gonzalez; Drew McGilvray
Subject: RE: [EXTERNAL] RE: Request for Time at 11/28 MDWG

Sorry I missed the meeting this morning. From BPA's perspective we don't believe we need language for preference.

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Monday, November 20, 2023 2:55 PM
To: Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Yasser Bahbaz <ybahbaz@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Drew McGilvray <dmcgilvray@spp.org>
Subject: [EXTERNAL] RE: Request for Time at 11/28 MDWG

Yes, although it would be just a few sentences in the initial tariff filing to establish the concept. If you have any time tomorrow morning I can give you an update by phone, I am free anytime prior to noon PT.

Jeff

Jeff Spires | Director, Power | Powerex Corp. | Cell (b)(6)

From: Carrie Simpson <csimpson@spp.org>
Sent: Monday, November 20, 2023 2:18 PM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>; Yasser Bahbaz <ybahbaz@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Drew McGilvray <dmcgilvray@spp.org>
Subject: RE: Request for Time at 11/28 MDWG

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I see. Are you looking for a solution to be incorporated into the initial Tariff filing? Or is this issue intended to address something coming out of the GHG language?

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Monday, November 20, 2023 11:15 AM
To: Carrie Simpson <csimpson@spp.org>; Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: Request for Time at 11/28 MDWG

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Hi Carrie,

It would be a complementary concept. We envision the bilateral settlements scheduled would be one part of the solution (to address the settlements outcomes), whereas the more broad attribution framework we are proposing would generally enable assigning a specific resource to a specific load for multiple purposes (e.g., RA, GHG pricing, non-GHG pricing state programs, must offer quantity, etc).

Jeff

From: Carrie Simpson <csimpson@spp.org>
Sent: Monday, November 20, 2023 8:29 AM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: RE: Request for Time at 11/28 MDWG

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Jeff- Is this different or in addition to our "bilateral settlements schedule" solution that enables market participants to identify bilateral transactions outside of the market and adjust settlements after-the-fact?

Carrie

EXAMPLE: TAGS THAT STAY IN M+ FOOTPRINT

Example Tag Path: **M+BA1->M+BA2**
Tags internal to the M+ footprint (2 or more M+BAs).

MP 1 – owns G1A and PTP from G1A to Int C
MP 2 – owns L2, owns PTP from Int C to L2
Bilateral trade was for $25 at G1A.
Parties agree to have SPP account for energy transfer in settlements

Settlement as an internal (at the source)
MP1 paid $25 by MP2 (settled outside M+)
MP1 paid by MO $19 to produce at G1A
MP1 charged $19 by MO for sale at G1A
=25+19-19=$25

MP2 pays $25 to MP1(settled outside M+)
MP2 charged by MO $20 for load L2
MP2 paid by MO $19 for receiving at G1A
= -25-20+19=-$26

MP1 and MP2 would be eligible for Congestion Rent payment pursuant to their allocation rights



Location	LMP
G1A	$19
L2	$20

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EXAMPLE : INTERNAL BA TAG

Example Tag Path: **M+BA1(MP1)->M+BA1(MP2)**
Tags internal to a single M+BA.

MP 1 – owns G1A
MP 2 – owns L1, owns network service to L1
Bilateral trade was for $25 at G1A
Parties agree to have SPP account for energy transfer in settlements

Settlement as an internal (at the source)
MP1 paid $25 by MP2 (settled outside M+)
MP1 paid by MO $19 to produce at G1A
MP1 charged by MO $19 for sale at G1A
=25+19-19=$25

MP2 charged $25 to MP1(settled outside M+)
MP2 charged by MO $20 for load L1
MP2 paid by MO $19 for receiving at G1A
= -25-22+19=-$28

MP2 would be eligible for Congestion Rent payment pursuant to their allocation rights



Location	LMP
G1A	$19
L1	$22

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29335028

EXAMPLE: M+ OUT AND IN (WHEEL THROUGH NON-M+ BA)

Example Tag Path: **M+BA1->BA4->M+BA2**
Tags that start in a M+ BA leave, wheel through one or more non-M+ BA(s) and back into another M+BA.

MP 1 – owns G1A and PTP from G1A to BA4
MP 2 – owns L2, owns PTP from BA4 to L2
Bilateral trade was for $25 at G1A
Parties agree to have SPP account for energy transfer in settlements

Settlement as an internal (at the source)
MP1 paid $25 by MP2 (settled outside M+)
MP1 paid by MO $19 to produce at G1A
MP1 charged $19 by MO for sale at G1A
=25+19-19=$25

MP2 pays $25 to MP1(settled outside M+)
MP2 charged by MO $20 for load L2
MP2 paid by MO $19 for receiving at G1A
= -25-20+19= -$26

MP1 and MP2 would be eligible for Congestion Rent payment pursuant to their allocation rights



Location	LMP
G1A	$19
BA4 Int	$10
L2	$20

SPP MARKETS+

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Monday, November 20, 2023 9:47 AM
To: Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** Request for Time at 11/28 MDWG

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Hi Kristin, Carrie and Russ

I would like to request 20-30 minutes at the 11/28 MDWG to present a concept and some proposed tariff language to support the ability for Markets+ to incorporate the attribution of specific generation resources to specific loads. I know we will likely have a lot to get through that day but this is something we think is important so I hope you can accommodate some time. I am working on a few slides to help explain the concept and can share them with you asap.

Regards,
Jeff

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This email and any attachments are for the sole use of the intended recipient(s) and may contain confidential information. If you receive this email in error, please notify the sender, delete the original and all copies of the email and destroy any other hard copies of it.

From: Mantifel,Russell (BPA) - PGL-5
Sent: Thursday, September 21, 2023 3:47 PM
To: Holman, Mark; Suzanne Cooper (sbcoooper@bpa.gov); Ray Johnson; Shawn Smith; Zyskowski, Jason; GFina@SNOPUD.com
Cc: Applegate, Rick; Kochheiser,Todd W (BPA) - TOI-DITT-2; Eaton,Sara L (BPA) - PTMA-5; 'Cornelius, Adam'; Spires, Jeff; Aitken, Meredith; Van Calcar, Pamela M (BPA) - PGS-5; Doot,Erika A (BPA) - LP-7; Willis, Wendy
Subject: RE: [EXTERNAL] Storage Hydro Participation In Markets+

I can do Friday.

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Thursday, September 21, 2023 3:44 PM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Ray Johnson <crjohnson@cityoftacoma.org>; Shawn Smith <Shawn.Smith@chelanpud.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Willis, Wendy <wendy.willis@powerex.com>
Subject: RE: [EXTERNAL] Storage Hydro Participation In Markets+

Good afternoon,

I understand several of you are on the road next week Tues-Thursday.

With that in mind, Jeff and I can make ourselves available:

Monday (Sept 25):	8 - 11am
Friday (Sept 29):	Anytime before 2pm

Please respond with your availability during these times, and we'll pick the 1 hour time slot that seems to work best for most.
If that doesn't work for at least 1-2 people from each entity, we'll send times for the following week.

Thanks,

Mark Holman | Managing Director | Powerex Corp. | Direct (b)(6)

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Wednesday, September 20, 2023 8:24 AM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Ray Johnson <crjohnson@cityoftacoma.org>; Shawn Smith <Shawn.Smith@chelanpud.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>;

29335056

Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Willis, Wendy <wendy.willis@powerex.com>
Subject: Re: [EXTERNAL] Storage Hydro Participation In Markets+

Thanks everyone - I'm just on the road (and Jeff is out of the office too) so we'll send out potential time slots and/or a doodle poll tomorrow.

Thanks

Mark

Get Outlook for iOS

From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Tuesday, September 19, 2023 11:18:45 AM
To: Holman, Mark <Mark.Holman@powerex.com>; Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Ray Johnson <crjohnson@cityoftacoma.org>; Shawn Smith <Shawn.Smith@chelanpud.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com <GFina@SNOPUD.com>
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>; Van Calcar, Pamela M (BPA) - PGS-5 <pmvancalcar@bpa.gov>; Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Subject: RE: [EXTERNAL] Storage Hydro Participation In Markets+

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For us I'll try to make it. Todd K, Sara Eaton, Erika Doot, Pam Van Calcar as well.

Russell Mantifel (he/him/his)
Director | Market Initiatives
BONNEVILLE POWER ADMINISTRATION
rxmantifel@bpa.gov | P 503-230-4372

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Thursday, September 14, 2023 9:41 AM
To: Suzanne Cooper (sbcoooper@bpa.gov) <sbcoooper@bpa.gov>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Ray Johnson <crjohnson@cityoftacoma.org>; Shawn Smith <Shawn.Smith@chelanpud.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GFina@SNOPUD.com
Cc: Applegate, Rick <rapplegate@cityoftacoma.org>; Kochheiser,Todd W (BPA) - TOI-DITT-2 <twkochheiser@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>; 'Cornelius, Adam' <ACCornelius@Snopud.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: [EXTERNAL] Storage Hydro Participation In Markets+

Good morning,

From our discussions with SPP's senior management on this topic, we have concluded that the nature of storage hydro participation in Markets+ should be set forth in the tariff. Based on those discussions, I am reaching out to you to arrange a call to kick-off a group discussion on identifying and drafting the necessary Markets+ tariff elements to facilitate storage hydro participation in Markets+. While work on some of these elements is already underway (e.g., hydro aggregation), it has become clear to us that there are several other elements that will need to be incorporated into the tariff to make Markets+ workable for storage hydro. These topics include:

- Hydro aggregation
- Hydro reference price (Default Energy Bid) for market power mitigation
- Hydro data sharing (a confined list of what data will be shared)
- Hydro operator autonomy over dispatch of individual facilities
- Hydro operator autonomy over reservoir and river management (water management)
- Hydro participant autonomy over offer quantity and offer price (while still being subject to must-offer obligations and related financial charges and to offer price mitigation)

Given the fundamental nature of these issues and their broad applicability to participating storage hydro resources, it seems critical that tariff provisions do not result in a gap in expectations of how storage hydro will participate. We are generally not seeking to carve out new approaches, but rather seeking to adopt standards that are consistent with storage hydro operations, and where possible "port over" the hydro components from the Western EIM and WRAP (Hydro DEB, voluntary nature of participation, data sharing items, etc.).

SPP has encouraged us to work with other hydro stakeholders and "use the governance process" to achieve the tariff language necessary from the outset of Markets+.

The first call is to make sure senior leaders at each of your organizations are aware of the issue and support the direction and elements to be covered in the tariff.

Please 'reply all' with a list of people to attend, and we'll set up a doodle poll for time slots.

Best regards,

Mark Holman
Managing Director | Powerex Corp.
1300 - 666 Burrard Street | Vancouver, BC | V6C 2X8
Direct 604.895.7084 | Fax 604.891.5045 | Cell (b)(6) [redacted]

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From: Mantifel,Russell (BPA) - MTM-3
Sent: Monday, April 22, 2024 9:23 AM
To: Kristen Darden; Detmer, Nick
Subject: RE: [EXTERNAL] RE: In person MDWGs

6/10-6/11? Works for me.

From: Kristen Darden <kdarden@spp.org>
Sent: Monday, April 22, 2024 9:20 AM
To: Detmer, Nick <nick.detmer@xcelenergy.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: [EXTERNAL] RE: In person MDWGs

Thanks Nick for your honesty on the facilities. Laura Olson emailed me and said that she can look to host us at SRP in June. So I'll keep ya'll posted on that.

Russ – were you good with those dates? If so, I'd like to go ahead and get SPP.org updated, then work on nailing down logistics.

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C (b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Wednesday, April 10, 2024 10:58 AM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: In person MDWGs

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I would put Xcel up, but our facilities for hosting are embarrassing. WIFi is hot garbage and so are the audio video options. Just ask Carrie Simpson. In June of 2025 we are relocating to new building and I am expecting an improvement.

I suppose offsite downtown Denver could work. Sometimes there are killer deals at the ski resorts in the summer – but would need someone more capable at setting that up than me.

Those dates you have work.

Nick

From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, April 10, 2024 8:07 AM

To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Subject: In person MDWGs

EXTERNAL - STOP & THINK before opening links and attachments.

Hey there –

Here are some proposed modifying of net-conferences to in-person meetings (August we are currently scheduled for Thursday, 8/15, but MPEC is the 2 days before, so that may not work with everyone traveling. Need to reschedule that date anyways.):

- **Tuesday, Wednesday, 6/10-6/11 = in person**
  - **Location:** TSGT/BPA/Xcel/Pera Club/SRP?
  - **Agenda Topics:** GHG (Tracking & Reporting); Resource Adequacy (Must-Offer Requirements); Markets+ Administration Services; Mitigation Question Session (45 mins).
- **Proposed Date Change: Wednesday, Thursday, 8/21-8/22 = in person**
  - **Location:** TSGT/BPA/Xcel/Pera Club/SRP?
  - **Agenda Topics:** Market Registration; Resource Adequacy (Must-Offer Requirements); Seams (Import Export Interchange Transactions); Seams (Export Interchange Transactions); Congestion Rent (TSR Verification Process); Parking Lot Prioritization (60 mins).
- **Tuesday, Wednesday, 10/8-10/9 = in person**
  - **Location:** TSGT/BPA/Xcel/Pera Club/SRP?
  - **Agenda Topics:** Glossary; Market Process and System Change Process (This meeting will have more than this I'm sure. This will probably be a catch-all meeting, with the closing in on the end of the year.)

Would love to hear your opinions!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C (b)(6)
201 Worthen Drive | Little Rock, AR 72223-4936
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From: Mantifel,Russell (BPA) - MTM-3
Sent: Thursday, May 23, 2024 11:20 AM
To: Detmer, Nicholas J; Tracy Wolfgang; Kristen Darden
Cc: Skylar Kincaid
Subject: RE: [EXTERNAL] Upcoming MDWG Changes

Same

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Thursday, May 23, 2024 11:19 AM
To: Tracy Wolfgang <twolfgang@utilicast.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Kristen Darden <kdarden@spp.org>
Cc: Skylar Kincaid <skincaid@spp.org>
Subject: RE: [EXTERNAL] Upcoming MDWG Changes

I am

From: Tracy Wolfgang <twolfgang@utilicast.com>
Sent: Thursday, May 23, 2024 11:53 AM
To: Detmer, Nicholas J <nick.detmer@xcelenergy.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Kristen Darden <kdarden@spp.org>
Cc: Skylar Kincaid <skincaid@spp.org>
Subject: Re: [EXTERNAL] Upcoming MDWG Changes

EXTERNAL - STOP & THINK before opening links and attachments.

Hi Nick/Russ,

Looking forward to working with the two of you again as well! I ask for patience since Kristen is leaving big shoes to fill!

Are the two of you okay with moving the 7/9 MDWG to 7/22 from 11-5 CT?

Thanks,
Tracy Wolfgang

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Thursday, May 23, 2024 1:46 PM
To: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Kristen Darden <kdarden@spp.org>
Cc: Tracy Wolfgang <twolfgang@utilicast.com>; Skylar Kincaid <skincaid@spp.org>
Subject: RE: [EXTERNAL] Upcoming MDWG Changes

[WARNING: External Email]

Look forward to working with you both!

Nick

From: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Sent: Thursday, May 23, 2024 11:44 AM
To: Kristen Darden <kdarden@spp.org>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Cc: Wolfgang, Tracy <twolfgang@utilicast.com>; Skylar Kincaid <skincaid@spp.org>
Subject: RE: [EXTERNAL] Upcoming MDWG Changes

EXTERNAL - STOP & THINK before opening links and attachments.

You will very much be missed, Kristen.

Tracy, it's good to work with you again. Nice to meet you, Skylar

Russ

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, May 23, 2024 9:03 AM
To: Detmer, Nick <nick.detmer@xcelenergy.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Wolfgang, Tracy <twolfgang@utilicast.com>; Skylar Kincaid <skincaid@spp.org>
Subject: [EXTERNAL] Upcoming MDWG Changes

Good morning guys –

This will probably be my last email to you. ☹ I wanted to give you some updates on MDWG, with my departure.

- Tracy Wolfgang (twolfgang@utilicast.com) and Skylar Kincaid (skincaid@spp.org) will be your contacts for all things MDWG. They're CC'd on the email. You're in great hands!
- The 6/11 MDWG that was originally discussed as being in-person, is now staying a net-conference.
- The 7/9 MDWG meeting is being rescheduled to a net-conference, 7/22/24, 11:00-5:00 CT.
- 7/14-15/2025 MDWG will be in person at TSGT, to review all things Settlements.

Thank you again for everything! Don't be a stranger!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)

201 Worthen Drive * Little Rock, AR 72223-4936
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From: Kelli Schermerhorn
Sent: Fri Oct 20 09:00:12 2023
Required: Doot,Erika A (BPA) - LP-7; Miller,Todd E (BPA) - LP-7 (temiller@bpa.gov); Davis,Thomas E (BPA) - LT-7 (tedavis@bpa.gov)
Subject: FW: [EXTERNAL] HOLD FOR EXTERNAL MEETING on SHOC
Start time: Fri Oct 20 10:00:00 2023
End time: Fri Oct 20 12:00:00 2023
Importance: Normal
Attachments: [EXTERNAL] Hydro Resources: Principles and Draft Tariff Language

Sorry I didn't catch you all weren't on here. We are following up on the market monitoring language regarding hydro. No decisions today, in informal discussion. If you

-----Original Appointment-----
From: Kelli Schermerhorn < kschermerhorn@spp.org>
Sent: Tuesday, October 10, 2023 12:23 PM
To: Kelli Schermerhorn; Jared Greenwalt; Ian Wren; Keith N. Collins; Trolese, Laura; Mantifel,Russell (BPA) - BT-3; Detmer, Nick; Ching, Vincent; Applegate, Rick; Spires, Jeff
Cc: Alan Isemonger; Jim Gonzalez; Lam, Jessica; Alan Isemonger; Jodi Woods; Raleigh Mohr
Subject: [EXTERNAL] HOLD FOR EXTERNAL MEETING on SHOC
When: Friday, October 20, 2023 12:00 PM-2:00 PM (UTC-06:00) Central Time (US & Canada).
Where:

Moving to Fri next, thanks!
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From: Holman, Mark

Sent: Tue Oct 10 16:04:17 2023

To: Antoine Lucas (alucas@spp.org); Jim Gonzalez

Cc: Spires, Jeff; Mantifel,Russell (BPA) - BT-3; Eaton,Sara L (BPA) - PTMA-5; Shawn Smith; Michael Linn (mlinn@ppcpdx.org); 'Cornelius, Adam'; Joe Fina; Applegate, Rick

Subject: [EXTERNAL] Hydro Resources: Principles and Draft Tariff Language

Importance: Normal

Attachments: 2023.10.10 Principles For Storage Hydro Participation in Markets+ - Draft For Discussion Purposes.docx

Good afternoon Antoine and Jim,

Please see attached a paper from a group of Markets+ stakeholders that have worked together to establish a set of principles and draft tariff language focused on topics related to the future participation of hydro resources in Markets+. We are hoping to follow up with you to discuss next steps, once you have had the opportunity to read the paper and discuss it internally.

On a separate note, we would also like to encourage SPP, and its MMU, to support stakeholders' ability to discuss important Markets+ topics prior to SPP or its market monitor developing and presenting policy positions and associated draft tariff language as the starting point for such discussions. We believe it will be a much more constructive and efficient process for SPP and its MMU to comment on policy proposals and draft tariff language that is developed collectively by the stakeholders in each group or sub-group (with input from SPP and its MMU during that development process).

This email and the attached paper is a joint communication from BPA, Chelan County PUD, Powerex Corp, Public Power Council, Snohomish County PUD and Tacoma Public Utilities.

Mark Holman

Managing Director | Powerex Corp.

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https://www2.powerex.com/images/default-source/powerexlogo/logo120px_wide.jpg

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Principles For Storage Hydro Participation In Markets+

General Concept:

Participation in an organized wholesale electricity market with storage hydroelectric generation resources requires a workable framework that recognizes and preserves the hydro operator's and hydro participant's decision-making authority with regard to reservoir and system operations.

A workable participation framework must recognize that:

- Operational planning and operational decisions are impacted by a range of non-power constraints, requirements, and objectives, including but not limited to:
    - Safety;
    - Flood control;
    - Irrigation;
    - Navigation;
    - Recreation
    - Environmental requirements and objectives; and
    - Unanticipated operations.
- Hydro operators and hydro participants may also be parties to domestic or international treaties, inter-utility agreements, and other legal, regulatory and contractual obligations. Two examples are the Columbia River Treaty, and the Pacific Northwest Coordination Agreement (PNCA), both of which coordinate the Columbia River operations between upstream and downstream parties in the Pacific Northwest and Canada. FERC has recognized the PNCA as a "non-economy energy coordinating agreement" which includes hydro storage related transactions that are not subject to Order 888.[1]
- Hydro operator and hydro participant decisions regarding water storage on a hydro system are informed by numerous factors such as those outlined above, many of which are continuously evolving, difficult to forecast, can involve a significant degree of subjective judgment based on experience, and at times reflect court orders or other legally binding obligations. In general, energy production is often subordinate to other multi-purpose objectives of the hydro system.
- Hydro operators and hydro participants must make decisions considering the complexity associated with the interdependence with other hydro facilities, where the operation of

[1] *See* Canada-U.S. Columbia River Treaty, https://www.canada.ca/en/environment-climate-change/corporate/international-affairs/partnerships-countries-regions/north-america/canada-united-states-columbia-river.html; Pacific Northwest Coordination Agreement, https://www.nwcouncil.org/reports/columbia-river-history/pacificnorthwestcoordinationagreement/

one facility on a storage hydro system impacts the quantity and timing of water inflows at downstream facilities (or many other downstream facilities), which often are operated by other hydro facility owners.

- Hydro operator and hydro participant decisions regarding a storage hydro system must take into consideration not only expected mean conditions, but the range of potential conditions that may develop over a daily, weekly, monthly and seasonal basis that are not power related. Such decisions are often driven by the potentially catastrophic or otherwise low-probability/high-consequence potential outcomes which may often lead to decisions that may appear sub-optimal from a power production perspective after-the-fact but are critical for meeting non-power objectives.

Ensuring Markets+ Tariff And Business Practices Are Workable For Storage Hydro:

Participants with hydro systems in the western region have worked collaboratively with CAISO and WPP to establish workable frameworks for participating in the Western EIM and the WRAP. The Western EIM tariff and the WRAP tariff include key elements of these frameworks, along with multiple participant agreements with CAISO and WPP. We have attached key statements from these two tariffs, relevant participant and data sharing agreements, and transmittal letters associated with the approved FERC filings are attached to this document.

This stakeholder group believes that it is essential for Markets+ to adopt similar tariff provisions, and similar elements in each participant agreement, to make participation fully workable for storage hydro resources; without similar elements participation in Markets+ may be infeasible. We have developed the principles outlined below with the intention of informing proposed tariff language to achieve workable hydro participation in Markets+ covering the topics of:

1. Aggregation of Hydro Resources
2. Authority Over Dispatch of Hydro Resources
3. Authority Over Water Management
4. Must Offer Obligation
5. Market Power Mitigation (Price)
6. Limitations on Required Data Sharing

Aggregation of Hydro Resources

- The market model must permit, enable, and represent, operators' aggregation of multiple hydro facilities in order to retain hydro operators' autonomy to determine the dispatch of individual facilities recognizing power and non-power constraints.
- The development of an appropriate hydro aggregation framework is already well underway.

Suggested language: *See language being developed in MDWG*

Authority Over Dispatch of Hydro Resources

- Hydro operators have and must retain legal authority to determine the dispatch of individual hydro facilities within their system.
- Markets+ should recognize the legal authorities and multiple power and non-power directives of hydro operators.

Suggested language: "Hydro operators and hydro participants shall retain authority over the operation of hydro resources for each interval. Market schedules and dispatches and Market Operator instructions shall fall within the operational parameters supplied by hydro operators and hydro participants. Any request by the Market Operator to operate outside of such parameters will be coordinated with the applicable hydro operator or hydro participant, but final schedules and actual operation will be at the discretion of the hydro operator or hydro participant to ensure that river management objectives and requirements are not compromised."

Authority Over Water Management

- Today, hydro operators and hydro participants determine how to allocate limited and uncertain water volume over time, which is informed by a broad set of interrelated factors, with some inputs such as environmental operating requirements known with certainty, and others such as snowpack and streamflows projected. Additionally, there can be operational changes outside the control or forecasting of hydro operations, that require changes in system dispatch.
- Markets+ rules and requirements must recognize the need for hydro operators and hydro participants to retain authority over operational and bidding decisions in furtherance of water management objectives and will not require routine specification or quantification of such determinations. The Market Operator and MMU are expected to recognize the general factors which provide the basis for hydro participation in Markets+, while also recognizing that bid quantities, bid prices and actual operations are at the discretion of the hydro operator and hydro participant.
- Markets+ should recognize that the hydro operator and hydro participant's water management activities are continuously evolving and based on supply decisions regarding multiple-purpose project legal directives other than energy production, including periods where:
    - An *increased* volume of water is desired to be released, resulting in actions taken to support elevated levels of generation, with offers as price-taker or at relatively low prices. The Markets+ tariff should recognize that such operational considerations and related decisions are routine and should not be regarded as uneconomic production.
    - A *limited* volume of water is considered available to support additional generation, resulting in limitations in the quantity of energy offered to the market, as reflected in offers of limited volumes or at relatively higher prices. The

Markets+ tariff should recognize that such operational decisions are to be routine and should not be regarded as physical withholding or economic withholding.

Suggested language: "Hydro operators and hydro participants shall retain authority over water management decisions and activities to fulfill their responsibilities to meet multiple purpose legal objectives regarding the best use of limited and uncertain water supplies in their hydro system. In general, the Markets+, the Market Operator, and the Market Monitor recognizes that a market participants' decision to submit energy offers that reflect water management objectives as well as economic production shall not be considered physical withholding, economic withholding, or uneconomic production, or otherwise constitute a Tariff violation. Markets+, the Market Operator, and the Market Monitor shall limit requests for information to situations regarding unanticipated operational changes that require a hydro participant to deviate from market instructions, and/or market dispatches that the hydro operator determines are operationally unworkable."

Must Offer Quantity Obligation

- Hydro operators have legally binding obligations and contractual arrangements that require operators to retain authority over their water management decisions.
- Markets+ must recognize hydro operator authority over water management decisions by ensuring that hydro participants may meet a must-offer quantity requirement by submitting offers from a single hydro resource or group of aggregated hydro resources.
- The Markets+ tariff should recognize that rare circumstances may arise in which a hydro participant will be unable to meet a must-offer quantity requirement. Such circumstances can be expected to arise as the result of the unique nature of hydro resources, including water management challenges or other unexpected operations such as those related to safety emergencies.
    - While rare, the Market Operator and Market Monitor should recognize that these operations occur periodically given the nature of hydro system management and shall not be deemed a violation of the Markets+ tariff.
    - Consequences for failure to meet a defined must-offer quantity will be financial charges only (analogous to consequences for WRAP participants that are not Markets+ participants).

Suggested language: "The Market Operator shall compare the aggregate quantity of supply offered by each Market Participant to the minimum offer quantity requirement, recognizing that there may be aggregate hydro resources from which the Market Participant submits supply offers. To the extent the aggregate quantity of supply offers is less than the minimum offer quantity for that Market Participant, the Market Participant may be subject to financial charges as provided under [XXREFERENCE]. The Market Operator and Market Monitor shall recognize that a shortfall in the aggregate quantity of supply offered that results in an inability to meet the minimum offer quantity requirement shall not be a violation of this Tariff."

Market Power Mitigation (Price)

- While organized markets generally include the ability to override participants' offer price under certain circumstances in order to protect against the exercise of market power, overriding offer prices submitted by a hydro participant can be incompatible with water management and create operational challenges.
- Hydro operators cannot provide a standard formula that accurately produces a hydro participant's estimate of the marginal opportunity cost of its limited supply from day to day or hour to hour.
- A workable methodology is needed to determine what that opportunity cost may be under normal conditions, such that offer prices reflecting the hydro participant's estimate of its opportunity cost are less likely to occur above this level on a frequent basis. For this reason, the Market Operator and Market Monitor shall recognize that mitigation may not only result in the uneconomic release of water but also may disrupt legally required operational activities in a manner that may be prohibited.

- A hydro mitigation structure reflecting these concepts has been successfully implemented in the CAISO's Hydro Default Energy Bid formula, which is the maximum of:
    - 1.4 times the maximum of:
        - On-peak day-ahead index price at the default hub;
        - On-peak balance of month index price at the default hub; and
        - On-peak prompt month index price at the default hub.
    - 1.1 times the maximum of:
        - On-peak day-ahead, balance-of-month, and prompt month index prices at additional geographic hub locations; and
        - On-peak monthly index price for all future months up to the maximum storage horizon at all relevant locations.
    - 1.1 times the heat rate for a natural gas generating unit (as published by EIA) times the natural gas price for the relevant fuel region.
- Some limited modifications may be appropriate for use in Markets+ Conduct and Impact framework and should be subject to further discussions, including:
    - Potential elimination of additional geographic locations
    - Potential revision of adders/multipliers described above from 1.4/1.1/1.1 to 1.3/1.1/1.1, given that conduct-and-impact tests also apply a 10% adder in the conduct thresholds or alternatively keep the adders at 1.4/1.1/1.1 and specify that the conduct adder of 10% will not be applied to storage hydro resources using this formula?

Suggested language: [Use language from CAISO Western EIM tariff, adjusted for one or both acceptable modifications described above]

Limitations on Required Data Sharing

- Given the authority of hydro operators to address on a continuous ongoing basis the multiple inputs and requirements that impact water management decisions, the appropriate level of data sharing for hydro resources should be similar to data shared for other generation resources, such as thermal resources.
    - *e.g.,* Pmin, Pmax, current status (available or outage), current output, current capacity set asides for contingency reserves, regulating reserves.
- Data sharing requirements must not extend to information related to projected water conditions or water management decisions and activities.
    - *e.g.*, current and forecast inflows, min/max/current discharges, reservoir levels, environmental and non-power constraints … etc.
- An appropriate scope of data sharing has been achieved and approved by FERC in the context of WRAP:
    - A key set of discrete data elements applicable to hydro resources are set forth in tariff (16.2.5.5)
    - Additional participant-specific provisions are included in individual participation agreements. "WPP does not require, and will not seek or be permitted to access

… [n]on-public forecasts or analyses of generation resources located in the BC Hydro BAA, including, but not limited to, water in-flows or discharge information, snowpack, reservoir or storage levels, or other related data inputs." (Powerex WRAP Participation Agreement)
    - Expansion of data requirements should only be by mutual agreement; cannot be expanded by amendment of Tariff. (Powerex WRAP Participation Agreement)
- Similar limitations have also been found acceptable by FERC in the Western EIM:
    - Data sharing obligation limited to what is "necessary to support … EIM participation[.]" (BC Hydro Data Sharing Agreement)
    - "CAISO does not require, and will not seek or be permitted access to … non-public forecasts or analyses of generation resources, including, but not limited to, water in-flows or discharge information, snowpack, reservoir or storage levels, or other related data inputs" (BC Hydro Data Sharing Agreement)
- The Markets+ Tariff should include durable data sharing requirements and protections for storage hydro operators consistent with those previously accepted by FERC in the context of WRAP and WEIM.

Suggested language:

"Market Participants shall not continuously share data on hydro resources beyond what is necessary to represent the resource's generation capability in the market optimization software for the applicable period. Except as explicitly set forth in a Markets+ participation agreement, Markets+ shall not require:

a) Non-public customer information; and
b) Non-public forecasts or analyses of generation resources of a hydro operator or hydro participant, including, but not limited to, water in-flows or discharge information, snowpack, reservoir or storage levels, or other related data inputs."

References

CAISO Tr Ltr on Hydro DEB.

[pg. 32]

The proposed hydro DEB acknowledges that hydroelectric resource costs are inherently difficult to calculate precisely. Because the many factors affect the amount of water hydroelectric resources have available to support energy sales to the CAISO market can vary day-to-day, and even intra-day, hydroelectric resource opportunity costs can be highly subjective. This makes it impractical to calculate a specific hydroelectric resource's opportunity cost with a high degree of precision, even using a negotiated default energy bid. Consequently, the CAISO proposes a standard hydro default energy bid that approximates a hydroelectric resource's opportunity costs. This approach does not attempt to precisely model each resource's operation or costs; rather, it is based on the typical operation of a typical hydroelectric resource.

CAISO Tr Ltr on BC Hydro Data Sharing Agreement

Specifically, the use of any data shared pursuant to the Agreement is limited to enabling Powerex to independently engage in EIM activity as a Canadian EIM entity using residual capability of the BC Hydro system; any other use of the data shared pursuant to the Agreement is prohibited.

…

BC Hydro will work with the CAISO and Powerex to assess the BC model and will provide updates to and recommend modifications to the BC model. BC Hydro will also provide the following: real-time telemetry measurements associated with the BC model; equipment outage information; load forecasts; and information regarding contingency or operational disturbances within British Columbia. In all categories, the data shared is limited to the specifics set forth in Schedule C of the Agreement.

…

Article 6 of the Agreement establishes the limits on BC Hydro data that will be shared pursuant to the terms of the Agreement and governs the confidentiality of the data shared by BC Hydro. The Parties agree that BC Hydro's data sharing obligations will not exceed those elements that the Parties have mutually agreed and specified in Schedule C of the Agreement, as necessary to support Powerex's EIM participation. The Agreement further specifies that it does not obligate BC Hydro to share inputs or underlying calculations to the data BC Hydro agrees to share or BC Hydro customer information or non-public forecasts or analyses of generation resources or load beyond what the Parties have specifically agreed is necessary to support Powerex's EIM participation. In all cases the data required to be shared is limited to that specified in the Agreement, including Schedule C

WRAP Tariff:

16.2.5.5 For Storage Hydro Qualifying Resources, the Participant will calculate a QCC based on a methodology detailed in the Business Practice Manuals that: (i) considers each resource's actual generation output, residual generating capability, water in storage, reservoir levels, and flow or project constraints over the previous ten-year historical period; (ii) determines the project's QCC by assessing the historical generation during CCHs on any given day and ability to increase generation during CCHs on the same day, subject to useable water in storage, inflows/outflows, and expected project operating parameters/constraints and limitations; (iii) incorporates forced outage rates; and (iv) determines QCC as average contribution to the CCH for each Winter Season and Summer Season over the previous ten years. If ten years of historic data is not available for the Storage Hydro Qualifying Resource, the Participant may alternatively employ data on the same metrics from a demonstrably comparable facility or apply another method that provides reasonable confidence in the reliability of the predicted values, as more fully set forth in the Business Practice Manuals. The Participant's QCC calculation shall be subject to review and validation by WPP. In connection with such review, the Participant shall provide WPP with the following information necessary to calculate a QCC for Storage Hydro Qualifying Resources: (i.a) historic reservoir elevation levels; (ii.a) historic plant generation; (iii.a) elevation versus capacity curves; (iv.a) any minimum or maximum reservoir level constraints; (v.a) forced outage rates; (vi.a) volume of water versus reservoir elevation storage tables; and (vii.a) turbine discharge versus generation efficiency curve.

Powerex WRAP Participation Agreement:

2.8 Except as explicitly set forth in this Agreement or in the WRAP Tariff on the date of execution of this Agreement, WPP does not require, and will not seek or be permitted access to:

a) Non-public customer information within the Province of British Columbia;
b) Non-public forecasts or analyses of generation resources located in the BC Hydro BAA, including, but not limited to, water in-flows or discharge information, snowpack, reservoir or storage levels, or other related data inputs.

To the extent WPP revises the Tariff in a manner that would require access to non-public forecasts or analyses of the type referenced above, such revision shall be inapplicable to Powerex absent Powerex's express written agreement granting WPP such access.

Powerex WEIM Participation Agreement:

[Transmittal Letter from CAISO] Article 6 of the Agreement establishes the limits on BC Hydro data that will be shared pursuant to the terms of the Agreement and governs the

confidentiality of the data shared by BC Hydro. The Parties agree that BC Hydro's data sharing obligations will not exceed those elements that the Parties have mutually agreed and specified in Schedule C of the Agreement, as necessary to support Powerex's EIM participation. The Agreement further specifies that it does not obligate BC Hydro to share inputs or underlying calculations to the data BC Hydro agrees to share or BC Hydro customer information or non-public forecasts or analyses of generation resources or load beyond what the Parties have specifically agreed is necessary to support Powerex's EIM participation. In all cases the data required to be shared is limited to that specified in the Agreement, including Schedule C.

BPA WEIM Implementation Agreement:

14 (b) Voluntary Market Participation

Bonneville's EIM participation will include voluntary market entry and exit, voluntary bid and offer volumes and pricing, voluntarily making transmission available for EIM Transfers and the ability to voluntarily forego engaging in EIM Transfers in one or more specified operating intervals consistent with the ISO tariff and the Bonneville Tariff.

CAISO Hydro Default Energy Bid Tariff

39.7.1.7 Hydro Default Energy Bid
Scheduling Coordinators may request a Hydro Default Energy Bid for a hydroelectric resource with storage capability located in the CAISO Balancing Authority Area or any EIM Entity Balancing Authority Area.

39.7.1.7.1 Computation
For each Trading Day, the CAISO will calculate the Hydro Default Energy Bid as the maximum of the (a) gas floor, (b) short-term component, and (c) long-term/geographic component, which are all calculated as specified below.

39.7.1.7.1.1 Gas Floor
The CAISO will calculate the gas floor as the most recent average heat rate for a typical gas turbine generator obtained from the Energy Information Administration, multiplied by the gas price for the fuel region applicable to the location of the hydroelectric resource, multiplied by 1.1.

39.7.1.7.1.2 Short-Term Component
The CAISO will calculate the short-term component as 1.4 multiplied by the maximum of:

(a) the day-ahead peak price at the applicable electric pricing hub;
(b) the on-peak balance of the month on peak futures price for the current month at the applicable electric pricing hub; and
(c) the on-peak monthly index on peak futures price at the applicable electric pricing hub for one (1) month after the current month.

39.7.1.7.1.3 Long-Term/Geographic Component
A Scheduling Coordinator may request that the long-term/geographic component be calculated based on multiple electric pricing hubs in addition to the default electric pricing hub consistent with Section

39.7.1.7.2.1. The CAISO will calculate the long-term/geographic component as 1.1 multiplied by the maximum of:

(a) the day-ahead on-peak price at the applicable electric pricing hub(s);
(b) the on-peak balance of the month futures prices for the current month at the applicable electric pricing hub(s); and
(c) the on-peak monthly index futures price at the applicable electric pricing hub(s) for all future months up to the maximum storage horizon after the current month.

From: Mantifel,Russell (BPA) - MTM-3
Sent: Thursday, May 30, 2024 10:02 AM
To: Jim Gonzalez; Meyers,Andrew P (BPA) - MTM-3; Carrie Simpson
Subject: RE: [EXTERNAL] RE: Markets TX Scenario Analysis

Good question Jim. We are focusing on the "2026" case, but that is more about it being just DAM than being in the year 2026. I'm not sure when we did introduce B2H and how we did so. We can check with E3 on that as well.

From: Jim Gonzalez <jgonzalez@spp.org>
Sent: Thursday, May 30, 2024 10:00 AM
To: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Carrie Simpson <csimpson@spp.org>
Cc: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: RE: [EXTERNAL] RE: Markets TX Scenario Analysis

What time frame would the study be for? If the scraping would be for what is effective now, I don't see that effort substantially increasing from the 600/200 numbers E3 already used based on some of the research we've been doing. If you are thinking of looking out a few years in the 2028ish timeframe when the Boardman to Hemingway line is supposed to be in service there might be some additional confirmed TSRs to help better connect. Even then, I don't know that it would go up more than a couple hundred MW.

The 2 GW bidirectional capacity scenario seems like it would cover benefit of incremental transfer capability for the prospective footprint. I think you could take the results of the exiting scenarios compared to that scenario and extrapolate out some production-cost savings for incremental transfer capability without spending the time and money to have E3 run them.

Let me know if you want to discuss other assumptions for your scenarios. Happy to help if it would be beneficial.

Jim

From: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Sent: Wednesday, May 29, 2024 8:00 PM
To: Jim Gonzalez <jgonzalez@spp.org>; Carrie Simpson <csimpson@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** RE: [EXTERNAL] RE: Markets TX Scenario Analysis

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Hi Jim,

We are having E3 run a hypothetical scenario of increase TX from BPA to NV. Capacity is 2000 MWs bidirectional. With this additional study are you saying that we don't need to pursue scraping OASIS sites as we had been discussing?

Thanks,
Andy

Andy Meyers
apmeyers@bpa.gov
(w) 503-230-3014 | (c) (b)(6)
Bonneville Power Administration
Market Initiatives – Policy Lead
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

From: Jim Gonzalez <jgonzalez@spp.org>
Sent: Wednesday, May 29, 2024 2:12 PM
To: Carrie Simpson <csimpson@spp.org>; Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Cc: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: [EXTERNAL] RE: Markets TX Scenario Analysis

I think those values represent a good floor for consideration based on what is confirmed now for long-term service on the various TSPs for third-party contributed rights.

We have been trying to come up with some assumptions for additional capability beyond that based on some upcoming transmission projects, specifically the Boardman to Hemingway line, but I think you are already looking at some scenarios with additional transmission buildout to increase transfer capability between the PNW and DSW so you probably already have some of that covered.

jim

From: Carrie Simpson <csimpson@spp.org>
Sent: Wednesday, May 29, 2024 12:10 PM
To: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>; Jim Gonzalez <jgonzalez@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: RE: Markets TX Scenario Analysis

Interesting. I wonder if this distinction in itself is another contributor to the differences in Brattle and WMEG. I'll defer to Jim on whether those values are indicative of what we anticipate being contributed.

From: Meyers,Andrew P (BPA) - MTM-3 <apmeyers@bpa.gov>
Sent: Wednesday, May 29, 2024 11:49 AM
To: Carrie Simpson <csimpson@spp.org>; Jim Gonzalez <jgonzalez@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** Markets TX Scenario Analysis

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Hi Carrie & Jim,

I wanted to follow up on a conversation with have been having with E3. We have discussed with them the concept of the study. They had an interesting comment on something that both Russ and I had forgotten. While Powerex was not a WMEG member they provided some gen, load, and transmission data to E3 for inclusion in the study modeling and

results. Jack indicated that "*we have already assumed 600 MW N->S and 200 MW S->N going through CA/NV to connect NW & SW together using 3rd party rights*".

I am curious about your thoughts on this. I know that Powerex has some additional capacity with IPCO, PAC, and PGE that may facilitate additional roads to the desert southwest. However, I am curious if the already included values are sufficient? If not, then we can continue with the study with E3. Then the next step is pulling together the transmission capacity numbers we want E3 to use in the model for the roads between PNW and DSW. If the previously included values are sufficient then we would not pursue the scenario any further.

Let us know if you want to discuss at all.

Thanks,
Andy

Andy Meyers
apmeyers@bpa.gov
(w) 503-230-3014 | (c) (b)(6)
Bonneville Power Administration
Market Initiatives – Policy Lead
Attn: B-3
905 NE 11th Ave
Portland, OR 97232

From: Mantifel,Russell (BPA) - MTM-3
Sent: Thursday, January 18, 2024 1:12 PM
To: Chris Nolen; Doot,Erika A (BPA) - LP-7; Kelli Schermerhorn; Kristen Darden; Carrie Simpson; Rachel Kane; Christine Dillard
Cc: Miller,Todd E (BPA) - LP-7; Eaton,Sara L (BPA) - PTMA-5
Subject: RE: [EXTERNAL] RE: Powerex language re: Resource Attribution
Attachments: 2024.1.18 Powerex Green Language.docx

We'd like to be able to review where the language ends up landing in the tariff. I will probably raise that tomorrow. Also, recognizing that it might be a bit out of time we have a suggestion for the language. We thing the language about market dispatches is unnecessary and maybe confusing. Attached is a suggestion...

Best,
Russ

From: Chris Nolen <cnolen@spp.org>
Sent: Thursday, January 18, 2024 9:42 AM
To: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>; Kelli Schermerhorn <kschermerhorn@spp.org>; Kristen Darden <kdarden@spp.org>; Carrie Simpson <csimpson@spp.org>; Rachel Kane <rkane@spp.org>; Christine Dillard <cdillard@spp.org>
Cc: Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Eaton,Sara L (BPA) - PTMA-5 <sleaton@bpa.gov>
Subject: [EXTERNAL] RE: Powerex language re: Resource Attribution

+Rachel and Christine

Christopher M. Nolen
Managing Attorney
Southwest Power Pool, Inc.
cnolen@spp.org
501.482.2394 office
(b)(6) mobile

From: Doot,Erika A (BPA) - LP-7 <eadoot@bpa.gov>
Sent: Thursday, January 18, 2024 11:38 AM
To: Kelli Schermerhorn <kschermerhorn@spp.org>; Kristen Darden <kdarden@spp.org>; Chris Nolen <cnolen@spp.org>; Carrie Simpson <csimpson@spp.org>
Cc: Mantifel, Russ <rxmantifel@bpa.gov>; Miller,Todd E (BPA) - LP-7 <temiller@bpa.gov>; Eaton, Sara <sleaton@bpa.gov>
Subject: **External Email** Powerex language re: Resource Attribution

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Hi Kristen, Kelli, Carrie and Chris,

We had a chance to review the 'green language' proposed by Powerex at our internal legal team meeting yesterday. We have concerns that the MDWG conversation regarding the language was confused between internal energy schedule after-the-fact settlements and a more general discussion about resource attribution. We have concerns with the Powerex "green" language that was approved on Tuesday. In particular, we have concerns about with the phrase "[t]o the extent the identified resource(s) receive a market dispatch," which is a different approach than we have worked with our customers to agree on. We believe that BPA's long-term contract delivery would be achieved through the market framework irrespective of the dispatch of particular BPA resources. We would like to understand whether it will be included in the settlements section of the tariff or another section as a broader acknowledgement. I suggest that we discuss the language again at the MDWG tomorrow with an opportunity to modify it and identify where in the tariff it would best fit. We will work on our proposed edits to the language today but I wanted to bring this to your attention as soon as possible this morning.

SPP Staff to determine where this language best fits in tariff

Market Participants will have the ability to schedule a physical transfer of energy from a specific resource (or group of resources) to a specific load inside the Markets+ footprint supported by a commitment of such resources to load, including through ownership or forward contractual obligation. To the extent the identified resource(s) receive a market dispatch, the output of such resources shall be considered delivered to the specified load.

Please let me know if discussing at tomorrow's MDWG will work for you. We think it would be prudent for MDWG members to have a chance to review the information with their teams as this concept was pushed through on the fly without a clear indication of its scope in the tariff.

Thank you,

Erika Doot
Attorney-Advisor
Bonneville Power Adminstration
(503) 230-4329

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From: Mantifel,Russell (BPA) - MTM-3
Sent: Wednesday, October 25, 2023 1:19 PM
To: Kristen Darden; Geiselman, Sibyl
Subject: RE: [EXTERNAL] RE: MDWG agenda- RA Education

Ditto here, thanks. Need to allow more time, we'll see the best way to adjust to allow it

---

From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, October 25, 2023 10:49 AM
To: Geiselman, Sibyl <sgeiselman@publicgeneratingpool.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Subject: [EXTERNAL] RE: MDWG agenda- RA Education

Hey Sibyl –

Thank you for bringing this up! Tyler actually emailed me earlier this week, expressing the same sentiment. We will ensure that we allow adequate time to review the RA designs tomorrow.

Thank you and see you soon!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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From: Sibyl Geiselman <sgeiselman@publicgeneratingpool.com>
Sent: Wednesday, October 25, 2023 12:34 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Subject: **External Email** MDWG agenda- RA Education

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Hi Russ and Kristen,
Upon reviewing the materials for tomorrow, I would like to propose that you leave some extra time to finish our review of the conceptual RATF results and have some Q&A on it with Tyler before we review any tariff on that concept, and as background for the market priority, imports/exports/wheels concepts, and scarcity design. These concepts are deeply interrelated, and I think we need to have sufficient understanding of the concepts to look at them holistically. The 10 minutes of agenda time last time didn't quite get me there, and I imagine others have questions as well.

Thanks, I am looking forward to all of the interesting topics we have in store.
Sibyl

Sibyl Geiselman

Market Policy Advisor

PUBLIC GENERATING POOL

Phone: 503-730-1046
Email: sgeiselman@publicgeneratingpool.com

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From: Mantifel,Russell (BPA) - PGL-5
Sent: Monday, July 10, 2023 11:20 AM
To: Laura Trolese; Detmer, Nicholas J; Kristen Darden
Cc: Carrie Simpson; Jim Gonzalez
Subject: RE: [EXTERNAL] Approval of Attachment A

I think we can have a motion reflects that those section are still being considered.

From: Laura Trolese <ltrolese@teainc.org>
Sent: Friday, July 7, 2023 4:14 PM
To: Detmer, Nicholas J <nick.detmer@xcelenergy.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Kristen Darden <kdarden@spp.org>
Cc: Carrie Simpson <csimpson@spp.org>; Jim Gonzalez <jgonzalez@spp.org>
Subject: [EXTERNAL] Approval of Attachment A

Hello,
I 100% support approval of Attachment A but am struggling with a few things.

1. VIrtuals are mentioned everywhere in here yet we have not made a decision as a group on whether to include them as part of the go live design.
2. This implies that there will be bidding/offering at the interties of a Markets + BA. I personally support this but during the EDAM discussions, many entities were flat out opposed to this concept for a few reasons (not sure if these all still apply or not).
    a. Concerns about imports not being reliable and leaving the BA exposed to a reliability risk. Not being able to quantify that risk and needing to hold extra reserves to cover for that uncertainty.
    b. Entities outside the market not being "resource adequate/sufficient" yet still being able to participate
    c. Entities not being required to pay for transmission and participation in this way reducing incentive for those entities to purchase LTF transmission.
    d. Disincents entities to fully join the DA organized market because they can just participate at the border but not contribute load and transmission.
3. Flexible reserve products are noted everywhere in here, but we haven't decided if we are going to have flex reserves at go live. Again, I personally support moving forward with the current standard SPP uncertainty and ramp product but if parties are going to want to change it all up (make the product biddable, change the methodology for how to calculate the amount that is procured, etc.), we won't have time for all of this discussions in Phase 1. So the other option could be to delay flex reserves entirely until phase 2 (not my preference but would vote for this if there was big opposition to the current SPP products as is).

Based on these unresolved issues, I imagine it will be hard for entities to vote on 7/12 on this language? Or I imagine the approvals will be caveated based on the resolution of the above items.

Laura Trolese
Director, Western Markets & Strategy

Mobile: (b)(6) [redacted]
Email: ltrolese@teainc.org

From: Mantifel,Russell (BPA) - MTM-3
Sent: Thursday, November 16, 2023 2:34 PM
To: Detmer, Nicholas J; Kristen Darden
Cc: Carrie Simpson; Kelli Schermerhorn; Wolfgang, Tracy
Subject: RE: [EXTERNAL] RE: Tomorrow's MDWG (11/17/2023)

Sounds good to me. Have a good day tomorrow.

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Thursday, November 16, 2023 2:31 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>
Cc: Carrie Simpson <csimpson@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Wolfgang, Tracy <twolfgang@utilicast.com>
Subject: [EXTERNAL] RE: Tomorrow's MDWG (11/17/2023)

Enjoy your time off!

From: Kristen Darden <kdarden@spp.org>
Sent: Thursday, November 16, 2023 3:22 PM
To: Detmer, Nicholas J <nick.detmer@xcelenergy.com>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Carrie Simpson <csimpson@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Wolfgang, Tracy <twolfgang@utilicast.com>
Subject: Tomorrow's MDWG (11/17/2023)

EXTERNAL - STOP & THINK before opening links and attachments.

My trusty Chairs –

(b)(6) Carrie, Kelli, and Tracy have graciously stepped up to facilitate the meeting with you both. I have attached an agenda with my notes in it for the meeting, that I have also given to Kelli, Carrie, and Tracy. Proxies documented within the document as well.

Have a wonderful evening!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C (b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
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From: Mantifel,Russell (BPA) - PGL-5
Sent: Monday, July 31, 2023 8:58 AM
To: Kristen Darden; Jim Gonzalez
Subject: RE: [EXTERNAL] 8/9 MPEC Material - Virtuals Effective Date

I think both! I'll take from slide 4 or 5 on?

From: Kristen Darden <kdarden@spp.org>
Sent: Sunday, July 30, 2023 9:23 PM
To: Jim Gonzalez <jgonzalez@spp.org>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Subject: [EXTERNAL] 8/9 MPEC Material - Virtuals Effective Date

Hey guys –

I have attached the Virtuals PPT that I am sending over for MPEC materials. I have you both as presenter for this matter. Do you have a preference who leads the discussion? Jim will be there in person. We are seeking approval of the MDWG's action during the 7/26 meeting.

I apologize in advance... You will be receiving other emails from me. I'm working and getting them out as they're completed.

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
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From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, April 10, 2024 7:36 AM
To: Mantifel,Russell (BPA) - MTM-3; Detmer, Nick
Subject: [EXTERNAL] RE: In person MDWGs

Updated below – meant Tuesday, 6/11- Wednesday, 6/12.

From: Kristen Darden
Sent: Wednesday, April 10, 2024 9:07 AM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: In person MDWGs

Hey there –

Here are some proposed modifying of net-conferences to in-person meetings (August we are currently scheduled for Thursday, 8/15, but MPEC is the 2 days before, so that may not work with everyone traveling. Need to reschedule that date anyways.):

- **Tuesday, Wednesday, ~~6/10-~~ 6/11-6/12 = in person**
  - **Location:** TSGT/BPA/Xcel/Pera Club/SRP?
  - **Agenda Topics:** GHG (Tracking & Reporting); Resource Adequacy (Must-Offer Requirements); Markets+ Administration Services; Mitigation Question Session (45 mins).
- **Proposed Date Change: Wednesday, Thursday, 8/21-8/22 = in person**
  - **Location:** TSGT/BPA/Xcel/Pera Club/SRP?
  - **Agenda Topics:** Market Registration; Resource Adequacy (Must-Offer Requirements); Seams (Import Export Interchange Transactions); Seams (Export Interchange Transactions); Congestion Rent (TSR Verification Process); Parking Lot Prioritization (60 mins).
- **Tuesday, Wednesday, 10/8-10/9 = in person**
  - **Location:** TSGT/BPA/Xcel/Pera Club/SRP?
  - **Agenda Topics:** Glossary; Market Process and System Change Process (This meeting will have more than this I'm sure. This will probably be a catch-all meeting, with the closing in on the end of the year.)

Would love to hear your opinions!

Kristen Darden | Senior Market Analyst | Western Services Development | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C (b)(6)
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29335223

From: Gentry Crowson <gtcrowson@spp.org>
Sent: Tuesday, November 14, 2023 4:37 PM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] MCRTF Meeting Materials 20231115
Attachments: MCRTF Meeting Materials 20231115.zip

Markets+ Congestion Rent Task Force,

The attached folder contains an agenda for tomorrow's MCRTF Meeting as well as two documents. Comments received to this point have been consolidated and are included in a "redline" version and a "clean" version of the Congestion Rent Tariff language. These documents will be referenced throughout tomorrow's MCRTF Meeting.

Thanks,
Gentry Crowson
MCRTF Staff Secretary

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SPP Southwest Power Pool

MARKETS+

SOUTHWEST POWER POOL, INC.
Markets+ Congestion Rent Task Force

11/15/2023
WebEx

AGENDA

10:00AM – 12:00PM Central / 9:00AM – 11:00AM Mountain /8:00AM – 10:00AM Pacific

1. Administrative Items ..... Jeff Spires (10)
   - Call to Order
   - Statements: Notice of Recording & Anti-trust Statement
   - Attendance & Proxies
   - Agenda Review
   - Minutes Approval
2. Markets+ Congestion Rent Tariff ..... SPP Staff (180)
3. Summary of Action Items ..... Gentry Crowson (5)
4. Future Meetings ..... Gentry Crowson (5)
   - Wednesday, November 16th, 10:00 am – 12:00 pm Central **(MCRTF)**
     i) Finish reviewing Congestion Rent Tariff Sections
   - Monday, November 27th, 10:30 am – 11:30 am Central **(MCRTF)**
     i) Voting Meeting
   - Tuesday, November 28th, 10:30-5:00 pm CT **(MDWG)**
     i) MDWG will vote on Congestion Rent Tariff
   - Wednesday, December 6th, 11:30 AM – 03:00 PM Central **(MPEC)**
   - Thursday, December 7th, 10:00 AM – 04:00 PM Central **(MPEC)**

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29330893

i) MPEC to vote on Congestion Rent Tariff

Antitrust: *SPP strictly prohibits use of participation in SPP activities as a forum for engaging in practices or communications that violate the antitrust laws. Please avoid discussion of topics or behavior that would result in anti-competitive behavior, including but not limited to, agreements between or among competitors regarding prices, bid and offer practices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that might unreasonably restrain competition.*

Definitions

Congestion Rent

Revenue collected by the Market Operator resulting from binding transmission constraints in the Day-Ahead Market that will be allocated to Congestion Rent Eligible Transmission Service Reservation Holders and Markets+ Transmission Service Providers.

Conditional Firm Point-To-Point Transmission Service

The reservation and transmission of capacity and energy on a conditional firm basis from specified Point(s) of Receipt to specified Point(s) of Delivery. This service is equivalent to Firm Point-To-Point Transmission Service except that, under certain system conditions or under a number of hours in real-time, this service will be curtailed ahead of Firm Point-To-Point Transmission Service, as further defined in each transmission service provider's Open Access Transmission Tariff (OATT).

Congestion Rent Eligible Transmission Service Reservation (CRETSR)

The MW quantity of Firm Point-to-Point Transmission Service, Conditional Firm Point-To-Point Transmission Service, Network Integration Transmission Service, and/or Legacy Transmission Service of a monthly or longer service increment that spans the full applicable calendar month and is available for use by Markets+.

Congestion Rent Eligible Transmission Service Reservation (CRETSR) Holder

A Market Participant with a Congestion Rent Eligible Transmission Service Reservation.

Designated Network Resource

Any designated generating resource owned, purchased or leased by a Network Customer for the purposes of serving Network Load, as further defined in each Markets+ Transmission Service Provider's Open Access Transmission Tariff.

Firm Point-To-Point Transmission Service

The reservation and transmission of capacity and energy on a firm basis from a specified Point(s) of Receipt to specified Point(s) of Delivery, as further defined in each Markets+ Transmission Service Provider's Open Access Transmission Tariff

Legacy Transmission Service

Transmission service that existed on a transmission service provider's system prior to the effective date of that transmission service provider's Open Access Transmission Tariff that is equivalent to Network Integration Transmission Service or Firm Point-To-Point Transmission Service.

Markets+ Transmission Contributor *(Definition approved by MTWG and MDWG)*

Any Market Participant that voluntarily provides its transmission service rights on a non-participating transmission service provider's system for Markets+ optimization.

Markets+ Transmission Service Provider *(Definition approved by MTWG and MDWG)*

Any transmission service provider in the Markets+ Footprint that executes the agreement for a Markets+ Transmission Service Provider in Markets+ and contributes Markets+ Transmission Capability.

Markets+ Transmission User *(Definition approved by MTWG and MDWG)*

Any Market Participant offering or bidding load, generation, interchange, or virtual transactions within Markets+.

Network Customer

An entity receiving Network Integration Transmission Service under one or more Markets+ Transmission Service Provider's Open Access Transmission Tariff.

Network Integration Transmission Service (NITS)

The reservation and transmission of capacity and energy on a firm basis between Designated Network Resources and Network Load, as further defined in each Markets+ Transmission Service Provider's Open Access Transmission Tariff.

Network Load

The load that a Network Customer designates for Network Integration Transmission Service under a Markets+ Transmission Service Provider's Open Access Transmission Tariff. The Network Customer's Network Load will include all load served by the output of any Designated Network Resources identified by the Network Customer.

Network Service Distribution Cap

The monthly maximum MW for which a Network Integration Transmission Service NITS customer is eligible to receive Congestion Rent. The MW cap is equal to a monthly load used for Network Integration Transmission Service billing for the applicable Congestion Rent allocation month by each respective Markets + Transmission Service Provider.

Point-to-Point Transmission Service Distribution Cap

The monthly maximum MW for which a CRETSR Holder is eligible for Congestion Rent associated with each of its Firm or Conditional Firm Point-to-Point Congestion Rent Eligible Transmission Service Reservations. The monthly cap for a Firm or Conditional Firm Point-to-Point Congestion Rent Eligible Transmission Service Reservation is equal to its eligible reserved MW quantity.

Transmission Constraint Shadow Price

The reduction in production cost, in $/MWh, that is realized by increasing the MW limit of a binding transmission constraint by 1 MW.

Section 7.16: Congestion Rent Eligible Transmission Service Reservation Verification

The Market Operator, in collaboration with Markets+ Transmission Service Providers and Market Participants within the Markets+ Footprint, shall verify each Market Participant's Congestion Rent Eligible Transmission Service Reservations.

1) The Market Operator will retrieve each CRETSR Holder's transmission service information from the applicable Transmission Service Provider's Open Access Same-time Information System (OASIS), which may include:

    a) Transmission Service Provider;

    b) Transmission Customer;

    c) Reservation Number or Assignment Reference Number (AREF);

    d) MW Quantity granted;

    e) Markets+ Transmission User;

    f) Service Increment

    g) Service Type (Firm Point-to-Point Transmission Service, Conditional Firm Point-to-Point Transmission Service, Network Integration Transmission Service, Legacy Transmission Service):

    h) Start Time;

    i) End Time;

    j) Designated Network Resource Facility Name;

    k) Designated Network Load Name;

    l) Source;

    m) Sink;

    n) Point-of-Receipt (POR); and

    o) Point-of-Delivery (POD).

Comment [GC1]: Ensure all information below in public on OASIS

2) A resale of a Congestion Rent Eligible Transmission Service Reservation to a different transmission customer that does not span the entire duration of the upcoming month, or that is arranged after the verification process begins, will not be considered in the congestion rent allocation process. The congestion rent associated with the Congestion Rent Eligible Transmission Service Reservation will be allocated to the CRETSR Holder that previously held the rights for the entire month.

3) A redirect of a Congestion Rent Eligible Transmission Service Reservation to a different POR or POD that does not span the entire duration of the upcoming month, or that is made after the verification process begins, will not be considered in the congestion rent allocation process. The congestion rent associated with the Congestion Rent Eligible Transmission Service Reservation will be allocated based on the last valid POR and POD that spanned the entire month for that CRETSR Holder.

4) If a Markets+ Transmission Service Provider or Markets+ Transmission Contributor is unable to provide information related to Legacy Transmission Service on OASIS, the Markets+ Transmission Service Provider or Markets+ Transmission Contributor will notify the Market Operator and the Markets+ Transmission User, and the Market Operator will coordinate the exchange of Legacy Transmission Service information.

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Comment [SJ2]: Proposal from Steve Szablya: Markets+ Transmission Service Providers shall make available on OASIS Legacy Transmission Service that is eligible to be a CRETSR by posting such information on OASIS

BULLET 5) is was the last topic of discussion in the 11/09/2023 MCRTF*******

5) The Market Operator shall obtain the transmission service reservation information as specified under subsections (1), (2), (3), and (4) above at the beginning of the Verification Period as defined in the Markets+ Protocols and:

Comment [MK(E3]: Will there be a verification with the TSP as to validate data?

a) Provide such information to each identified Markets+ Transmission Service Provider, Markets+ Transmission Contributor and CRETSR Holder for verification/correction.

Comment [SJ4]: From Steve Szablya: Why not make the CRETSR Holder submit flat files to the SPP MO, then the SPP MO can verify against OASIS programmatically? I know it's a rethink of the process, but it seems like if you force the CRETSR Holder to be in charge of their own destiny, you can eliminate the requirement for a cure period

b) Unless the Markets+ Transmission Service Provider, Markets+ Transmission Contributor or CRETSR Holder communicates a potential

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error during the verification period as defined in the Markets+ Protocols, the Market Operator will deem the transmission service reservation information provided to be a valid Congestion Rent Eligible Transmission Service Reservation. Errors identified after the verification period must follow the [Markets+ settlements dispute process]

c) If a Markets+ Transmission Service Provider, Markets+ Transmission Contributor or CRETSR Holder identifies a potential error with the transmission service reservation information, the respective Markets+ Transmission Service Provider, Markets+ Transmission Contributor or CRETSR Holder will contact the Market Operator. The Market Operator will communicate its determination of the validity of the transmission service reservation to the Transmission Service Provider, Markets+ Transmission Contributor and CRETSR Holder, including the correction of any error(s).

6) For Firm or Conditional Firm Point-to-Point Transmission Service CRETSR Holders, the TSR MW used for settlements is equal to the Point-to-Point Transmission Service Distribution Cap for each Firm or Conditional Firm Congestion Rent Eligible Transmission Service Reservation.

7) For Network Integration Transmission Service (NITS) TSR Holders, the total TSR MW used for settlements from each Designated Network Resource (DNR) to Network Load is calculated by the Market Operator using the following procedure:

a) The Designated Network Resource MW capacity, Point-of-Receipt and Point-of-Delivery will be obtained from the Markets+ Transmission Service Provider's or Markets+ Transmission Contributor's OASIS, if available, as described under Subsection 1) above. During the Verification Period, if the above information cannot be obtained through OASIS, the Market Operator will coordinate with the applicable Markets+ Transmission Service Provider, Markets+ Transmission Contributor and NITS TSR Holders

Comment [BK5]: Same comment as above.

Comment [AC6]: Can a single DNR serve multiple NT customers? How would the offer curves of the resources be allocated? Maybe that is covered by 5)a)

to obtain and maintain a record of such data. Network Integration Transmission Service for Designated Network Resources that are located outside of the Markets+ Transmission Service Provider's system that is serving Network Load inside of the Markets+ Transmission Service Provider's system, the Point of Receipt will be based on the modelled injection point for delivering energy to the Markets+ Transmission Service Provider's or Markets+ Transmission Contributor's system.

b) Based on the information obtained in Subsection 7(a) and for each hour of the Operating Day, the Market Operator will systematically select each Network Integration Transmission Service CRETSR Holder's source to sink paths from its Designated Network Resources (DNRs) to its Network Loads as follows:

   i. The Market Operator will create a merit order stack by sorting the supply available from the Network Integration Transmission Service CRETSR Holder's DNRs from lowest cost supply to highest cost supply, where:

      a) The total supply included in the merit order stack from each DNR shall equal the maximum registered operating capability of the DNR.

      b) Supply from a DNR with a Day Ahead Commit Status of Self or Reliability Must Run will be considered the lowest cost supply for purposes of this merit order process and will be added to the merit order stack first.

      c) The Market Operator will next add supply from the Network Integration Transmission Service CRETSR Holder's DNRs made available in the Day Ahead Market from lowest cost to highest cost based on the incremental cost, in $/MWh, of each segment of the Energy Offer Curves submitted in the Day Ahead

Comment [MTC7]: What if we have better modeling of the off system resource? It has to be the POR of import location?

Comment [WC8]: Agree. We could add that here or include as a Protocol detail.

Comment [MTC9]: This is fine for reliability must run - but a "reliability" status for only running during reliability events should not be positioned at bottom. Also, what does "bottom" mean, one could argue what it means.

Comment [WC10]: "Reliability Status" is not being included in Markets+. A Resource in RMR status is basically the same as Self-Schedule except it is eligible for Make-Whole Payment. Bottom of the Stack means "lowest cost".

Market. The Market Operator may also consider Mitigated Energy Offer Curves in the merit order process.

d) Any portion of a DNR that is not available in the Day Ahead Market will be considered the highest cost for purposes of the merit order process and will be added to the merit order stack after all available supply from the Network Integration Transmission Service CRETSR Holder's DNRs have been included as described in subsections (b) and (c) above.

ii. Starting with the lowest cost supply in the merit order stack created in Section 7.16(7)(b)(i) of this Attachment A, the Market Operator will select paths from the Network Integration Transmission Service Holder's DNRs to its Network Load from the merit order stack until the total MW capacity selected is equal to the Network Integration Transmission Service TSR Holder's Network Service Distribution Cap. Such selected DNR to Network Load paths will be used for Congestion Rent allocation purposes as described under Section 9.2.14 of this Attachment A.

Comment [WC11]: What Criteria is used to determine this.

Comment [MTC12]: Why is this Nomination instead of Distribution Cap as it is called in 7.16 subsection 5? Where is the nomination cap set that allows for the 4CP, monthly billing etc.?

Comment [WC13]: Mistake. Should be Distribution Cap.

Comment [BK14]: Is this correct? Nomination Cap is not defined.

Section 7.17: Coordinated Interchange Scheduling Limits

1) If Markets+ participating BAA requires a coordinated scheduling limit at a single location involving one or more Markets+ Transmission Service Providers, the Market Operator will activate the scheduling limit as a constraint in the market solution. The Market Operator will separate the congestion rent available for allocation on the binding constraint, as calculated under Section 9.2.13 of this Attachment A, into an Export Share and an Import Share. The Export Share will be associated with Congestion Rent Eligible Transmission Service Reservations to the coordinated scheduling location and will be distributed in the same manner as set forth in Sections 9.2.14 and 9.2.15 of this

Attachment A. The Import Share will be associated with Congestion Rent Eligible Transmission Service Reservations from the coordinated scheduling location and will be allocated in the same manner as set forth in Sections 9.2.14 and 9.2.15 of this Attachment A.

2) For the coordinated scheduling limit as described in (1) above, the Market Operator will allocate 50% of the congestion rent available for allocation on the binding constraint, as calculated under Section 9.2.13 of this Attachment A, to the Export Share and 50% to the Import Share, provided that the applicable Markets+ Transmission Service Providers and/or participating Markets+ BA associated with a coordinated scheduling limit may mutually agree and instruct the Market Operator to use a different sharing ratio that better reflects the particular arrangement associated with the constraint.

3) The Market Operator will maintain a list of all the coordinated scheduling limits that will be activated on its public website.

Section 9.2.13: Day Ahead Congestion Rent Available for Allocation Amount

The Market Operator calculates the Congestion Rent on each binding transmission constraint for each hour in the Day-Ahead Market as follows:

1) The Congestion Rent Available for Allocation on each binding transmission constraint in each hour is calculated as follows:

Congestion Rent Available for Allocation =
(Hourly Transmission Constraint Shadow Price)

* (Hourly Day-Ahead Market Flow).

a) Hourly Day-Ahead Transmission Constraint Shadow Price is calculated by the Day-Ahead Market solution and is defined in the Markets+ Tariff.

b) Hourly Day-Ahead Market Flow is the hourly flow quantity across that binding Transmission Constraint calculated by the Day-ahead Market solution.

Comment [EL(P515]: Will this be a defined term in the tariff?

Comment [WC16]: That was not the intent. I think FERC is familiar with terminology we but could define it if needed.

Comment [EL(P517]: Did not see this in the definition section

Comment [WC18]: Its defined within this Settlements Section. This is typical since we don't want list out all of billing determinants in the definitions section.

Comment [AC19]: Signs of elements in the various formulas is a little confusing. Can SPP walk through this and/or verify that signs are correct?

Comment [AC20]: Can we define this in a way that doesn't use the term in the definition?

Section 9.2.14: Day Ahead TSR Holder Congestion Rent Distribution

The Market Operator distributes the Congestion Rent collected to each CRETSR Holder for each hour in the Day-Ahead Market as follows:

1) A CRETSR Holder's Total Congestion Rent Allocation in an hour is calculated as follows:

   CRETSR Holder's Total Congestion Rent Allocation = the sum of that CRETSR Holder's Congestion Rent Allocations for all binding transmission constraints.

   a) CRETSR Holder Congestion Rent Allocation = CRETSR Holder Congestion Rent Allocation Factor multiplied by the Congestion Rent Available for Allocation for that binding transmission constraint multiplied by (-1)

      i. Congestion Rent Available for Allocation is the value calculated under Section 9.2.13 for that binding constraint.

   b) If the Total of all CRETSR Holders' Positive MW Impacts in the Binding Flow Direction on that binding transmission constraint is greater than or equal to the Hourly Day-Ahead Market Flow on that binding transmission constraint,

      Then

      CRETSR Holder Congestion Rent Allocation Factor =

      (CRETSR Holder's Positive MW Impact in the Binding Flow Direction on that binding transmission constraint) /

      (Total of all CRETSR TSR Holders' Positive MW Impacts in the Binding Flow Direction on the same binding transmission constraint).

   c) If the total of all CRETSR Holders' Positive MW Impact in the Binding Flow Direction on that binding transmission constraint is

Comment [BK21]: Is "distribution" the right term here? Or should it be "allocation"? "Distribution" implies payment, but this section does not discuss payment. It discusses allocation amounts.

Comment [BK22]: Is this subsection redundant with the preceding language? Consider deleting.

Comment [MK(E23]: The group agreed this is not pro rata. Yet this definition looks like it could still be pro rata

Comment [EL(P524]: Confirm that this is somehow tied to MCC being a negative value? CR Factor should be a positive number and the CR Available Allocation should be positive number, but don't see that term defined anywhere

Comment [WC25]: This multiply by (-1) is get the sign convention correct for Settlements. Negative values are credits. The CR Available for Allocation is the value calculated under Section 9.2.13. Need to add this Section reference here.

Comment [MK(E26]: Disagree with this language.

Comment [MK(E27]: This looks like pro rata. That is not the case. How are we carving out unsold capacity beyond what was reserved by TSR rights holders?

less than the Hourly Day-Ahead Market Flow on that binding transmission constraint

Then

CRETSR Holder Congestion Rent Allocation Factor =

(CRETSR Holder's Positive MW Impact in the Binding Flow Direction on that binding transmission constraint /

Hourly Day-Ahead Market Flow on that binding transmission constraint).

d) CRETSR Holders' Positive MW Impact in the Binding Flow direction on the binding constraint =

CRETSR Holder's TSR Reserved MW Quantity *

Percentage flow impact in the binding flow direction on the binding constraint, calculated as part of the Day-Ahead Market solution, for that CRETSR Holder's CRETSR.

i. For Firm or Conditional Firm Point-To-Point TSR Holders, TSR Reserved MW Quantity is equal to the Firm Conditional Firm Point-To-Point Service Distribution Cap for that Congestion Rent Eligible Transmission Service Reservation.

ii. For Network Integration Transmission Service TSR Holders, TSR Reserved MW Quantity is equal to the MW amounts identified under Section 7.1.6(7)(b)(ii) of this Attachment A.

Comment [BK28]: Do we need this new term? Or is it the same as the "Congestion Rent Eligible Transmission Service Reservation"?

Section 9.2.15: Day Ahead Excess Congestion Rent Distribution

For each hour in the Day Ahead Market in which the Market Operator collects Excess Congestion Rent, the Market Operator shall distribute the Excess Congestion Rent collected to the applicable Markets+ Transmission Service Providers as follows:

Comment [BK29]: Same comment as above re: "distribution" vs. "allocation".

Comment [BK30]: Should this say "Excess" instead, referring to the term later defined?

1) A Markets+ Transmission Service Provider's Total Congestion Rent Allocation in an hour is calculated as follows:

Markets+ Transmission Service Provider's Total Congestion Rent Allocation = the sum of that Markets+ Transmission Service Provider's Congestion Rent Allocations for all binding transmission constraints associated with that Markets+ Transmission Service Provider, multiplied by (-1).

a) Markets+ Transmission Service Provider's Congestion Rent Allocation = Excess Congestion Rent for that binding transmission constraint associated with any unsold capacity the Markets+ Transmission Service Provider makes available to the market in that hour. For elements of a constraint associated with more than one Markets+ Transmission Service Provider, the Market Operator will allocate the Excess Congestion Rent for the constraint based on the percentage of market available capacity associated with each Markets+ Transmission Service Provider.

b) Excess Congestion Rent = (Congestion Rent Available for Allocation in that hour), Plus

(the sum of all CRETSR Holder Congestion Rent Allocations for that binding constraint associated with the Markets+ Transmission Service Provider in that hour)

i. Congestion Rent Available for Allocation is equal to the value calculated under Section 9.2.13(1) of this Attachment A.

ii. CRETSR Holder Congestion Rent Allocation is equal to the value calculated under Section 9.2.14(1)(a) of this Attachment A.

Comment [MK(E31]: Don't love this term, but tried to help define what this is a little more

Comment [MTC32]: Should this be minus?

Comment [WC33]: No. It's a little confusing. Its plus here because the TSR Congestion Rent Allocations is a negative number. (See Section 9.2.14(1)(a), there is multiply by (-1) to get the settlement sign convent4ion correct, negative values are credits.)

Definitions

Congestion Rent

Revenue collected by the Market Operator resulting from binding transmission constraints in the Day-Ahead Market that will be allocated to Congestion Rent Eligible Transmission Service Reservation Holders ~~,~~and Markets+ Transmission Service Providers ~~and/or Markets+ Transmission Contributors.~~

Comment [GC1]: Revisit

Comment [GC2]: Tyler Moore: I think they could contribute transmisison but not be eligible for congestion rent, but we wouldn't want to keep it in the defintiion here since it's saying who would be allocated. Any transmission contributor that would be allocated would be captured as a CRETSR Holder.

Conditional Firm Point-To-Point Transmission Service

The reservation and transmission of capacity and energy on a conditional firm basis from ~~a~~specified Point(s) of Receipt to ~~a~~specified Point(s) of Delivery. This service is equivalent to Firm Point-To-Point Transmission Service except that, under certain system conditions or under a number of hours in real-time, this service will be curtailed ahead of Firm Point-To-Point Transmission Service, as further defined in each transmission service provider's Open Access Transmission Tariff (OATT).

Congestion Rent Eligible Transmission Service Reservation (CRETSR)

The MW ~~reservation~~ quantity of Firm Point-to-Point Transmission Service, Conditional Firm Point-To-Point Transmission Service, Network Integration Transmission Service, and/or Legacy Transmission Service of a monthly or longer service increment that spans the full applicable calendar month and is available for use by Markets+.

Congestion Rent Eligible Transmission Service Reservation (CRETSR) Holder

A Market Participant with a Congestion Rent Eligible Transmission Service Reservation.

Designated Network Resource

Any designated generating resource owned, purchased or leased by a Network Customer for the purposes of serving Network Load, as further defined in each Markets+ Transmission Service Provider's Open Access Transmission Tariff.

Firm Point-To-Point Transmission Service

The reservation and transmission of capacity and energy on a firm basis from a specified Point(s) of Receipt to aspecified Point(s) of Delivery, as further defined in each Markets+ Transmission Service Provider's Open Access Transmission Tariff

Legacy Transmission Service

Transmission service that existed on a transmission service provider's system prior to the effective date of that transmission service provider's Open Access Transmission Tariff that is equivalent to Network Integration Transmission Service or Firm Point-To-Point Transmission Service.

Markets+ Transmission Contributor *(Definition approved by MTWG and MDWG)*

Any Market Participant that voluntarily provides its transmission service rights on a non-participating transmission service provider's system for Markets+ optimization.

Markets+ Transmission Service Provider *(Definition approved by MTWG and MDWG)*

Any transmission service provider in the Markets+ Footprint that executes the agreement for a Markets+ Transmission Service Provider in Markets+ and contributes Markets+ Transmission Capability.

Markets+ Transmission User *(Definition approved by MTWG and MDWG)*

Any Market Participant offering or bidding load, generation, interchange, or virtual transactions within Markets+.

~~**Maximum Economic Capacity Operating Limit**~~

~~An economic MW level used for constraining Energy dispatch that includes reductions to account for the Operating Reserve identified in the Ancillary Service Plan.~~

Network Customer

An entity receiving Network Integration Transmission Service under one or more Markets+ Transmission Service Provider's Open Access Transmission Tariff.

Network Integration Transmission Service (NITS)

Comment [AC3]: Is this based on resource offer curves or a fixed amount? What about for VERs?

Comment [TM4]: What's the ancillary service plan?

Comment [WC5]: How much Operating Reserve is being carried on the Resource. This capacity will impact what is left on the Resource for Energy dispatch. For example, a 500 MW Resource that is carrying 50 MW of regulation would have an Econ Max of 450 MW.

Comment [GC6]: Revisit after DNR section

The reservation and transmission of capacity and energy on a firm basis between Designated Network Resources and Network Load, as further defined in each Markets+ Transmission Service Provider's Open Access Transmission Tariff.

Network Load

The load that a Network Customer designates for Network Integration Transmission Service under a Markets+ Transmission Service Provider's Open Access Transmission Tariff. The Network Customer's Network Load will include all load served by the output of any Designated Network Resources identified by the Network Customer.

Network Service Distribution Cap

The monthly ~~cap on~~maximum MW for which a Network Integration Transmission Service NITS customer is eligible ~~for~~to receive Congestion Rent. The MW cap is equal to a monthly load used for Network Integration Transmission Service billing for the applicable Congestion Rent allocation month by each respective Markets + Transmission Service Provider.

Point-to-Point Transmission Service Distribution Cap

The monthly ~~cap on~~maximum MW for which a CRETSR Holder is eligible for Congestion Rent associated with each of its Firm or Conditional Firm Point-to-Point Congestion Rent Eligible Transmission Service ~~CRETSR Holder is eligible for Congestion Rent.~~Reservations. The ~~MW~~monthly cap ~~equals the~~ for a Firm or Conditional Firm Point-to-Point Congestion Rent Eligible Transmission Service ~~included in the Market Participant's CRETSR.~~ Reservation is equal to its eligible reserved MW quantity.

Transmission Constraint Shadow Price

The reduction in production cost, in $/MWh, that is realized by increasing the MW limit of a binding transmission constraint by 1 MW.

Comment [MK(E7]: Is the defined term Markets + Market Participant? Or just Market Participant?

Comment [GC8]: Used in an individual way (revisit) for possible inclusion of 'sum of'

Comment [GC9]: Maybe include each here (revisit)

Section 7.16: Congestion Rent Eligible Transmission Service Reservation Verification

The Market Operator, in collaboration with Markets+ Transmission Service Providers and Market Participants within the Markets+ Footprint, ~~will use the following procedure to~~shall verify each Market Participant's Congestion Rent Eligible Transmission Service Reservations.

1) ~~Markets+~~The Market Operator will retrieve each CRETSR Holder's transmission service information from the applicable Transmission Service ~~Providers and Markets+ Transmission Contributors will make available on their respective~~Provider's Open Access Same-time Information System (OASIS~~) the Market Participant's firm transmission service reservation information for service increments that are monthly, yearly, or longer, and that span the upcoming operational month.~~), which may include ~~where available~~:

    a) Transmission Service Provider;

    b) Transmission Customer;

    ~~b)~~c) Reservation Number or Assignment Reference Number (AREF);

    ~~c)~~ MW Quantity~~;~~

    d) ~~Designated Network Resource~~ granted;

    e) Markets+ Transmission User;

    f) Service Increment

Comment [GC10]: Ensure all information below in public on OASIS

~~g)a) Service Start Time;~~

~~h)a) End Time;~~

~~i)~~g) Type (Firm Point-to-Point Transmission Service, Conditional Firm Point-to-Point Transmission Service, Network Integration Transmission Service, Legacy Transmission Service);

h) Start Time;

i) End Time;

j) Designated Network Resource Facility Name;

k) Designated Network Load Name;

~~j)~~l) Source;

~~k)~~m) Sink;

~~l)~~n) Point-of-Receipt (POR); and

~~m)~~o) Point-of-Delivery (POD).

2) A resale of a Congestion Rent Eligible Transmission Service Reservation to a different transmission customer that does not span the entire duration of the upcoming month, or that is arranged after the verification process begins, will not be considered in the congestion rent allocation process. The congestion rent associated with the ~~TSR~~Congestion Rent Eligible Transmission Service Reservation will be allocated to the ~~Markets+ Transmission User~~CRETSR Holder that previously held the rights for the entire month.

3) A redirect of a Congestion Rent Eligible Transmission Service Reservation to a different POR or POD that does not span the entire duration of the upcoming month, or that is made after the verification process begins, will not be considered in the congestion rent allocation process. The congestion rent associated with the ~~TSR~~Congestion Rent Eligible Transmission Service Reservation will be allocated based on the last valid POR and POD that spanned the entire month for that CRETSR Holder.

4) If a Markets+ Transmission Service Provider or Markets+ Transmission Contributor is unable to provide information related to Legacy Transmission Service on OASIS, the Markets+ Transmission Service Provider or Markets+ Transmission Contributor will notify the Market Operator and the Markets+ Transmission User, and the Market Operator will coordinate the exchange of Legacy Transmission Service information.

****BULLET 5) is was the last topic of discussion in the 11/09/2023 MCRTF**********

5) The Market Operator ~~will~~shall obtain the transmission service reservation information as specified under subsections (1), (2), (3), and (4) above ~~during~~at the ~~month preceding~~beginning of the ~~operating month~~Verification Period as defined in the Markets+ Protocols and:

   a) Provide such information to each identified Markets+ ~~TSP~~Transmission Service Provider, Markets+ Transmission Contributor and CRETSR Holder for verification/correction.

   b) Unless the Markets+ ~~TSP~~Transmission Service Provider, Markets+ Transmission Contributor or CRETSR Holder communicates a potential error during the verification period as defined in the Markets+ Protocols, the Market Operator will deem the transmission service reservation information provided to be ~~valid.~~ a valid Congestion Rent Eligible Transmission Service Reservation. Errors identified after the verification period must follow the [Markets+ settlements dispute process]

   c) If a Markets+ ~~TSP~~Transmission Service Provider, Markets+ Transmission Contributor or CRETSR Holder identifies a ~~suspected~~potential error with the transmission service reservation information, the respective Markets+ ~~TSP~~ Transmission Service Provider, Markets+ Transmission Contributor or CRETSR Holder will contact the Market Operator. The Market Operator will communicate its determination of the validity of the transmission service reservation to the Transmission Service Provider, Markets+ ~~TSP~~Transmission

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Comment [SJ11]: Proposal from **Steve Szablya**: Markets+ Transmission Service Providers shall make available on OASIS Legacy Transmission Service that is eligible to be a CRETSR by posting such information on OASIS

Comment [MK(E12]: Will there be a verification with the TSP as to validate data?

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Comment [SJ13]: From **Steve Szablya**: Why not make the CRETSR Holder submit flat files to the SPP MO, then the SPP MO can verify against OASIS programmatically? I know it's a rethink of the process, but it seems like if you force the CRETSR Holder to be in charge of their own destiny, you can eliminate the requirement for a cure period

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Contributor and CRETSR Holder, including the correction of any error.(s).

6) For Firm or Conditional Firm Point-to-Point Transmission Service CRETSR Holders, the TSR MW used for settlements is equal to the Point-to-Point Transmission Service Distribution Cap for each Firm or Conditional Firm Congestion Rent Eligible Transmission Service Reservation.

7) For Network Integration Transmission Service (NITS) TSR Holders, the total TSR MW used for settlements from each Designated Network Resource (DNR) to Network Load is calculated by the Market Operator ~~equal to the Network Service Distribution Cap~~ using the following procedure:

a) ~~To the extent that~~The Designated Network ~~Resource~~The ~~DNR~~Resource MW capacity, Point-of-Receipt and Point ~~of Receipt~~POR and/or the Network Load Point POD-of-Delivery will be ~~provided~~obtained from the Markets+ Transmission Service Provider's or Markets+ Transmission Contributor's OASIS, if available, as described under Subsection 1) above. During the ~~verification period~~Verification Period, if the above information cannot be ~~provided~~obtained through OASIS, the Market Operator will coordinate with the applicable Markets+ Transmission Service Provider, Markets+ Transmission Contributor and NITS TSR Holders to ~~-~~obtain and maintain a record of ~~each Designated Network Resource's MW capacity and Point of Delivery Receipt and associated Network Load's Point of Delivery for that NITS TSR Holder.~~ such data. Network Integration Transmission Service ~~For~~for Designated Network Resources that are located outside of the Markets+ Transmission Service Provider's system that is serving Network Load inside of the Markets+ Transmission Service Provider's system, the Point of Receipt will be ~~at~~based on the ~~import location of~~modelled injection point for delivering energy to the

Comment [BK14]: Same comment as above

Comment [AC15]: Can a single DNR serve multiple NT customers? How would the offer curves of the resources be allocated? Maybe that is covered by 5)a)

Markets+ Transmission Service Provider's or Markets+ Transmission Contributor's system.

b) Based on the information obtained in Subsection ~~5~~7(a) and for each hour of the Operating Day, the Market Operator will systematically select each Network Integration Transmission Service ~~TSR~~CRETSR Holder's source to sink paths from its Designated Network Resources (DNRs) to its Network Loads as follows~~:~~:

i. ~~A~~ The Market Operator will create a merit order stack ~~is created~~by sorting the supply available from the Network Integration Transmission Service CRETSR Holder's DNRs from lowest cost ~~Designated Network Resources~~supply to ~~the~~ highest cost ~~Designated Network Resources~~supply, where ~~the Designated Network Resources cost is equal to the incremental cost, in $/MWh, to operate each Designated Network Resource at its Maximum Economic Capacity Operating Limit in effect at the time of the Day-Ahead Market close. Such incremental cost will be calculated using the submitted Mitigated Energy Offer Curve for each Designated Network Resource. Designated Network Resources with a~~:

a) The total supply included in the merit order stack from each DNR shall equal the maximum registered operating capability of the DNR.

b) Supply from a DNR with a Day Ahead Commit Status of Self or Reliability Must Run will be ~~positioned at~~considered the lowest cost supply for purposes of this merit order process and will be added to the merit order stack first.

c) The Market Operator will next add supply from the ~~bottom of the merit order stack with zero cost.~~Network Integration Transmission Service CRETSR Holder's

Comment [MTC16]: What if we have better modeling of the off system resource? It has to be the POR of import location?

Comment [WC17]: Agree. We could add that here or include as a Protocol detail.

Comment [AC18]: The stacking should be on a segment by segment basis, not a resource-by-resource basis, correct? This could be read to mean that the $/MWh for the last segment of the offer curve is used.

Comment [CA19]: The approved proposal stated that SPP *may* incorporate mitigated offers; this states that it *will* be based on mitigated offers.

Comment [GC20]: Once Green House Gas design is approved, we will have discussion on whether or not to include that adder here.

Comment [MTC21]: This is fine for reliability must run - but a "reliability" status for only running during reliability events should not be positioned at bottom. Also, what does "bottom" mean, one could argue what it means.

Comment [WC22]: "Reliability Status" is not being included in Markets+. A Resource in RMR status is basically the same as Self-Schedule except it is eligible for Make-Whole Payment. Bottom of the Stack means "lowest cost".

Comment [BK23]: Is this accurate? Suggest adding this to 1) clarify that the bottom of the stack is the lowest cost, and 2) that self schedule and must run resources will show up as the "lowest cost DNR" selected in the next section.

DNRs made available in the Day Ahead Market from lowest cost to highest cost based on the incremental cost, in $/MWh, of each segment of the Energy Offer Curves submitted in the Day Ahead Market. The Market Operator may also consider Mitigated Energy Offer Curves in the merit order process.

~~i.~~d) Any portion of a DNR that is not available in the Day Ahead Market will be considered the highest cost for purposes of the merit order process and will be added to the merit order stack after all available supply from the Network Integration Transmission Service CRETSR Holder's DNRs have been included as described in subsections (b) and (c) above.

ii. Starting with the lowest cost ~~DNR Designated Network Resource~~supply in the merit order stack created in Section 7.16(~~5~~7)(b)(i) of this Attachment A, the Market Operator will select ~~s to Network Load~~ paths from the Network Integration Transmission Service Holder's DNRs to its Network Load from the merit order stack until the total MW capacity ~~of the Designated Network Resources DNRs~~ selected is equal to the Network Integration Transmission ~~Serviceholder's~~Service TSR Holder's Network ~~ServiceDistribution~~Service Distribution Cap. Such selected ~~Designated Network Resource~~DNR to Network Load paths will be used for Congestion Rent allocation purposes as described under Section 9.2.~~13~~14 of this Attachment A.

Comment [WC24]: What Criteria is used to determine this.

Formatted: Numbered + Level: 1 + Numbering Style: a, b, c, … + Start at: 1 + Alignment: Left + Aligned at: 2.54" + Indent at: 2.79"

Comment [BK25]: This assumes Self and Must Run have zero cost. See comment above.

Comment [CA26]: What if offered MWs differs from MWs associated with MW of NT service for a given DNR? Offered MW could be less than NT MW in the case of an ourage or VER with low forecast; or could be greater in the case of a shared rsource or if customer had less NT service from the DNR than it's capacity. Should the MWs selected from a DNR be the minimum of the two values (offered MWs or NT service MWs)? Or maybe this level of detail belongs in protocols?

Comment [MTC27]: Why is this Nomination instead of Distribution Cap as it is called in 7.16 subsection 5? Where is the nomination cap set that allows for the 4CP, monthly billing etc.?

Comment [WC28]: Mistake. Should be Distribution Cap.

Comment [BK29]: Is this correct? Nomination Cap is not defined.

Section 7.17: Coordinated Interchange Scheduling Limits

1) ~~For~~ If Markets+ participating BAA requires a coordinated scheduling limit ~~applied~~ at a single location ~~and~~ involving one or more Markets+ Transmission Service Providers ~~and/or Markets+ Transmission Contributors on each side of the constraint~~, the Market Operator will activate the scheduling limit as a constraint in the market solution. The Market Operator will separate the congestion rent available for allocation on the binding constraint, as calculated under Section 9.2.13 of this Attachment A, into an Export Share and an Import Share. The Export Share will be associated with ~~transmission service to schedule and deliver energy~~Congestion Rent Eligible Transmission Service Reservations to the coordinated scheduling location and will be distributed in the same manner as set forth in Sections 9.2.14 and 9.2.15 of this Attachment A. The Import Share will be associated with ~~transmission service to schedule and receive energy~~Congestion Rent Eligible Transmission Service Reservations from the coordinated scheduling location and will be allocated in the same manner as set forth in Sections 9.2.14 and 9.2.15 of this Attachment A.

2) ~~The~~For the coordinated scheduling limit as described in (1) above, the Market Operator will allocate 50% of the ~~Congestion Rent Available For Allocation~~congestion rent available for allocation on the binding constraint, as calculated under Section 9.2.13 of this Attachment A, to the Export Share and 50% to the Import Share, provided that the applicable Markets+ Transmission Service Providers and/or participating Markets+ ~~Transmission Contributors~~BA associated with a coordinated scheduling limit may mutually agree and instruct the Market Operator to use a different sharing ratio that better reflects the particular arrangement associated with the constraint.

3) The Market Operator will maintain a list of all the coordinated scheduling limits that will be activated ~~in Markets+ in the Market Protocols~~on its public website.

Section 9.2.13: Day Ahead Congestion Rent Available for Allocation Amount

The Market Operator calculates the Congestion Rent on each binding transmission constraint for each hour in the Day-Ahead Market as follows:

Comment [EL(P530]: Will this be a defined term in the tariff?

Comment [WC31]: That was not the intent. I think FERC is familiar with terminology we but could define it if needed.

1) The Congestion Rent Available ~~For~~for Allocation on each binding transmission constraint in each hour is calculated as follows:

Congestion Rent Available for Allocation =

(Hourly Transmission Constraint Shadow Price ~~of that constraint~~)

* (Hourly Day-Ahead Market Flow). ~~).~~

a) Hourly Day-Ahead Transmission Constraint Shadow Price is calculated by the Day-Ahead Market solution and is defined in the Markets+ Tariff.

b) Hourly Day-Ahead Market Flow is the hourly flow quantity across that binding Transmission Constraint calculated by the Day-ahead Market ~~solutiontransmission constraint.~~solution.

Section 9.2.14: Day Ahead TSR Holder Congestion Rent Distribution

The Market Operator distributes the Congestion Rent collected to each ~~TSR~~CRETSR Holder for each hour in the Day-Ahead Market as follows:

1) A ~~TSR~~CRETSR Holder's Total Congestion Rent Allocation in an hour is calculated as follows:

~~TSR~~CRETSR Holder's Total Congestion Rent Allocation = the sum of that ~~TSR~~CRETSR Holder's Congestion Rent Allocations for all binding transmission constraints.

a) ~~TSR~~CRETSR Holder Congestion Rent Allocation = ~~TSR~~CRETSR Holder Congestion Rent Allocation Factor multiplied by the Congestion Rent Available for Allocation for that binding transmission constraint multiplicd by (-1)

i. Congestion Rent Available for Allocation is the value calculated under Section 9.2.13 for that binding constraint.

b) If the Total of all ~~TSR~~CRETSR Holders' Positive MW Impacts in the Binding Flow Direction on that binding transmission constraint

Comment [EL(P532]: Did not see this in the definition section

Comment [WC33]: Its defined within this Settlements Section. This is typical since we don't want list out all of billing determinants in the definitions section.

Comment [AC34]: Signs of elements in the various formulas is a little confusing. Can SPP walk through this and/or verify that signs are correct?

Comment [MK(E35]: In prevailing flow?

Comment [EL(P536]: Did not see Day-Ahead Market Flow defined in this tariff language or in the broader tariff. draft markets plus tariff public 091523.pdf (spp.org)
Assume that opted out transmission would be excluded from DAM flow

Comment [WC37]: Defined under Section 9.2.13(1)(b)

Comment [AC38]: Can we define this in a way that doesn't use the term in the definition?

Comment [EL(P539]: Defined term?

Comment [WC40]: No. This should be lower case.

Comment [BK41]: Is "distribution" the right term here? Or should it be "allocation"? "Distribution" implies payment, but this section does not discuss payment. It discusses allocation amounts.

Comment [BK42]: Is this subsection redundant with the preceding language? Consider deleting.

Comment [MK(E43]: The group agreed this is not pro rata. Yet this definition looks like it could still be pro rata

Comment [EL(P544]: Confirm that this is somehow tied to MCC being a negative value? CR Factor should be a positive number and the CR Available Allocation should be positive number, but don't see that term defined anywhere

Comment [WC45]: This multiply by (-1) is get the sign convention correct for Settlements. Negative values are credits. The CR Available for Allocation is the value calculated under Section 9.2.13. Need to add this Section reference here.

is greater than or equal to the Hourly Day-Ahead Market Flow on that binding transmission constraint,

Then

~~TSR~~CRETSR Holder Congestion Rent Allocation Factor =

(~~TSR~~CRETSR Holder's Positive MW Impact in the Binding Flow Direction on that binding transmission constraint) /

(Total ~~Transfer Capability of that binding transmission constraint~~all CRETSR TSR Holders' Positive MW Impacts in the Binding Flow Direction on the same binding transmission constraint).

c) If the total of all ~~TSR~~CRETSR Holders' Positive MW Impact in the Binding Flow Direction on that binding transmission constraint is less than the Hourly Day-Ahead Market Flow on that binding transmission constraint

Then

~~TSR~~CRETSR Holder Congestion Rent Allocation Factor =

(~~TSR~~CRETSR Holder's Positive MW Impact in the Binding Flow Direction on that binding transmission constraint /

Hourly Day-Ahead Market Flow on that binding transmission constraint).

d) ~~TSR~~CRETSR Holders' Positive MW Impact in the Binding Flow direction on the binding constraint =

~~TSR~~CRETSR Holder's TSR Reserved MW Quantity *

Percentage flow impact in the binding flow direction on the binding constraint, calculated as part of the Day-Ahead Market solution, for that ~~TSR~~CRETSR Holder's ~~Congestion Rent Eligible Transmission Service Reservation.~~ CRETSR.

Comment [MK(E46]: Disagree with this language.

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Comment [MK(E47]: This looks like pro rata. That is not the case. How are we carving out unsold capacity beyond what was reserved by TSR rights holders?

Comment [BK48]: Do we need this new term? Or is it the same as the "Congestion Rent Eligible Transmission Service Reservation"?

Comment [BK49]: Don't understand. In particular, please clarify "percentage flow impact".

i. For ~~PTP~~ Firm or Conditional Firm Point-To-Point TSR Holders, TSR Reserved MW Quantity is equal to the Firm Conditional Firm Point-To-Point Service Distribution Cap~~,~~ for that Congestion Rent Eligible Transmission Service Reservation.

ii. For ~~NITS~~Network Integration Transmission Service TSR Holders, TSR Reserved MW Quantity is equal to the MW amounts identified under Section 7.1.6(~~5~~7)(b)(ii) of this Attachment A~~.~~.

Section 9.2.15: Day Ahead Excess Congestion Rent Distribution

For each hour in the Day Ahead Market~~,~~ in which the Market Operator ~~quantifies and distributes any excess~~collects Excess Congestion Rent, the Market Operator shall distribute the Excess Congestion Rent collected to the applicable Markets+ Transmission Service Providers ~~for distribution to its transmission customers according to its OATT tariff~~ as follows:

1) A Markets+ Transmission Service Provider's Total Congestion Rent Allocation in an hour is calculated as follows:

Markets+ Transmission Service Provider's Total Congestion Rent Allocation = the sum of that Markets+ Transmission Service Provider's Congestion Rent Allocations for all binding transmission constraints associated with that Markets+ Transmission Service Provider, multiplied by (-1).

a) Markets+ Transmission Service Provider's Congestion Rent Allocation = Excess Congestion Rent for that binding transmission constraint associated with any unsold capacity the Markets+ Transmission Service Provider ~~puts into~~makes available to the market in that hour. For elements of a constraint associated with more than one Markets+ Transmission Service Provider, the Market Operator will allocate the Excess Congestion Rent for the

Comment [BK50]: If "Reserved MW Quantity" means the same thing as "Congestion Rent Eligible Transmission Service Reservation", then these amounts were already determined in 7.16 (4) and (5) and shouldn't need to be repeated here.

Comment [MK(E51]: NV Energy feels strongly that if there is a derate or not enough dollars in the bucket to pay out PTP and NT on a path that the customers who schedule on their reservation in that hour should first be protected, then the customer who did not schedule in that hour.

If we cannot get there. NV Energy would like to see IN ALL DAM flow scenarios, that the customer gets a percentage of the CR based on their pro rata allocation of the MW for the Rights holders as compared to the Total Transfer Capability. This way the unsold gets the CR associated with unsold capacity as well so the TSP can hold customers who scheduled harmless.

Comment [BK52]: Same comment as above re: "distribution" vs. "allocation".

Comment [BK53]: Should this say "Excess" instead, referring to the term later defined?

Comment [MK(E54]: Don't love this term, but tried to help define what this is a little more

constraint based on the percentage of market available capacity associated with each Markets+ Transmission Service Provider.

b) Excess Congestion Rent = (Congestion Rent Available for Allocation in that hour), Plus

(the sum of all ~~TSR~~CRETSR Holder Congestion Rent Allocations for that binding constraint associated with the Markets+ Transmission Service Provider in that hour)

i. Congestion Rent Available for Allocation is equal to the value calculated under Section 9.2.13(1) of this Attachment A.

ii. ~~TSR~~CRETSR Holder Congestion Rent Allocation is equal to the value calculated under Section 9.2.14(1)(a) of this Attachment A.

~~2) If the applicable Transmission Service Provider associated with a binding constraint is not a Markets+ Transmission Service Provider, the Market Operator will distribute any excess Congestion Rent to the applicable Markets+ Transmission Contributor.~~

Comment [MTC55]: Should this be minus?

Comment [WC56]: No. It's a little confusing. Its plus here because the TSR Congestion Rent Allocations is a negative number. (See Section 9.2.14(1)(a), there is multiply by (-1) to get the settlement sign convent4ion correct, negative values are credits.)



Task 1 | EDAM Bookend for future years

- *Description* | As part of the initial WMEG study, the costs and benefits for the EDAM Bookend were only provided for 2026. Task 1 has requested E3 to compute cost benefit values for the EDAM Bookend for 2030 and 2035 as well.
- *Sensitivity*
  - Base Condition from WMEG case
- *Market Footprints Modeled*
  - 2030 EDAM Bookend
  - 2035 EDAM Bookend

Task 2 | Lower Market to Market Hurdle Rates for 2026

- *Description* | As part of the initial study, Market to Market hurdle rates were reduced in a sensitivity case to the 2030 study. Bonneville has requested adjustments to hurdle rates for 2026
- *Sensitivities*
  - M2M 1 (DA Hurdle $6 adder, RT Hurdle $3 adder)
  - M2M 2 Further Coordination (Hurdle rate adders: DA $3 RT: $3)
  - M2M 3 Highest Coordination (DA & RT $3 adder + 50% reduction in transmission charge)
- *Market Footprints Modeled*
  - 2026 Main Split (BPA in M+)
  - 2026 Alt Split 4 (CA, PAC, IPCO, NVE, PGE, SCL in EDAM)

Task 3 | Low Water Year (& Stressed Loads)

- *Description* | Hydro resources are significantly reduced due to poor rain & snowpack, also tested with stressed loads
- *Sensitivities*
  - Simulate low hydro conditions by reduced monthly energy available in Northwest region
  - Simulate low hydro conditions PLUS increased loads during challenging weather conditions (multi-day heat & multi-day cold events)
- *Market Footprints Modeled*
  - 2026 EDAM Bookend (BPA remains EIM only)
  - 2026 Alt Split 4A (CA, PAC, IPCO, NVE, PGE, SCL in EDAM)

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Task 4 | BPA EIM only (& Stressed Loads)

- *Description* | Bonneville does not participate in any day-ahead market but remains a participant in CAISO EIM. Neighboring BAA's are participants in one of the day-ahead markets
- *Sensitivities*
  - Base Condition from WMEG Case
  - Also simulate increased loads due to challenging weather conditions (multi-day heat & multi day cold events)
- *Market Footprints Modeled*
  - 2026 Business as Usual (BAU)
  - 2026 EDAM Bookend
  - 2026 Alt Split 4A (CA, PAC, IPCO, NVE, PGE, SCL in EDAM)

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Task 5 | (Hypothetical) Additional Transmission Capacity

- *Description* | Model the inclusion of a hypothetical transmission line to represent expanded transmission capacity between the Pacific Northwest and Desert Southwest
  - Expanded capacity = 2000MWs bidirectional between BPA and Palo Verde Zone
- *Sensitivities*
  - Base Condition from WMEG Case
- *Market Footprints Modeled*
  - 2026 Alt Split 4 (CA, PAC, IPCO, NVE, PGE, SCL in EDAM)

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Task 6 | Capacity Benefits

- *Description* | Estimate the range of potential capacity benefits associated with day-ahead market participation
  - Estimate load diversity across of market footprints to indicate potential reduction in coincident vs. non-coincident peak
  - Estimate potential capacity savings if diversity can enable reduced procurement of capacity resources
- *Market Footprints*
  - BAU
  - EDAM Bookend
  - Alt Split 4A (CA, PAC, IPCO, NVE, PGE, SCL in EDAM)

Task 7 | Market comparison in interaction with WRAP

- *Description* | Understand the potential difference in ability of either market's rules & practices to enable realization of RA benefits
  - Summarize EDAM & M+ tariff and business practice plan for must offer obligations and reserve needs, explore extent to which details might impact potential RA needed or cost
- *Market Footprints*
  - BAU
  - EDAM Bookend
  - Alt Split 4A (CA, PAC, IPCO, NVE, PGE, SCL in EDAM)

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Task 8 | GHG Regulation Investigation

- *Description* | Understand the impact that M+ vs. EDAM rules regarding GHG import treatment and pricing specific to the treatment of resources contracted to load in a GHG zone.
  - Summarize EDAM & M+ tariff and business practice plan regarding GHG and what energy is determined to be scheduled into GHG zones (WA/CA)
  - Explore implied range of economic impact for BPA under potential market conditions and scenarios
- *Market Footprints*
  - EDAM Bookend
  - Alt Split 4A (CA, PAC, IPCO, NVE, PGE, SCL in EDAM)

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Results Timeline

- Following the trend established with the initial WMEG study results, the results of the additional analyses will be posted to the Day-Ahead Markets part of Bonneville's external website
- Analysis results will be made available with materials for the August 6th & 7th stakeholder workshop

2/6/24
Additional BPA Comments on Draft SPP Tariff
Erika Doot, Todd Miller, Allen Chan, Russ Mantifel, Sara Eaton, Libby Kirby

1. Asset Owner Reserve Zone Load Ratio Share Definition

Should the Asset Owner sum be divided by all Asset Owner sums for "the same Reserve Zone" rather than "in all Reserve Zones"?

> "The sum of an Asset Owner's Billable Metered Load, Self-Charging MSRs , and Export Interchange Transactions in a Reserve Zone divided by the sum of all Asset Owners' Billable Metered Load, Self-Charging MSRs, and Export Interchange Transactions ***in all Reserve Zones*** for a given hour."

2. Demand Bid Curve Definition

Suggest the Demand Bid Curve Definition also reference monotonically non-decreasing price/quantity pairs like the Energy Curve Definition:

> A Demand Bid specified as megawatt MW and dollars per MWh with up to ten (10) **monotonically non-decreasing** price/quantity pairs.

3. Import Interchange Transaction Offer Definition

> A proposal by a Market Participant to provide Energy from a source external to a Markets+ Balancing Authority Area at a specified External Interface and period of time.

Should the definition begin with "an offer" or "a commitment to sell" like in the offer definition instead of "a proposal"?'

Also, should the definition include "at a specific minimum price" like in the Offer definition?

4. Reliability Unit Commitment (RUC) Definition

> The processes performed by the Market Operator to assess Resources and Flexibility Reserve Product capacity adequacy and to communicate Market Commitments of Resources to the appropriate Market Participants as necessary.

Suggest update to:

> The processes performed by the Market Operator to assess Resources and Flexibility Reserve Product capacity adequacy and to communicate to Market Participants the Market Commitments of Resources.

Also, definition could be more specific, perhaps like the SPP Glossary definition, ""SPP process to assess resource and Flexible Reserve Product capacity adequacy for the Operating Day, commit and/or de-commit resources as necessary, and communicate resource commitments or de-commitments to the

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appropriate Market Participants, as necessary."

5. Resource Definition

What does it mean to "reduce the withdrawal of energy from the transmission grid"?

6. State of Charge and State of Charge Forecast Definitions

Suggest update both definitions to refer to MSRs.

7. Variable Energy Resource Definition

Suggest add acronym (VER)

8. Attachment A, Section 2.1.2.1 Clearing During Capacity Shortage

(1) Suggest reference to Section 7.4 for clarification on what constitutes a "shortage."

(2) Suggest clarification of phrase "Resources' charge MWs in any hour" – perhaps refer to MSRs and "net obligation," etc.

(2)(b) Suggest clarification of "restore to the 50% Mid-Term Flex-Up Requirement" because may be interpreted as "restore [to 100%] the Mid-Term Flex-Up Requirement."

(3) Suggest discussion of whether self-scheduled demand bids should be cut *pro rata* with high priority exports, with recognition that some high priority export transactions could be meeting WRAP obligations.

9. Attachment A, Section 3.6.1 Impact of Scarcity Pricing on Locational Marginal Prices and Market Clearing Prices

Should section (2)(a)(i) and 2(b)(i) incorporate definition of FSR with "cold start" and "not on outage" qualifications for clarity?

10. Attachment A, Section 4.2.4 Variable Energy Resources

Section discusses how VERs "may register." Suggest clarify whether VERS *must* register. Suggest also clarify that VERs will be registered as non-dispatchable if they do not register as DVERs.

If all VERS must register, suggest update initial discussion with a statement such as "All VERs must register as VERs or DVERs."

11. Attachment A, Section 4.3.3 Through Interchange Transactions

Regarding draft tariff note that future discussions will be held at MDWG, would like to discuss through transactions between two non-market participants. Would a non-market participant be required to submit TSRs/e-tags for a through transaction to another non-market participant? Would a non-market participant through transaction be accounted for in the transmission carve-out alone?

12. Attachment C, Section 4.6.4 Physical Withholding

Subsection (1) (c) states "Operating a Resource in real-time to produce an output level that is less than the Dispatch Target minus the Resource's Operating Tolerance defined in Attachment A, Section 6.4.1 and the Resource is not exempt from URD under Attachment A, Section 9.3.23"

There is no Attachment A, Section 6.4.1 suggest update to:

"… Resource's Operating Tolerance defined in Attachment A, Section 9.3.23 and the Resource is not exempt from Uninstructed Resource Deviation under Attachment A, Section 9.3.23.1."

13. Section 4.6.4.1 Thresholds for Identifying Physical Withholding of Resource Capacity

Suggest update based on previous MDWG discussion to remove the double negative.

From: "A Market Participant is deemed to be physically withholding capacity if the Market Participant is not deemed to be not physically withholding pursuant to Section 4.6.4(2) and all of the following conditions exist:"

To: "Unless a Market Participant is deemed to not be physically withholding pursuant to Section 4.6.4 (2), a Market Participant will be deemed to be physically withholding capacity if all of the following conditions exist:"

Markets+ Phase 1 Funding Parties to Publish "Issue Alerts" to Inform Public Dialogue on Day-Ahead Market Choices

In recent months, there has been considerable industry dialogue focused on the market seams that will exist between EDAM/EIM and Markets+, as well as the EDAM/EIM governance enhancements being pursued through the Pathways Initiative. While both topics are important, the Markets+ Phase 1 Funding Parties believe this dialogue is incomplete without also considering the numerous governance and market design differences between Markets+ and EDAM/EIM that are driving continued support for Markets+. To address this gap, some of the Markets+ Phase 1 Funding Parties[1] have worked together expeditiously to prepare timely information in this first "Issue Alert." Markets+ Phase 1 Funding Parties will continue this collaboration to issue a series of Issue Alerts identifying and explaining the key governance and market design elements that differ between Markets+ and EDAM/EIM and why these differences have important consequences for customers in terms of reliability, economic value, and environmental objectives.

The Markets+ Phase 1 Funding Parties will share a new Issue Alert every few weeks covering the following topics:

1. Governance
2. Reliability
3. Fair and Accurate Market Pricing
4. Seams Issues
5. Support for Clean Resources
6. Market Operator Actions & Modeling
7. Durable Customer Benefits

[1] Arizona Public Service Co, Chelan County PUD, Grant County PUD, Powerex Corp., Public Service Company of Colorado, Salt River Project, Snohomish PUD, Tacoma Power, Tri-State Generation and Transmission Association Inc. and Tucson Electric Power Company prepared this Issue Alert 1.

Issue Alert 1:
The Markets+ Governance Framework is the Best Option for a Multi-State Day-Ahead Organized Market

Governance is a key consideration in the selection of a day-ahead market. It determines how key decisions are made in a market where participants and regions sometimes have different interests. A governance framework establishes market design, tariffs, business practices and operating protocols – determining initial rules and how they will adapt over time. Governance affects the daily actions of market operators and the values against which market performance is measured. Consequently, governance has a major influence on market outcomes, including the determination of market prices, how costs are allocated, the extent and allocation of reliability risks during stressed grid conditions, and the success of environmental programs.

The governance framework of a western day-ahead market has the potential to affect $25 billion or more in annual trade. This is because the transition to a full day-ahead and real-time organized market (whether EDAM/EIM or Markets+) is expected to replace much of the bilateral day-ahead and real-time transactions that occur today while also impacting forward transactions and the utilization of the western transmission grid.



Sound governance is a foundational requirement for a day-ahead organized market to provide the benefits of increased efficiency and enhanced reliability while also ensuring equitable outcomes for all participants and all western sub-regions. Key features include a durable, effective, and independent governance structure which provides fair representation to all market participants and stakeholders, and in which participants take a regional view. Stakeholders initiate, develop, and own outcomes. Decision making and stakeholder engagement occurs in a transparent and inclusive manner.

The Markets+ Governance framework fully achieves this objective through these key features:

1. A geographically diverse board / panel fully independent of market participants and stakeholders with authority over all aspects of the market;
2. A transparent and consensus-based market development process led by stakeholders, with stakeholder voting rights to determine whether each specific market design proposal moves forward;

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3. A fully independent and impartial market operator that does not also act as one of the participating balancing authorities with its own interests; and
4. A participation framework where all generators, load and BAAs are participating in the same manner with equivalent rules, rights, and responsibilities.

Importantly, the Markets+ governance framework is already up and running, and it provided the decision-making framework for developing the Markets+ initial market design and proposed tariff. The stakeholder-led approach fostered collaboration for consensus, and the proposed Markets+ tariff concluded with its separate sections passing through the highest-level stakeholder committee at a greater than 90 percent approval rate.

While the Pathways Initiative has proposed incremental improvements to the governance of EDAM and EIM, it is not likely to result in a governance framework comparable to Markets+ for several reasons:

1. The starting point for EDAM and EIM is a market design and tariff developed under the California ISO's existing governance framework. The Pathways Initiative does not propose to replace this initial market design with a stakeholder-driven design.
2. Both EDAM and EIM were built as extensions of a legacy institutional framework with embedded dependencies on, and obligations to, California state agencies, which the Pathways initiative does not propose to eliminate.
3. The Pathways Initiative has not proposed a framework in which stakeholders with formal voting rights—rather than California ISO staff—will determine how the market design will evolve over time.
4. The Pathways Initiative does not ensure that the California ISO, as a market operator, will balance the interests of all stakeholders and avoid undue influence from California interests.
5. EDAM/EIM is an extension of the CAISO's existing market, with CAISO BAA having different rules, rights, and responsibilities, as well as different settlement practices. There are no current plans to enable an equivalent participation framework for all entities, including CAISO, within the Pathways Initiative governance model.
6. The Pathways Initiative remains in development, with an evolving scope and an uncertain outcome. Changes to the CAISO governance structure require action at the California legislature. Previous attempts to amend the structure—the most recent one appeared in the 2023 legislative session—have failed to receive broad support in the state and did not advance out of committee. A fully independent governance framework will not realistically be achieved until well after most western entities will have made their market participation decisions, even if the significant and numerous uncertainties are ultimately overcome.

The stakeholder-driven Markets+ development process has resulted in a market design that is substantially different from the EDAM/EIM design in several key respects. Production cost models—including the models used in the multiple studies published comparing Markets+ and EDAM/EIM—are limited in their ability to reflect and quantify these important market design differences. This is because these models have limitations that inherently assume the two markets are largely identical in important market design aspects when in fact they are not. The limitations in these models include:

- Both markets are always fully resource adequate/resource sufficient, and thus there is no material reliability risk or undue leaning;

- Scarcity events rarely or never occur in either market (and no scarcity pricing);
- There are few, if any, differences in how prices are calculated between the two markets;
- Congestion rent is allocated similarly in both markets;
- Environmental programs, including GHG attribution, are similar in both markets;
- There are no operator actions such as load biasing or changing import/export limits in either market; and
- Substantive hurdle rates and inefficiencies severely limit trade between markets.

Not only do these studies make the above simplifying assumptions, they also do not consider that each distinct market design can impact:

1. the extent to which entities participate in the day-ahead market (versus transacting in forward and day ahead bilateral markets); and
2. future investments in generation or transmission

In reality, differences in the design of a voluntary day ahead market can drive increased or decreased participation, while also encouraging or discouraging generation and transmission investments. For example, a market that inaccurately suppresses peak prices will discourage flexible generation and storage solutions. Similarly, a market that misallocates congestion costs will generally lead to less economically efficient transmission investments.

Finally, experience in the East demonstrates that the ongoing existence of two or more competing organized markets provides the opportunity for participants to continuously evaluate which organized market provides the best value for its customers. This places ongoing competitive pressure on each organized market to continuously evolve to deliver value to all of its participants and all of its sub-regions, driving immeasurable value for consumers while also reducing risk.

Future Issue Alerts will focus on key market design differences, which have the potential to greatly impact real-world economic, reliability and environmental outcomes for customers.

Attachment __

Greenhouse Gas Programs

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1. Introduction

This Attachment addresses GHG Pricing Programs and GHG Reduction Programs in Markets+.

2. Definitions

2.1 Any term not defined herein is defined as provided in the Markets+ Tariff.

2.2 Greenhouse Gas (GHG). Carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF6), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and/or other gases as defined by the applicable GHG Pricing Program or GHG Reduction Program.

2.3 Resource. As defined in the Markets+ Tariff.

2.3.1 Internal GHG Resource. A Resource defined by the GHG Pricing Program as being within the GHG Pricing Zone that must include a GHG Adder in its Resource Offer.

2.3.2 Specified Source Resource. A Resource that is external to the GHG Pricing Zone, has attested that it meets the established regulatory criteria of a GHG Pricing Program, and has submitted a Resource Offer with a GHG Adder.

2.4 Energy. As defined in the Markets+ Tariff.

2.4.1.1 Type 1A Energy. Energy from a Specified Source Resource with an agreement to supply the GHG Pricing Zone. Type 1A Energy is only available to be attributed to a GHG Pricing Zone.

2.4.1.2 Type 1B Energy. Energy from a Specified Source Resource with an agreement to supply the GHG Pricing Zone. Type 1B Energy is available to be attributed to a GHG Pricing Zone or an area outside a GHG Pricing Zone.

2.4.1.3 Type 2 Energy. Energy from a Specified Source Resource that is in excess of the Specified Source Resource's Surplus Threshold. Type 2 Energy is available to be attributed to a GHG Pricing Zone or an area outside a GHG Pricing Zone.

2.5 GHG Pricing Program. A state regulatory program that has established an emission trading program or carbon tax that covers the electricity industry.

2.5.1 Allowance: A tradeable instrument created by and used for compliance in an emission trading program.

2.5.2 GHG Pricing Zone. An area within the Markets+ Footprint subject to a GHG Pricing Program.

2.5.3 **GHG Adder**. A Resource Offer component submitted by a Market Participant that is composed of monotonically non-decreasing megawatt ("MW") quantity and price pairs, which must both be set to zero or a positive number. The GHG Adder is cost-based and is calculated using an emission factor and an allowance price.

2.5.4 **Unspecified GHG Adder**. A price applied to an Unspecified Source Import calculated using an emission factor set according to a methodology established by the GHG Pricing Program and an indexed allowance price.

2.5.5 **Unspecified Source Import**. Energy attributed to a GHG Pricing Zone when the Energy cannot be assigned to a particular Resource.

2.6 GHG Reduction Program. A state regulatory program that mandates reductions in GHG emissions from electricity serving load without pricing GHG emissions.

2.7 Surplus Threshold. The quantity of Energy that must be exceeded for the GHG Pricing Zone to have access to the excess Energy.

3. **Type 1A**

3.1 A Specified Source Resource may not offer Type 1A Energy in excess of the projected load to which the Type 1A Energy is contracted. An offer of Type 1A Energy will not be treated as Type 1A Energy in ~~the Market Clearing Engine~~Markets+ if it exceeds the projected load to which the Type 1A Energy is contracted.

3.2 A Specified Source Resource offering Type 1A Energy must have transmission service to the load to which the Type 1A Energy is contracted.

3.3 Specified Source Resources that intend to offer Type 1A Energy will provide notification to the Market Operator of the existence of the agreement to supply the GHG Pricing Zone. The Load Responsible Entity must verify the existence of the agreement prior to the Specified Source Resource offering Type 1A Energy in Markets+. Either the Specified Source Resource or the Load Responsible Entity must promptly notify the Market Operator of the renewal or termination of such agreement.

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4. Market Clearing Process

4.1 A Resource may opt-in to offering Energy into a GHG Pricing Zone by including a GHG Adder in its ~~Energy~~ Resource Offer. In such cases, the Energy will be available to be attributed to the GHG Pricing Zone.

4.2 Participation of Resources relative to a GHG Pricing Zone.

4.2.1 A GHG Adder will be included in the cost of all Energy cleared in Markets+ from an Internal GHG Resource. All Energy cleared in Markets+ from an Internal GHG Resource will be attributed to the GHG Pricing Zone.

4.2.1.1 Additional requirements for the GHG Adder can be found in Attachment B.

4.2.2 A GHG Adder will be included in the cost of all Type 1A Energy cleared in Markets+ and such Energy will be attributed to the GHG Pricing Zone.

4.2.2.1 Additional requirements for the GHG Adder can be found in Attachment B.

4.2.3 A Specified Source Resource may offer Type 1B Energy and Type 2 Energy simultaneously during the same market interval.

4.2.3.1 If Type 1B Energy and Type 2 Energy are offered simultaneously during the same market interval, the quantity of Type 1B Energy offered must be below the Surplus Threshold.

4.2.4 A Specified Source Resource may not offer Type 1A Energy simultaneously with Type 1B Energy or Type 2 Energy.

4.2.5 If Type 1B Energy or Type 2 Energy is attributed to the GHG Pricing Zone, a GHG Adder will be included in the cost of that Energy.

4.2.6 If Type 1B Energy or Type 2 Energy is not attributed to the GHG Pricing Zone, a GHG Adder will not be included in the cost of that Energy.

4.2.7 The Unspecified GHG Adder will be included in the cost of all Unspecified Source Imports.

~~4.2.7~~4.2.8 Import Interchange Transactions that sink at a load location in the GHG Pricing Zone will be attributed to the GHG Pricing Zone.

4.3 A Market Participant may submit a Surplus Threshold in its Resource Offer for Type 2 Energy.

Comment [CD1]: Note raised by PSE that a gap existed re import interchange transactions.

4.4 If a Market Participant does not submit a Surplus Threshold for Type 2 Energy in its Resource Offer, the Market Operator will identify the Type 2 Energy's Surplus Threshold by the merit order process.

4.4.1 The merit order process will take into consideration the Resource Offer, excluding the GHG Adder, and will economically stack Energy available to serve an Asset Owner's load obligation until the available capacity, excluding any capacity above the Surplus Threshold identified by the Market Participant under Section 4.3, is either exhausted or has met that load obligation. If the available capacity exceeds the Asset Owner's load obligation, then a Surplus Threshold exists.

4.4.2 If there is remaining Type 2 Energy after the merit order process, then the Surplus Threshold for the Type 2 Energy is set at the increment of Energy that exceeds the asset owner's load obligation.

4.5 For Type 2 Energy, the Market Operator will:

4.5.1 Calculate the Surplus as the projected dispatch quantity of Energy above the Surplus Threshold for each offer of Type 2 Energy, which is available to supply the GHG Pricing Zone; and

4.5.2 Consider the Surplus quantity determined in Section 4.5.1 when dispatching Type 2 Energy to the GHG Pricing Zone.

5. GHG Program Tracking and Reporting

5.1 The Market Operator will provide data as specified in the Markets+ Protocols to support tracking and reporting required by GHG Pricing Programs, GHG Reduction Programs, and other mandatory GHG reporting programs.

5.15.2 The Market Operator will only disclose Confidential Information requested by GHG Pricing Programs, GHG Reduction Programs, and other mandatory GHG reporting programs, when such information is requested by an Authorized Requestor through the process provided in Attachment A, Section 11, Confidentiality Provisions.

Language recommended to be added to MMU attachments by the GHGTF

Each Market Participant must submit an emissions statement for each of its Internal GHG Resources and Specified Source Resources participating in Markets+ as specified in the Markets+ Protocols.

Attachment __

Greenhouse Gas Programs

1. Introduction

This Attachment addresses GHG Pricing Programs and GHG Reduction Programs in Markets+.

2. **Definitions**

2.1 Any term not defined herein is defined as provided in the Markets+ Tariff.

2.2 Greenhouse Gas (GHG). Carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF6), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and/or other gases as defined by the applicable GHG Pricing Program or GHG Reduction Program.

2.3 Resource. As defined in the Markets+ Tariff.

2.3.1 Internal GHG Resource. A Resource defined by the GHG Pricing Program as being within the GHG Pricing Zone that must include a GHG Adder in its Resource Offer.

2.3.2 Specified Source Resource. A Resource that is external to the GHG Pricing Zone, has attested that it meets the established regulatory criteria of a GHG Pricing Program, and has submitted a Resource Offer with a GHG Adder.

2.4 Energy. As defined in the Markets+ Tariff.

2.4.1.1 Type 1A Energy. Energy from a Specified Source Resource with an agreement to supply the GHG Pricing Zone. Type 1A Energy is only available to be attributed to a GHG Pricing Zone.

2.4.1.2 Type 1B Energy. Energy from a Specified Source Resource with an agreement to supply the GHG Pricing Zone. Type 1B Energy is available to be attributed to a GHG Pricing Zone or an area outside a GHG Pricing Zone.

2.4.1.3 Type 2 Energy. Energy from a Specified Source Resource that is in excess of the Specified Source Resource's Surplus Threshold. Type 2 Energy is available to be attributed to a GHG Pricing Zone or an area outside a GHG Pricing Zone.

2.5 GHG Pricing Program. A state regulatory program that has established an emission trading program or carbon tax that covers the electricity industry.

2.5.1 Allowance: A tradeable instrument created by and used for compliance in an emission trading program.

2.5.2 GHG Pricing Zone. An area within the Markets+ Footprint subject to a GHG Pricing Program.

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2.5.3 **GHG Adder**. A Resource Offer component submitted by a Market Participant that is composed of monotonically non-decreasing megawatt ("MW") quantity and price pairs, which must both be set to zero or a positive number. The GHG Adder is cost-based and is calculated using an emission factor and an allowance price.

2.5.4 **Unspecified GHG Adder**. A price applied to an Unspecified Source Import calculated using an emission factor set according to a methodology established by the GHG Pricing Program and an indexed allowance price.

2.5.5 **Unspecified Source Import**. Energy attributed to a GHG Pricing Zone when the Energy cannot be assigned to a particular Resource.

2.6 GHG Reduction Program. A state regulatory program that mandates reductions in GHG emissions from electricity serving load without pricing GHG emissions.

2.7 Surplus Threshold. The quantity of Energy that must be exceeded for the GHG Pricing Zone to have access to the excess Energy.

3. **Type 1A**

3.1 A Specified Source Resource may not offer Type 1A Energy in excess of the projected load to which the Type 1A Energy is contracted. An offer of Type 1A Energy will not be treated as Type 1A Energy in ~~the Market Clearing Engine~~Markets+ if it exceeds the projected load to which the Type 1A Energy is contracted.

3.2 A Specified Source Resource offering Type 1A Energy must have transmission service to the load to which the Type 1A Energy is contracted.

3.3 Specified Source Resources that intend to offer Type 1A Energy will provide notification to the Market Operator of the existence of the agreement to supply the GHG Pricing Zone. The Load Responsible Entity must verify the existence of the agreement prior to the Specified Source Resource offering Type 1A Energy in Markets+. Either the Specified Source Resource or the Load Responsible Entity must promptly notify the Market Operator of the renewal or termination of such agreement.

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4. Market Clearing Process

4.1 A Resource may opt-in to offering Energy into a GHG Pricing Zone by including a GHG Adder in its ~~Energy~~ Resource Offer. In such cases, the Energy will be available to be attributed to the GHG Pricing Zone.

4.2 Participation of Resources relative to a GHG Pricing Zone.

4.2.1 A GHG Adder will be included in the cost of all Energy cleared in Markets+ from an Internal GHG Resource. All Energy cleared in Markets+ from an Internal GHG Resource will be attributed to the GHG Pricing Zone.

4.2.1.1 Additional requirements for the GHG Adder can be found in Attachment B.

4.2.2 A GHG Adder will be included in the cost of all Type 1A Energy cleared in Markets+ and such Energy will be attributed to the GHG Pricing Zone.

4.2.2.1 Additional requirements for the GHG Adder can be found in Attachment B.

4.2.3 A Specified Source Resource may offer Type 1B Energy and Type 2 Energy simultaneously during the same market interval.

4.2.3.1 If Type 1B Energy and Type 2 Energy are offered simultaneously during the same market interval, the quantity of Type 1B Energy offered must be below the Surplus Threshold.

4.2.4 A Specified Source Resource may not offer Type 1A Energy simultaneously with Type 1B Energy or Type 2 Energy.

4.2.5 If Type 1B Energy or Type 2 Energy is attributed to the GHG Pricing Zone, a GHG Adder will be included in the cost of that Energy.

4.2.6 If Type 1B Energy or Type 2 Energy is not attributed to the GHG Pricing Zone, a GHG Adder will not be included in the cost of that Energy.

4.2.7 The Unspecified GHG Adder will be included in the cost of all Unspecified Source Imports.

~~4.2.7~~4.2.8 Import Interchange Transactions that sink at a load location in the GHG Pricing Zone will be attributed to the GHG Pricing Zone.

Comment [CD1]: Note raised by PSE that a gap existed re import interchange transactions.

4.3 A Market Participant may submit a Surplus Threshold in its Resource Offer for Type 2 Energy.

~~4.2.8~~4.3.1 A Market Participant must submit Resource Offer information in accordance with Attachment A, Section 6.9.

~~4.3~~4.4 If a Market Participant does not submit a Surplus Threshold for Type 2 Energy in its Resource Offer, the Market Operator will identify the Type 2 Energy's Surplus Threshold by the merit order process.

~~4.3.1~~4.4.1 The merit order process will take into consideration the Resource Offer, excluding the GHG Adder, and will economically stack Energy available to serve an Asset Owner's load obligation until the available capacity, excluding any capacity above the Surplus Threshold identified by the Market Participant under Section 4.3, is either exhausted or has met that load obligation. If the available capacity exceeds the Asset Owner's load obligation, then a Surplus Threshold exists.

~~4.3.2~~4.4.2 If there is remaining Type 2 Energy after the merit order process, then the Surplus Threshold for the Type 2 Energy is set at the increment of Energy that exceeds the asset owner's load obligation.

~~4.4~~4.5 For Type 2 Energy, the Market Operator will:

~~4.4.1~~4.5.1 Calculate the Surplus as the projected dispatch quantity of Energy above the Surplus Threshold for each offer of Type 2 Energy, which is available to supply the GHG Pricing Zone; and

~~4.4.2~~4.5.2 Consider the Surplus quantity determined in Section 4.5.1 when dispatching Type 2 Energy to the GHG Pricing Zone.

5. GHG Program Tracking and Reporting

5.1 The Market Operator will provide data as specified in the Markets+ Protocols to support tracking and reporting required by GHG Pricing Programs, GHG Reduction Programs, and other mandatory GHG reporting programs.

5.2 The Market Operator will only disclose Confidential Information requested by GHG Pricing Programs, GHG Reduction Programs, and other mandatory GHG reporting programs, when such information is requested by an Authorized Requestor through the process provided in Attachment A, Section 11, Confidentiality Provisions.

Language recommended to be added to MMU attachments by GHGTF

Each Market Participant must submit an emissions statement for each of its Internal GHG Resources and Specified Source Resources participating in Markets+ as specified in the Markets+ Protocols.

From: TAWNEY Letha * PUC <Letha.TAWNEY@puc.oregon.gov>
Sent: Wednesday, November 1, 2023 12:06 PM
To: Kristen Darden; Mantifel,Russell (BPA) - MTM-3; Carrie Simpson
Cc: Gia Anguiano; Edward Garvey (edward.garvey@aeslconsulting.com); David Boyd (david.boyd@aeslconsulting.com); Rendahl, Ann
Subject: [EXTERNAL] RE: MDWG 11/3/23 Meeting Materials

Kristen –

Thanks for this update. Our experience in other task forces is that there can be no guarantee that there will be no vote. We have certainly been surprised by votes emerging despite no notice on agendas. So, I would ask our memo accompany the materials when they are forwarded to the MPEC – at whichever MPEC meeting that happens.

And yes, I'm comfortable with you posting the document publicly with the 11/3 materials. Thanks for doing that!

Letha

This communication may be subject to public information requests and should not be assumed to be private.

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, October 31, 2023 6:32 PM
To: TAWNEY Letha * PUC <Letha.TAWNEY@puc.oregon.gov>; Mantifel, Russ <rxmantifel@bpa.gov>; Carrie Simpson <csimpson@spp.org>
Cc: Gia Anguiano <ganguiano@westernenergyboard.org>; Edward Garvey (edward.garvey@aeslconsulting.com) <edward.garvey@aeslconsulting.com>; David Boyd (david.boyd@aeslconsulting.com) <david.boyd@aeslconsulting.com>; Rendahl, Ann <ann.rendahl@utc.wa.gov>
Subject: RE: MDWG 11/3/23 Meeting Materials

Good evening Commissioner Tawney –

Thank you for sending this over. We do not expect to take a vote Friday on MMU language. The meeting will strictly be to review the modifications and have robust discussion.

Just to verify, you are comfortable with me posting this document publicly in the 11/3 MDWG materials? If that's the case, I will post them tomorrow.

We do not expect to have any MMU language for approval during the 11/7-8 MPEC. Given this information, would you like for me to include the memo in the 11/3 MDWG Materials and the 12/7 MPEC materials (once the MPEC is reviewing approval items)? Or would you like these to be included in the 11/7-8 MPEC materials as well as background?

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

29331442

From: TAWNEY Letha * PUC <Letha.TAWNEY@puc.oregon.gov>
Sent: Tuesday, October 31, 2023 5:49 PM
To: Kristen Darden <kdarden@spp.org>; Mantifel, Russ <rxmantifel@bpa.gov>
Cc: Gia Anguiano <ganguiano@westernenergyboard.org>; Edward Garvey (edward.garvey@aeslconsulting.com) <edward.garvey@aeslconsulting.com>; David Boyd (david.boyd@aeslconsulting.com) <david.boyd@aeslconsulting.com>; Rendahl, Ann <ann.rendahl@utc.wa.gov>
Subject: **External Email** RE: MDWG 11/3/23 Meeting Materials

STOP! This is **NOT** an SPP email.
Be very cautious of any links or attachments unless you recognize this sender - Letha.TAWNEY@puc.oregon.gov and are expecting this email.
Please click the "Report Phish" button if you are unsure about this email.

Russ and Kristen –

Thanks for this update. Unfortunately, neither Commissioner Rendahl or I can attend the Friday, 11/3 MDWG meeting. We offer these comments in our role as advisors to the MDWG. Please share them with the working group members ahead of the 3rd, if you don't mind.

If votes are taken on the market power mitigation issues, please incorporate our memo as background with the package forwarded to the MPEC.

Kind Regards,

Letha

Letha Tawney (she/her)
Commissioner
Public Utility Commission of Oregon

For scheduling, contact Kristi Collins at Kristi.Collins@puc.oregon.gov or 971-218-1189.

This communication may be subject to public information requests and should not be assumed to be private.

From: SPP Markets+ <marketsplus@spp.org>
Sent: Tuesday, October 31, 2023 2:35 PM
To: TAWNEY Letha * PUC <Letha.TAWNEY@puc.oregon.gov>
Subject: MDWG 11/3/23 Meeting Materials

Markets+ Design Working Group (MDWG) 11/3/23 Meeting Materials are posted on SPP.org at the link below:

MDWG Meeting Materials

The 11/1 MDWG meeting has been canceled, with those agenda items being reviewed during the **Friday, 11/3 MDWG meeting**. A separate email will go out to everyone who registered for the 11/1 MDWG meeting to inform them it has been canceled. All materials for this meeting have been posted.

Please direct questions to Kristen Darden at kdarden@spp.org.

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From: Hayes,Matthew C (BPA) - MTM-3
Sent: Thursday, July 25, 2024 5:12 PM
To: Walter, Kent C; Bakken, Erik (EBAKKEN); Spires, Jeff; Holman, Mark; Josh Robertson; Martin Marcie L; Zahnow, Jessica Lynn; Phil Haines; Mantifel,Russell (BPA) - MTM-3; Dibble,Rachel L (BPA) - PT-5; Cole, Brian; Hakala, Tuuli; Jaspers, Janet; Egge, Eric; dan.walter@tristategt.org; Robinson, Chris; Ray Johnson; Zyskowski, Jason; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan; Joe Taylor; Rugel, S (SRUGEL)
Cc: Aitken, Meredith; Johnson,G Douglas (BPA) - DK-7
Subject: RE: [EXTERNAL] RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts
Attachments: Issue Alert 1 Governance DRAFT_7_22 MCH edits.docx

Hey all,

I finally got to adding in a section to the governance paper on how M+ has already displayed the advantage democracy has played in moving through "sticky" issues in a transparent and collaborative manner. I point to the early 2024 contentious independent sector vote. It's a bit long, so I am hoping some additional eyes on it can produce brevity. Feel free to chuck the whole thing if it doesn't really fit, but I wanted to put it out there as food for thought.

Also, I am going to forward these meetings to Doug Johnson in our Comms dept. I think Doug coming to these meetings and directly speaking to questions will be much more effective than me playing telephone.

Finally, I will be OOO after tomorrow until 8/19, so Doug will serve a dual role of providing coverage for me.

Thanks all for the great work,

Matt

From: Walter, Kent C <Kent.Walter@aps.com>
Sent: Monday, July 22, 2024 10:40 AM
To: (b) (6) [redacted]@tep.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - PT-5 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Cole, Brian <Brian.Cole@aps.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b) [redacted] (b) (6) [redacted]@tep.com>
Cc: Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: [EXTERNAL] RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

Thanks for the comments. Attached are clean and redline versions with the proposed language incorporated.

Kent

29332216

From: (b)(6) Tep.com>
Sent: Monday, July 22, 2024 8:56 AM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Cole, Brian <Brian.Cole@aps.com>; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b) (6) @tep.com>
Cc: Walter, Kent C <Kent.Walter@aps.com>; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

CAUTION ***CAUTION*** ***CAUTIO
This e-mail is from an **EXTERNAL** address ((b) (6) n@tep.com). **DO NOT** click on links or open attachments unless sender and know the content is safe. If you suspect this message to be phishing, please report it to the APS Cyber Defen *ACDC@aps.com*.

(b)(4)

From: (b)(6) @tep.com>
Sent: Friday, July 19, 2024 4:03 PM

To: Spires, Jeff <Jeff.Spires@powerex.com>; Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Brian.Cole@aps.com; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>;(b) (6) @tep.com>
Cc: Kent.Walter@aps.com; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: RE: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

(b)(4)

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, July 19, 2024 6:10 AM
To: Holman, Mark <Mark.Holman@powerex.com>; Josh Robertson <Josh.Robertson@srpnet.com>; Martin Marcie L <Marcie.Martin@srpnet.com>; Zahnow, Jessica Lynn <Jessica.Zahnow@pse.com>; Phil Haines <Philip.Haines@pse.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Dibble,Rachel L (BPA) - TSQ-TPP-2 <rldibble@bpa.gov>; Hayes,Matthew C (BPA) - MTM-3 <mchayes@bpa.gov>; Brian.Cole@aps.com; Hakala, Tuuli <Tuuli.Hakala@chelanpud.org>; Jaspers, Janet <Janet.Jaspers@chelanpud.org>; Egge, Eric <Eric.M.Egge@blackhillscorp.com>; dan.walter@tristategt.org; Robinson, Chris <CRobinson@cityoftacoma.org>; Ray Johnson <crjohnson@cityoftacoma.org>; Zyskowski, Jason <JAZyskowski@SNOPUD.com>; GBMarr@Snopud.com; ACCornelius@Snopud.com; Rich Flanagan <rflanig@gcpud.org>; Joe Taylor <joseph.c.taylor@xcelenergy.com>; (b)(6) (b)(6) @tep.com>;(b)(6) @tep.com>
Cc: Kent.Walter@aps.com; Aitken, Meredith <Meredith.Aitken@powerex.com>
Subject: [EXTERNAL E-Mail] Confidential: Markets+ Issue Alerts

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***** UNS WARNING - EXTERNAL EMAIL *****

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If the content or request made in this email seems unusual in any way, please contact the sender, via phone or in-person, to verify that this is a legitimate request.

***** REPORT ANYTHING SUSPICIOUS *****

Good morning all,

Last week during the Monday Markets+ funding party executive call there was discussion followed by general consensus on the call for developing a series of "Issue Alerts" that could be shared publicly by Markets+ funding entities, with one Issue Alert released every two weeks or so, to provide some balance to the recent industry dialogue that has been narrowly focused on seams issues and the Pathways initiative. The objective is to publicly issue (to Clearing Up and possibly elsewhere) these short summaries (one on governance and then 5-6 on specific market design topics) that

details the benefits of Markets+ relative EDAM/EIM in each of these areas to better explain the continued support for Markets+.

A smaller group (PWX, CHPD, BPA, PSE, APS, and SRP) have worked together on the first paper on governance (see attached). We expect each of those entities will sign on except for BPA based on certain limitations they have related to their ongoing public process.

Please keep this letter **confidential** for now. We request that each of you confirm whether you will sign on by the ***end of the day on Monday.***

This effort is being coordinated by Kent Walter (APS) and myself so please feel free to reach out to us with any questions. Please note I am on vacation starting next week; Meredith Aitken will be the Powerex point of contact on this while I am away.

Regards,
Jeff

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Markets+ Phase 1 Funding Parties To Publish "Issue Alerts" To Inform Public Dialogue On Day-Ahead Market Choices

In recent months, there has been considerable industry dialogue focused on the market seams that will exist between EDAM/EIM and Markets+, as well as the EDAM/EIM governance enhancements being pursued through the Pathways Initiative. While both topics are important, the Markets+ Phase 1 Funding Parties believe this dialogue is incomplete without also considering the numerous governance and market design differences between Markets+ and EDAM/EIM that are driving continued support for Markets+. To address this information gap, the Markets+ Phase 1 Funding Parties will be issuing a series of "Issue Alerts" to identify and explain the key governance and market design elements that differ between Markets+ and EDAM/EIM and why these differences have important consequences for customers in terms of reliability, economic value, and environmental objectives.

The Markets+ Phase 1 Funding Parties will share a new Issue Alert every few weeks covering the following topics:

1. Governance
2. Reliability
3. Fair and Accurate Market Pricing
4. Seams Issues
5. Support for Clean Resources
6. Market Operator Actions & Modeling
7. Durable Customer Benefits

Field Code Changed

Issue Alert 1:
The Markets+ Governance Framework Is The Best Option For A Multi-State Day-Ahead Organized Market

Governance is a key consideration in the selection of a day-ahead market. It determines how key decisions are made in a market where participants and regions sometimes have different interests. A governance framework establishes market design, tariffs, business practices and operating protocols – determining initial rules and how they will adapt over time. Governance affects the daily actions of market operators and the values against which market performance is measured. Consequently, governance has a major influence on market outcomes, including the determination of market prices, how costs are allocated, the extent and allocation of reliability risks during stressed grid conditions, and the success of environmental programs.

The governance framework of a western day-ahead market has the potential to affect $25 billion or more in annual trade. This is because the transition to a full day-ahead and real-time organized market (whether EDAM/EIM or Markets+) is expected to replace much of the bilateral day-ahead and real-time transactions that occur today while also impacting forward transactions and the utilization of the western transmission grid.



Sound governance is a foundational requirement for a day-ahead organized market to provide the benefits of increased efficiency and enhanced reliability while also ensuring equitable outcomes for all participants and all western sub-regions. Key features include a durable, effective, and independent governance structure which provides fair representation to all market participants and stakeholders, and in which participants take a regional view. Stakeholders initiate, develop, and own outcomes. Decision making and stakeholder engagement occurs in a transparent and inclusive manner.

The Markets+ Governance framework fully achieves this objective through these key features:

1. A geographically diverse board / panel fully independent of market participants and stakeholders with authority over all aspects of the market;
2. A transparent and consensus-based market development process led by stakeholders, with stakeholder voting rights to determine whether each specific market design proposal moves forward;

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3. A fully independent and impartial market operator that does not also act as one of the participating balancing authorities with its own interests; and
4. A participation framework where all generators, load and BAAs are participating in the same manner with equivalent rules, rights, and responsibilities.

Importantly, the Markets+ governance framework is already up and running, and it provided the decision-making framework for developing the Markets+ initial market design and proposed tariff. The stakeholder-led approach fostered collaboration for consensus, and the proposed Markets+ tariff concluded with its separate sections passing through the highest-level stakeholder committee at a greater than 90 percent approval rate.

The Markets+ governance framework has already demonstrated its ability to facilitate compromise on contentious issues across a diverse group of stakeholders. Near the beginning of 2024, a resolution strongly supported by the independent sector failed to pass an MPEC vote and left many in the independent sector unhappy with the potential phase 2 governance structure. Following this vote, members from all MPEC sectors worked together to determine why the resolution had failed and how it could be structured to ensure broad support while still meeting the needs of the independent sector.

The result of this effort was a revised resolution that was supported by the independent sector passing at the next MPEC. This is an example of collaboration that is not present in other offered governance models. Given the diverse opinions, priorities, and needs across the west, it is critical to the viability of further market development that a widely adopted market option have an open, transparent, and collaborative governance model that adequately considers the needs of all stakeholders and ensures actions are taken to produce significant consensus when addressing contentious issues. Markets+ has already shown that it provides that type of governance framework.

While the Pathways Initiative has proposed incremental improvements to the governance of EDAM and EIM, it cannot result in a governance framework comparable to Markets+ for several reasons:

1. The starting point for EDAM and EIM is a market design and tariff developed under the California ISO's existing governance framework. The Pathways Initiative does not propose to replace this initial market design with a stakeholder-driven design.
2. Both EDAM and EIM were built as extensions of a legacy institutional framework with embedded dependencies on, and obligations to, California state agencies, which the Pathways initiative does not propose to eliminate.
3. The Pathways Initiative has not proposed a framework in which stakeholders with formal voting rights—rather than California ISO staff—will determine how the market design will evolve over time.
4. The Pathways Initiative does not ensure that the California ISO, as a market operator, will balance the interests of all stakeholders and avoid undue influence from California interests.
5. EDAM/EIM is an extension of the CAISO's existing market, with CAISO BAA having different rules, rights, and responsibilities, as well as different settlement practices. There are no current plans to enable an equivalent participation framework for all entities, including CAISO, within the Pathways Initiative governance model.
6. The Pathways Initiative remains in development, with an evolving scope and an uncertain outcome. Changes to the CAISO governance structure require action at the California legislature. Previous attempts to amend the structure—the most recent one appeared in the

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2023 legislative session—have failed to receive broad support in the state and did not advance out of committee. A fully independent governance framework will not realistically be achieved until well after most western entities will have made their market participation decisions, even if the significant and numerous uncertainties are ultimately overcome.

The stakeholder-driven Markets+ development process has resulted in a market design that is substantially different from the EDAM/EIM design in several key respects. Production cost models—including the models used in the multiple studies published comparing Markets+ and EDAM/EIM—are ~~generally unable~~limited in their ability to reflect and quantify these important market design differences. This is because these models have limitations that inherently assume the two markets are largely identical in important market design aspects when in fact they are not. The limitations in these models ~~incorrectly assume~~include:

- Both markets are always fully resource adequate/resource sufficient, and thus there is no material reliability risk or undue leaning;
- Scarcity events rarely or never occur in either market (and no scarcity pricing);
- There are few, if any, differences in how prices are calculated between the two markets;
- Congestion rent is allocated similarly in both markets;
- Environmental programs, including GHG attribution, are similar in both markets;
- There are no operator actions such as load biasing or changing import/export limits in either market; and
- Substantive hurdle rates and inefficiencies severely limit trade between markets.

Not only do these studies make the above ~~incorrect~~ simplifying assumptions, they also ~~incorrectly assumed~~do not consider that each distinct market design can~~will have no~~ impact ~~on~~:

1. the extent to which entities participate in the day-ahead market (versus transacting in forward and day ahead bilateral markets); and
2. future investments in generation or transmission

In reality, differences in the design of a voluntary day ahead market can drive increased or decreased participation, while also encouraging or discouraging generation and transmission investments. For example, a market that inaccurately suppresses peak prices will discourage flexible generation and storage solutions. Similarly, a market that has a history of misallocating congestion rent will generally discourage transmission investments.

Finally, experience in the East demonstrates that the ongoing existence of two or more competing organized markets provides the opportunity for participants to continuously evaluate which organized market provides the best value for its customers. This places ongoing competitive pressure on each organized market to continuously evolve to deliver value to all of its participants and all of its sub-regions, driving immeasurable value for consumers while also reducing risk.

Future Issue Alerts will focus on key market design differences, which have the potential to greatly impact real-world economic, reliability and environmental outcomes for customers.

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29332220

From: Gentry Crowson <gtcrowson@spp.org>
Sent: Thursday, November 16, 2023 10:20 AM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] Congestion Rent Tariff Language from 11-16 MCRTF Meeting
Attachments: Markets Plus Congestion Rent Tariff Sections 11_16_2023 - Redlines from meeting accepted.docx

Markets+ Congestion Rent Task Force,

I've attached the clean version of the Congestion Rent Tariff sections that reflects where we left off in today's November 16th, 2023 MCRTF Meeting. Thank you all for participating in the tariff review up to this point. Please look forward to the official voting document that will be sent out via this exploder and posted to spp.org on Monday, November 20th.

Thanks,
Gentry Crowson
MCRTF Staff Secretary

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29332436

From: Gentry Crowson <gtcrowson@spp.org>
Sent: Friday, October 27, 2023 2:32 PM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] Approved NT Proposal
Attachments: Modified SPP Proposal for NT- Oct27 Redline.docx

MCRTF Members,

The attached document is the NT Proposal that passed with 18 'Yes' votes and 1 'Abstention' in today's MCRTF meeting. This document will also be posted to spp.org in the coming days. The tariff language to support the agreed-up concept will also be posted on Monday.

The next MCRTF meeting is scheduled for November 9th, where we will seek approval on the Congestion Rent sections of the tariff.

Thank you all for working hard to get this task force to where we are today.

-Gentry

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SOUTHWEST POWER POOL, INC.
Proposal to the MCRTF
Network Transmission Congestion Rent Allocations
October 23, 2023

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FOREWORD:

The proposal aims to address the allocation of Congestion Rent to Network ~~Transmission Customers~~Integration Service (NT) customers, which is an outstanding topic in the Congestion Rent Task Force. Several different options have been presented to this task force to this point for NT ~~Congestion Rent Allocation~~ customer congestion rent allocation. This proposal takes the task force discussions, survey results, and different options presented and merges them into one approach that SPP supports moving forward. SPP hopes that task force members can review and become comfortable with the proposal before the Markets+ Congestion Rent Task Force meeting on ~~Monday~~Friday, October, ~~23~~27, 2023, so that a decision can be made as a task force in moving forward.

STEP 1: MONTHLY SNAPSHOT

As part of the monthly snapshot, SPP will work with the ~~TSP~~transmission service provider (TSP) to maintain a record of all the potential paths that each NT customer may use to meet load from its ~~firm~~designated network resources. (DNRs). For each ~~firm network resource~~DNR, SPP will maintain a record of the point of receipt (POR) of the resource and the point of delivery (POD) of the NT customer's load, and the maximum MW delivery from that resource using NT rights. For off-system DNRs, the POR will be defined at the import location for delivering energy onto the TSP's system.

STEP 2: ~~DA~~HOURLY PATH NOMINATION PROCESS

Using the NT customer's reservations compiled as of the monthly snapshot, SPP will automatically select the paths (both MWs and POR/POD combinations) on an hourly basis to be used for each NT customer's Tier 1 congestion rent allocation, where:

a. Hourly Quantity: The sum of the nominated paths for each NT customer in each hour will be equal to the customer's ~~DA cleared load (billed~~ MW~~) being served using of~~ NT service ~~in that hour~~based on the TSP's billing approach (~~TSP~~monthly CP, 4CP, etc.). For TSPs that bill on a 12CP or similar basis, the TSP may use the monthly CP value for each month. For further clarity, the NT customer will receive a MW allocation consistent with its billed MW for every hour of the month. Final settlements of the congestion rent allocation will be performed on an after-the-fact basis to ensure the necessary billable MW values are known.

b. Path Selection:

   i. For a customer with NT rights from a single DNR (or using a single path), no path selection is required. The NT rights will use the POR of the DNR (or import location for off-system resources) and the POD of the load for the NT customer.

   ii. For a customer with NT rights on multiple paths, SPP will automatically nominate the MWs and POR/POD combinations that will be used for the NT customer's congestion rent allocation

      a) SPP will first select paths based using any self-scheduled/self-committed DNRs.

b) SPP will then select paths from the DNRs economically offered to meet the customer's network load, sorted from lowest bid cost to highest bid cost and automatically selecting the paths (both MWs and POR/POD combinations) associated with the lowest cost resources first, until the ~~DA cleared~~customer's billed MW load is satisfied. SPP may incorporate mitigated bid prices in determining the order of paths.

STEP 3: TIER 1 ALLOCATION

- For each hour SPP will collect DA congestion rent on each binding constraint, equal to the total DA Market Flow on the constraint, multiplied by the shadow price of the constraint.
- SPP will allocate the congestion rent on each constraint to ~~the PTP and NT customers with rights on that constraint on a pro-rata basis, based on~~ eligible PTP rights (from the monthly snapshot)), and the NT rights nominated in Step 2. The total congestion revenue allocation to Tier 1 rights on a constraint shall not exceed 100% each hour~~as measured over a month~~. Any surplus revenue in a given hour will be returned to the applicable TSP under the Tier 2 allocation process.
- ~~The total allocation to individual PTP and NT customers on each constraint shall not exceed a 100% payout based on their rights, as measured over a month. SPP will adjust the settlements to reflect an overpayment to PTP or NT customers and return the surplus revenue to the applicable TSP under the Tier 2 allocation process.~~
- ~~Tier 1 allocations~~Tier 1 allocations with individual customers will be settled directly by SPP with the PTP and NT transmission customers (or the relevant market participant representing the customer).

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STEP 4: TIER 2 ALLOCATION

- Any remaining congestion revenue collected on a constraint after Tier 1 will be returned to the applicable TSP for subsequent distribution to its ~~NT~~transmission customers according to its OATT tariff.
- The Markets+ tariff will not explicitly define the requirements for distributing Tier 2 revenue to ~~NT~~its transmission customers. TSPs will maintain ~~some~~ discretion to reflect their specific circumstances.
  - ~~For example, a TSP may choose to first make any NT customers whole if they did not receive a full payout under Tier 1, and then allocate any remaining Tier 2 revenue to all NT customers based on load ratio share.~~
  - ~~A TSP that provides service with little or no NT customers (e.g., BPA's southern intertie) will also be afforded discretion to allocate Tier 2 back to its customers using an approach that reflects their specific circumstances.~~

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, November 14, 2023 9:49 AM
To: Williams, Dan; Spires, Jeff; Schlekeway, Lindsey; 'robert.fischer@nvenergy.com'; Rubin, David; Cornelius, Adam; Hakala, Tuuli; Brier,Tanner H (BPA) - PTF-5; Eaton,Sara L (BPA) - PTMA-5; Rachel Kane; Trolese, Laura; Ching, Vincent; 'kcompton@tristategt.org'; Zvareck, Dave; Linn, Michael; 'Cusick, Timothy'; 'Kent.Walter@aps.com'; MacDonald, Greg; Ian Wren; Thompson, Justin; Morelock, Kevin; 'Schlachter, Kerri'; Cunningham, Kyle; Detmer, Nick; Mantifel,Russell (BPA) - MTM-3; Miller, Scott; Wayne Camp
Cc: Chris Nolen; Jim Gonzalez; Rosenwald, Gary; Jodi Woods; Ian Wren; Jared Greenwalt; Steve White; Aaron Shipley; Kelli Schermerhorn; Clint Savoy; Carrie Simpson
Subject: [EXTERNAL] RE: Markets+ Scarcity Pricing Sub-group
Attachments: Attachment A_Sec 2.1.2.1_2.3.1.2_3.6_3.6.1_5.3_Appendix 1_Price Formation_DRAFT_SPP Modified_Merged_PUBLIC.docx

Hello all –

Thank you for a great meeting yesterday. I know there is still additional discussion needed that will occur during the 11/17 MDWG meeting. I wanted to send the latest version that SPP has worked on internally. This will be posted in materials by COB today.

Please review and provide modifications you may have.

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

From: Dan Williams <dwilliams2@teainc.org>
Sent: Friday, November 10, 2023 1:09 PM
To: Kristen Darden <kdarden@spp.org>; Spires, Jeff <jeff.spires@powerex.com>; Schlekeway, Lindsey <lindsey.schlekeway@nvenergy.com>; 'robert.fischer@nvenergy.com' <robert.fischer@nvenergy.com>; Rubin, David <David.rubin@nvenergy.com>; Cornelius, Adam <accornelius@snopud.com>; Hakala, Tuuli <tuuli.hakala@chelanpud.org>; 'thbrier@bpa.gov' <thbrier@bpa.gov>; Eaton, Sara <sleaton@bpa.gov>; Rachel Kane <rkane@spp.org>; Trolese, Laura <ltrolese@teainc.org>; Ching, Vincent <vincent.ching@pse.com>; 'kcompton@tristategt.org' <kcompton@tristategt.org>; Zvareck, Dave <dzvareck@acespower.com>; Linn, Michael <mlinn@ppcpdx.org>; 'Cusick, Timothy' <tcusick@tristategt.org>; 'Kent.Walter@aps.com' <Kent.Walter@aps.com>
Cc: Chris Nolen <cnolen@spp.org>; Jim Gonzalez <jgonzalez@spp.org>; Rosenwald, Gary <gary.rosenwald@theglarusgroup.com>; Jodi Woods <JWoods@spp.org>; Ian Wren <iwren@spp.org>; Jared Greenwalt <jgreenwalt@spp.org>; Steve White <swhite@spp.org>; Aaron Shipley <ashipley@spp.org>; Kelli Schermerhorn <kschermerhorn@spp.org>; Clint Savoy <csavoy@spp.org>; Carrie Simpson <csimpson@spp.org>
Subject: **External Email** RE: Markets+ Scarcity Pricing Sub-group

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Hi all, I wanted to provide some background materials for those less familiar with offer cap and scarcity pricing provisions in the current CAISO market and share some thoughts in advance of the meeting on Monday to flesh out what I mentioned during the MDWG call where this effort came together.

Here is a link to the 2021 Summer Readiness training the CAISO gave on its Order 831 policy: https://www.caiso.com/Documents/Presentation-FERC-Order-831-Import-Bidding-Market-Parameters-Training-Apr-28-2021.pdf. There is review of this policy's performance across 2021-23 summer periods available as well if you're interested – email me for links.

It's probably also worth reviewing two associated policies, "import supply incentives during tight system conditions" and "real-time scarcity price enhancements", covered in this training from the same effort: https://www.caiso.com/Documents/Presentation-Summer-2021-Readiness-Training-Part-2-Apr-29-2021.pdf – though I would say those are lower priority and can be skipped if you have an available-time infeasibility..

An additional complexity here is that the CAISO IFM/RUC (DAM) rules and price formation basis are changing with the insertion of their proposed imbalance reserve and reliability capacity products. These new products will be co-optimized alongside energy, virtuals, and AS in the IFM and alongside energy and AS in RUC (for the CAISO BAA, but not the external EDAM BAAs since AS and virtuals either don't exist or aren't co-optimized in those areas). The CAISO is not proposing to scale the capacity product offer caps with the soft/hard-offer cap, and it is unclear to what extent any changes in the timing, pricing, or liquidity of the DAM indices referenced in the Order 831 process above will cause changes in the policy, triggers, etc. The FERC-reviewed WECC soft-offer cap policy for entities making market-based rate sales has a bearing as well. And there is the potential that the CAISO will be making some "price formation" enhancements on or around EDAM/DAME and M+ go-live in 2026.

I look forward to discussing further on Monday but for me, finding a way to uplevel M+ policy to a simple, effective design for the initial tariff filing makes the most sense, and I support what SPP has proposed so far [static $2K cap for interchange], subject to clarification on a few points.

A simple, consistent offer-cap structure will help make interchange imports to M+ from uncommitted resources in the west cost-effective during tight conditions and reflexively will make it uneconomic to export from M+ during the same conditions (ex., if M+ has a $2K cap at a time when CAISO has a $1K cap, there will be a strong incentive to import to M+ instead of CAISO and there would be little incentive to export from M+ given the price risk on the CAISO side – this is good for M+ reliability and market stability). While this structure may on its face look like it would expose demand to higher prices as compared to the complex floating soft/hard-offer cap employed by CAISO, it is important to remember that (1) all M+ demand has an opportunity to cover its position in the DAMKT by bidding sufficient supply to meet its bid-in demand plus self-calculated uncertainty, (2) the M+ interchange pricing model is different than what is in place for CAISO (i.e., entities will not be able to set the market clearing price with a "high" economic interchange bid unless M+ has determined that price reflects the appropriate price in the relevant external area, whereas in CAISO entities are able to bid an "intertie resource" without price verification), (3) M+ participants/BAAs/LSEs have the opportunity and incentive to bid all of their resources in the RTBM to ensure their demand is covered/hedged, and (4) using VRLs for low-priority exports should provide some separation in market clearing impacts for LSE demand vs. export demand [need to verify].

Further, it's important to remember that the main drivers of problematic/haphazard penalty prices being triggered in WEIM at the applicable offer cap is the volatility of the Resource Sufficiency Evaluation and the volatility in the RTPD vs. RTD solution driven by CAISO's use of load conformance in HASP/FMM, plus the incomplete optimization in WEIM of transfer capacity and available resource capacity – both of which are due (my opinion) to a lack of trust in the market's capability to protect a WEIM BAA's reliability in a broad co-optimized market under the existing bidding and pricing rules of the CAISO. In my assessment, M+ has key design differences that ensure those problems/issues aren't going to show

up here, and therefore we don't have an immediate need to construct a complex offer-cap structure to mitigate their impacts.

Thanks again to SPP for offering the forum to work on this in a small group, and to all of you who have found time to participate.

Dan

Dan Williams
Principal Advisor, Western Markets

Mobile: (b)(6)
Email: dwilliams2@teainc.org

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-----Original Appointment-----
From: Kristen Darden <kdarden@spp.org>
Sent: Wednesday, November 8, 2023 3:11 PM
To: Kristen Darden; Spires, Jeff; Schlekeway, Lindsey; 'robert.fischer@nvenergy.com'; Rubin, David; Cornelius, Adam; Hakala, Tuuli; Dan Williams; 'thbrier@bpa.gov'; Eaton, Sara; Rachel Kane; Laura Trolese; Ching, Vincent; 'kcompton@tristategt.org'; Zvareck, Dave; Linn, Michael; 'Cusick, Timothy'; 'Kent.Walter@aps.com'
Cc: Chris Nolen; Jim Gonzalez; Rosenwald, Gary; Jodi Woods; Ian Wren; Jared Greenwalt; Steve White; Aaron Shipley; Kelli Schermerhorn; Clint Savoy; Carrie Simpson
Subject: Markets+ Scarcity Pricing Sub-group
When: Monday, November 13, 2023 10:00 AM-12:00 PM (UTC-06:00) Central Time (US & Canada).
Where: 1C Conference Room 132

The creation of this group is the result of discussion that occurred during the October 26th, 2023 MDWG meeting, where SPP provided an education and a proposal for Scarcity Pricing in relation to price formation. The goal is to have language for approval during the November 17th, 2023 MDWG meeting. As a reminder, this group will be discussing the following SPP proposed Offer Caps/Floors, and how they will interplay with overall price formation:

- Virtual Energy Offer Cap - $2,000/MWh
- Interchange Offer Cap - $2,000/MWh
- Flexibility Reserve Products Cap - $1,000/MWh
- Flexibility Reserve Products Floor - $0/MWh
- **11/10 Update*: How market award export prioritization policy impacts how scarcity pricing is applied in the day-ahead market.

Please start reviewing attached document.
-- Do not delete or change any of the following text. --

When it's time, join your Webex meeting here.

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Markets+ Tariff

Attachment A

Scarcity Pricing and Price Formation

Definitions

High Priority Export Interchange Transaction

An Export Interchange Transaction that is backed by a dedicated Resource.

Low Priority Export Interchange Transaction

An Export Interchange Transaction that is not backed by a dedicated Resource.

Scarcity Price

The Locational Marginal Price and Market Clearing Price levels are determined through the use of Demand Curves when there is insufficient Energy or Flexibility Reserve Products.

Scarcity Pricing

The calculation of Scarcity Prices in accordance with Sections 3.2 and 3.6.1 of this Attachment A.

2.1.2.1 Clearing During Capacity Shortage

(1) In the event of a Flexibility Reserve Product(s) shortage in any hour, the Market Operator shall implement Scarcity Pricing.

(2) In the event of a capacity shortage to meet the Self-Scheduled Demand Bids, Self-Scheduled High Priority Export Interchange Transactions, Self-Schedule Low Priority Export Interchange Transactions and Resources' charge MWs in any hour, Market Operator will (a) first reduce the Self-Scheduled Low Priority Export Interchange Transactions on a pro-rata basis based on the MW amounts; (b) reduce in Self-Scheduled Demand Bids, Self-Scheduled High Priority Export Interchange Transactions, and

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Resources' charge MWs on a pro-rata basis based on the MW amounts to match the available capacity and Scarcity Pricing shall be implemented; and (c) administratively set LMPs as described under Section 3.6.1 of this Attachment A.

~~In the event of a capacity shortage to meet the fixed Demand Bids, fixed firm Export Interchange Transactions, and Resources' charge MWs in any hour, the Market Operator will (a) reduce the fixed Demand Bids, fixed firm Export Interchange Transactions, and Resources' charge MWs on a pro-rata basis based on the MW amounts to match the available capacity, and (b) implement Scarcity Pricing.~~

(3) If a transmission constraint cannot be relieved due to a shortage of capacity in any hour, the ~~price sensitive~~price-sensitive demands will clear on a pro-rata basis based upon the impact on relieving the constraint.

DRAFT

2.3.1.2 Real-Time Balancing Market Execution

The Market Operator will attempt to execute the RTBM every five (5) minutes for the next Dispatch Interval based on the inputs described above. In the event the Market Operator is unable to execute the RTBM or to approve a valid solution for the RTBM, the clearing from the last approved RTBM will carry forward until the approval of a new RTBM.

(1) A Simultaneous Co-optimization Methodology is employed to calculate Resource Dispatch Targets and clear Flexibility Reserve Products to meet the Market Operator load forecast and Flexibility Reserve Products requirements at minimum costs based upon submitted Offers while recognizing Resource operating constraints, transmission constraints, and Service Flow Constraints.

(a) In certain situations, enforcing constraints may result in a solution that is not feasible at a Shadow Price less than an appropriately priced VRL. In such cases, the Market Operator ~~must~~will apply VRLs within the Simultaneous Co-optimization Methodology

(b) During shortage situations:

(i) If there is an actual shortage of Short-Term Flex Up and/or Mid-Term Flex Up~~Flexibility Reserve Products~~ ~~shortage~~ during a Dispatch Interval, either on a system-wide or a Reserve Zone basis, ~~the system-wide or Reserve Zone~~ Scarcity Prices will be implemented on a Reserve Zone basis or a system-wide basis to set Short-Term Flex Up and/or Mid-Term Flex Up MCPs as described under Section 3.6 of this Attachment A.

(ii) In the event of a capacity shortage to meet the Short-Term Load Forecast, Self-Scheduled High Priority Export Interchange Transactions, Self-Schedule Low Priority Export Interchange Transactions and Resources' charge MWs in any hour, Market Operator will (a) first reduce the Self-Scheduled Low Priority Export Interchange Transactions on a pro-rata basis based on the MW amounts, (b) reduce the Short-Term Load Forecast, Self-Scheduled High Priority Export Interchange Transactions, and Resources' charge MWs on a pro-rata basis based on the MW amounts to match the available capacity, and Scarcity Pricing shall be

implemented; and (c) administratively set LMPs as described under Section 3.6.1 of this Attachment A.

~~(ii)~~(iii) If there is a shortage of available capacity to meet Energy requirements on a system-wide basis following curtailment of Low Priority Exports, LMPs will continue to be calculated based upon the submitted Resource Offers.

(iii) Market Operator will immediately notify all Markets+ Reliability Coordinators so that the Markets+ Balancing Authorities can begin implementing emergency procedures.

(c) During surplus conditions:

(i) If there is an actual Short-Term Flex Down shortage during a Dispatch Interval, either on a system-wide or a Reserve Zone basis, Scarcity Prices will be implemented on a Reserve Zone basis or a system-wide basis to set Short-Term Flex Down MCPs as described under Section 3.6 of this Attachment A.

(ii) If there is a surplus of available capacity to meet Energy requirements on a system-wide basis, LMPs will continue to be calculated based upon the submitted Resource Offers.

(iii) Market Operator will immediately notify all Markets+ Reliability Coordinators so that the Markets+ Balancing Authorities can begin implementing emergency procedures.

3.6 Pricing during Scarcity Conditions

If capacity is insufficient to meet the Energy requirements on a system-wide basis and/or Flexibility Reserve Product requirements on a system-wide and/or Reserve Zone basis, Energy requirements and/or Flexibility Reserve Product requirements are reduced to meet available capacity and LMPs and/or MCPs are calculated as described ~~under Section 3.6.1~~below.

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3.6.1 Impact of Scarcity Pricing on Locational Marginal Prices and Market Clearing Prices

(1) Demand Curves are applied independently in the dispatch solution and pricing solution. The Market Operator shall use Demand Curves to reflect Scarcity Prices in both the Day-Ahead Market and RTBM during times of Energy and/or Flexibility Reserve Products shortages, either on a system-wide and/or Reserve Zone basis.

(2) Scarcity Prices are reflected in MCPs using the following Demand Curves:

(a) Short-Term Flex Up – The Market Operator calculates and posts Short-Term Flex Up Scarcity Pricing in accordance with the following rules:

(i) The maximum Short-Term Flex Up Scarcity Price is calculated as the average cost per MW for all eligible Resources to recover their qualified cold Start-Up Offer, No-Load Offer, and Energy at minimum cost ~~at~~ divided by their Maximum ~~Normal~~ Economic Capacity Operating Limit. Eligible Resources are Resources which offer a cold start-up time of 10 minutes or less, a Minimum Run Time of 60 minutes or less, and are not on outage. The maximum Short-Term Flex Up Scarcity Price is equal to the cold Start-Up Offer plus the product of the Minimum Run Time and the No-Load Offer plus the Energy at minimum cost all divided by the Resource's Maximum ~~Normal~~ Economic Capacity Operating Limit or Maximum Discharge Limit as applicable.

(ii) The maximum Short-Term Flex Up Scarcity Price will be calculated each month using the previous three months offer data and shall be limited to a maximum of $1000/MWh. To the extent that three months of offer data is not available, the Market Operator will use the offer data available to calculate the maximum Scarcity Price.

(iii) The Demand Curve levels for Short-Term Flex Up will be equal to:

1. Shortages up to or equal to 5% of the requirement will equal, to the nearest dollar, 1/6 of the maximum Short-Term Flex Up Scarcity Price.

2. Shortages greater than 5% but less than or equal to 10% of the requirement will equal, to the nearest dollar, 1/3 of the maximum Short-Term Flex Up Scarcity Price.

3. Shortages greater than 10% but less than or equal to 15% of the requirement will equal, to the nearest dollar, 1/2 of the maximum Short-Term Flex Up Scarcity Price.

4. Shortages greater than 15% but less than or equal to 25% of the requirement will equal, to the nearest dollar, 2/3 of the maximum Short-Term Flex Up Scarcity Price.

5. Shortages greater than 25% but less than or equal to 40% of the requirement will equal, to the nearest dollar, 5/6 of the maximum Short-Term Flex Up Scarcity Price.

6. Shortages greater than 40% of the requirement will equal, to the nearest dollar, the maximum Short-Term Flex Up Scarcity Price.

(iv) The minimum amount for the Short-Term Flex Up Demand Curve prices will be limited to $10.

(b) Short-Term Flex Down – The Market Operator calculates and posts Short-Term Flex Down Scarcity Pricing in accordance with the following rules:

(i) The maximum Short-Term Flex Down Scarcity Price is calculated as the average cost per MW for all eligible Resources to recover their qualified cold Start-Up Offer, No-Load Offer, and Energy at minimum cost ~~at~~ divided by their Maximum ~~Normal~~ Economic Capacity Operating Limit. Eligible Resources are Resources which offer a cold Start-Up Time of 10 minutes or less, a Minimum Run Time of 60 minutes or less, and are not on outage. The maximum Short-Term Flex Down Scarcity Price is equal to the cold Start-Up Offer plus the product of the Minimum Run Time and the No-Load Offer plus the Energy at minimum cost all divided by the Resource's Maximum ~~Normal~~ Economic Capacity Operating Limit or Maximum Discharge Limit as applicable.

(ii) The maximum Short-Term Flex Down Scarcity Price will be calculated each month using the previous three months offer data and shall be limited

to a maximum of $1000/MWh. To the extent that three months of offer data is not available, the Market Operator will use the offer data available to calculate the maximum Scarcity Price.

(iii) The Demand Curve levels for Short-Term Flex Down will be equal to:

1. Shortages up to or equal to 5% of the requirement will equal, to the nearest dollar, 1/6 of the maximum Short-Term Flex Down Scarcity Price.
2. Shortages greater than 5% but less than or equal to 10% of the requirement will equal, to the nearest dollar, 1/3 of the maximum Short-Term Flex Down Scarcity Price.
3. Shortages greater than 10% but less than or equal to 15% of the requirement will equal, to the nearest dollar, 1/2 of the maximum Short-Term Flex Down Scarcity Price.
4. Shortages greater than 15% but less than or equal to 25% of the requirement will equal, to the nearest dollar, 2/3 of the maximum Short-Term Flex Down Scarcity Price.
5. Shortages greater than 25% but less than or equal to 40% of the requirement will equal, to the nearest dollar, 5/6 of the maximum Short-Term Flex Down Scarcity Price.
6. Shortages greater than 40% of the requirement will equal, to the nearest dollar, the maximum Short-Term Flex Down Scarcity Price.

(iv) The minimum amount for the Short-Term Flex Down Demand Curve prices will be limited to $0.

(c) Mid-Term Flex Up – The Market Operator calculates and posts Mid-Term Flex Up Scarcity Pricing in accordance with the following rules:

(i) The maximum Mid-Term Flex Up Scarcity Price is calculated as the average cost per MW for all eligible Resources to recover their qualified cold Start-Up Offer, No-Load Offer, and Energy at minimum cost ~~at~~ divided by their Maximum ~~Normal~~ Economic Capacity Operating Limit. Eligible Resources are Resources which offer a cold start-up time of ~~10 minutes~~1 hour or less~~, a Minimum Run Time of 60 minutes or less,~~ and are not on outage. The maximum Mid-Term Flex Up Scarcity Price is

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equal to the cold Start-Up Offer plus the product of the Minimum Run Time and the No-Load Offer plus the Energy at minimum cost all divided by the Resource's Maximum ~~Normal~~ Economic Capacity Operating Limit or Maximum Discharge Limit as applicable.

(ii) The maximum Mid-Term Flex Up Scarcity Price will be calculated each month using the previous three months offer data and shall be limited to a maximum of $1000/MWh. To the extent that three months of offer data is not available, the Market Operator will use the offer data available to calculate the maximum Scarcity Price.

(iii) The Demand Curve levels for Mid-Term Flex Up will be equal to:

1. Shortages up to or equal to 5% of the requirement will equal, to the nearest dollar, 1/6 of the maximum Mid-Term Flex Up Scarcity Price.
2. Shortages greater than 5% but less than or equal to 10% of the requirement will equal, to the nearest dollar, 1/3 of the maximum Mid-Term Flex Up Scarcity Price.
3. Shortages greater than 10% but less than or equal to 15% of the requirement will equal, to the nearest dollar, 1/2 of the maximum Mid-Term Flex Up Scarcity Price.
4. Shortages greater than 15% but less than or equal to 25% of the requirement will equal, to the nearest dollar, 2/3 of the maximum Mid-Term Flex Up Scarcity Price.
5. Shortages greater than 25% but less than or equal to 40% of the requirement will equal, to the nearest dollar, 5/6 of the maximum Mid-Term Flex Up Scarcity Price.
6. Shortages greater than 40% but less than or equal to 50% of the requirement will equal, to the nearest dollar, the maximum Mid-Term Flex Up Scarcity Price.
7. Shortages greater than 50% of the requirement will equal $1000/MWh.

(iv) The minimum amount for the Mid-Term Flex Up Demand Curve prices will be limited to $10.

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(3) Scarcity Prices will be reflected in LMPs when serving an incremental MW of energy worsens the Flexibility Reserve Products capacity shortage condition.

(4) During capacity shortage conditions in either the Day-Ahead Market or RTBM,

(a) The MEC component of the LMP will be set to $1000/MWh to the extent that Low Priority Exports have been curtailed until such time that Low Priority Exports have been restored. The MCC and MLC components of LMP shall continue to be calculated normally; or

(b) If the MMU has authorized offer prices in excess of $1000/MWh, the MEC component of the LMP will be set to $2000/MWh to the extent that Low Priority Exports have been curtailed until such time that Low Priority Exports have been restored. The MCC and MLC components of LMP shall continue to be calculated normally.

(5) During Flexibility Reserve Products shortage conditions on a system wide basis and/or zonal basis, Market Clearing Prices are impacted by Demand Curves as follows:

(a) If there is a shortage of Short-Term Flex Up, the Short-Term Flex Up MCP will be set equal to the Short-Term Flex Up Demand Curve price. The Short-Term Flex Up Demand Curve price ~~will~~ may be reflected in the LMP.

(b) If there is a shortage of Short-Term Flex Down, the Short-Term Flex Down MCP will be set equal to the Short-Term Flex Down Demand Curve price. The Short-Term Flex Down Demand Curve price ~~will~~ may be reflected in the LMP.

(c) If there is a shortage of Mid-Term Flex Up, the Mid-Term Flex Up MCP will be set equal to the Mid-Term Flex Up Demand Curve price. The Mid-Term Flex Up Demand Curve price ~~will~~ may be reflected in the LMP.

(46) During capacity shortage conditions in either the Day-Ahead Market or RTBM,

(a) The MEC component of the LMP will be set to $1000/MWh to the extent that Low Priority Exports have been curtailed until such time that Low Priority Exports have been restored. The MCC and MLC components of LMP shall continue to be calculated normally; or

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(b) If the MMU has authorized offer prices in excess of $1000/MWh, the MEC component of the LMP will be set to $2000/MWh to the extent that Low Priority Exports have been curtailed until such time that Low Priority Exports have been restored. The MCC and MLC components of LMP shall continue to be calculated normally.

5.3 Offer Caps and Floors

Submission of Energy Offer Curves, Start-Up Offers, No-Load Offers, and Flexibility Reserve Product Offers by Market Participants for use in the Day-Ahead Market and the RTBM shall be limited by the following Offer caps and floors:

(1) Safety-net Energy Offer Cap = $1,000/MWh; Energy Offers greater than $1,000/MWh are subject to Section XYZ of Attachment B of this Tariff.

(2) Virtual Energy Offer Cap = $2,000/MWh;

(3) Import/Export Transaction Offer Cap = $2,000/MWh;

(4) Energy Offer Floor = Negative $500/$150/MWh;

(5) Start-Up Offer Floor = $0;

(6) No-Load Offer Floor = $0.

(7) Flexibility Reserve Products Floor = [insert value based on analysis and studies]

(8) Flexibility Reserve Products Cap = [insert value based on analysis and studies]

In addition to these Offer caps and floors, submission of Offers may be limited by the requirements of Attachment B of this Tariff.

Comment [KLD1]: SPP proposed; boilerplate

Comment [SPPMMU2]: MMU Proposed; non-boilerplate

Appendix 1 to Attachment A

Violation Relaxation Limit Values

Comment [KLD3]: Analysis needed to determine the VRL levels

This Appendix 1 to Attachment A sets forth the VRL values to be used in SCOM.

Constraint Type	Description	VRL [$/MW]
(1) Resource Capacity	The minimum and maximum MW dispatchable output of a resource as indicated in a Resource Offer.	100,000
(2) Global Power Balance	Energy needed to balance resources and load.	50,000
(3) Resource Ramp	The ramp capability of a resource as indicated in the resource plan.	5,000
(4a) Operating Constraint not subject to Market-to-Market coordination	A MW limit that can be imposed on SPP related to MW flow across a market node, a manually-identified transmission constraint, a Watch List transmission constraint, a flowgate constraint, or a transmission constraint identified by SPP's real-time contingency analysis.	$750/*$1,750 when the loading is greater than 100% and less than or equal to 101% at each network constraint at each Operating Constraint.
		$~~750~~1,000/*$2,000when the loading is greater than 101% and less than or equal to 102% at each network constraint
		$1,~~000~~250/*$2,250 when the loading is greater than 102% and less than or equal to 103% at each network constraint
		$1,~~250~~500/*$2,500 when the loading is greater than 103% and less than or equal to 104% at each network constraint
		$1,~~500~~750/*$2750 when the loading is greater than 104% at each network constraint

* Applies only when MMU has authorized one or more Resource Offers in excess of $1,000.

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2.3.2 Congestion Management

(1) The Market Operator will incorporate the data provided by reliability coordinators and participating Balancing Authorities for congestion management in the dispatch solution. This data includes:

(a) Out-of-Merit Energy;

(b) Binding transmission constraints; and

(c) Changes to Interchange Transactions.

(2) The Market Operator will constrain the least-cost dispatch to the transmission capability made available for use in Markets+ through the continuous activation of Service Flow Constraints.

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Tuesday, July 25, 2023 1:19 PM
To: Mantifel,Russell (BPA) - PGL-5; Spires, Jeff; Kirby,Elizabeth A (BPA) - BT-3; Bellcoff,Steve (BPA) - PGPR-5
Subject: RE: [EXTERNAL] RE: Proposal for Markets+ Virtuals

Thanks Russ,

We may mention it verbally that Powerex, NV Energy and few others are considering what a middle ground might look like and explain some (or all) of the elements verbally.

Mark Holman | Managing Director | Powerex Corp. | Direct (b)(6)

From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Tuesday, July 25, 2023 1:06 PM
To: Holman, Mark <Mark.Holman@powerex.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Kirby,Elizabeth A (BPA) - BT-3 <eakirby@bpa.gov>; Bellcoff,Steve (BPA) - PGPR-5 <srbellcoff@bpa.gov>
Subject: RE: [EXTERNAL] RE: Proposal for Markets+ Virtuals

⚠ **Caution: External Email**

I was expecting it to come up tomorrow. We're open to the concept, especially if it alleviates some of the DSW entity concerns.

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Tuesday, July 25, 2023 11:38 AM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Kirby,Elizabeth A (BPA) - BT-3 <eakirby@bpa.gov>; Bellcoff,Steve (BPA) - PGPR-5 <srbellcoff@bpa.gov>
Subject: RE: [EXTERNAL] RE: Proposal for Markets+ Virtuals

Ok – understood – I'm checking back in with NV and APS to see if we want to float the concept paper tomorrow, if you're open to that?
I agree the enhanced MOO would need to be worked for how to apply to a hydro fleet, etc.

Mark Holman | Managing Director | Powerex Corp. | Direct (b)(6)

From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Tuesday, July 25, 2023 11:35 AM
To: Holman, Mark <Mark.Holman@powerex.com>; Spires, Jeff <Jeff.Spires@powerex.com>; Kirby,Elizabeth A (BPA) - BT-3 <eakirby@bpa.gov>; Bellcoff,Steve (BPA) - PGPR-5 <srbellcoff@bpa.gov>
Subject: RE: [EXTERNAL] RE: Proposal for Markets+ Virtuals

⚠ Caution: External Email

So I think we are open to the idea as a compromise, some folks internally had independently come up with it. There are some details to figure out, especially the need for an enhanced MOO with no virtuals (is that something you'd want for any delay). We have questions about the ability to implement a fleet capacity MOO.

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Tuesday, July 25, 2023 11:24 AM
To: Spires, Jeff <Jeff.Spires@powerex.com>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Kirby,Elizabeth A (BPA) - BT-3 <eakirby@bpa.gov>; Bellcoff,Steve (BPA) - PGPR-5 <srbellcoff@bpa.gov>
Subject: [EXTERNAL] RE: Proposal for Markets+ Virtuals

HI Russ, Libby and Steve,

I'm just checking back in to see if this is something BPA might support (or ideally co-sponsor as a middle ground) at tomorrow's meeting?

Regards,

Mark Holman | Managing Director | Powerex Corp. | Direct (b)(6)

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Friday, July 21, 2023 2:00 PM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Kirby,Elizabeth A (BPA) - TOOC-DITT-2 <eakirby@bpa.gov>; srbellcoff@bpa.gov
Cc: Holman, Mark <Mark.Holman@powerex.com>
Subject: Proposal for Markets+ Virtuals

Hi Russ, Libby and Steve

Mark and I wanted to share a draft proposal for enabling virtual bidding in Markets+. This is a concept we worked on with NV Energy and recently shared with APS. NV and Powerex are supportive and we expect that APS is like to be supportive too (perhaps with some minor adjustments) after they take some additional time to review it.

We wanted to share this with you to see if BPA could support it as well. In light of the differing views on virtuals amongst the MDWG, our hope would be to bring this to the MDWG as a joint proposal to provide a reasonable middle ground that would hopefully gain traction with the broader group.

I am out of the office next week, but please feel free to reach out to Mark if you would like to discuss by phone before the MDWG on the 26th. We look forward to hearing back you on whether you would be willing to support the concept.

Regards,
Jeff

Jeff Spires | Director, Power | Powerex Corp. | Cell (b)(6)

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#PWX# 201708MH001

From: Carrie Simpson <csimpson@spp.org>
Sent: Saturday, June 15, 2024 5:39 AM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] Fwd: Markets+ Status Update
Attachments: Markets+ Status Update.pdf

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From: Antoine Lucas <alucas@spp.org>
Sent: Friday, June 14, 2024 8:24 PM
Subject: Markets+ Status Update

Markets+ Leaders,

Please see the attached communication including SPP's perspective on the status of Markets+ amid recent happenings. I hope you find this information useful. Don't hesitate to each out with any questions you may have.

Thank you for your continued support!

Antoine Lucas
Vice President, Markets
Southwest Power Pool
Phone: *501-614-3382*
Email: *alucas@spp.org*

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From: Gentry Crowson <gtcrowson@spp.org>
Sent: Wednesday, November 15, 2023 3:09 PM
To: Mantifel,Russell (BPA) - MTM-3
Subject: [EXTERNAL] Markets+ Congestion Rent Tariff
Attachments: Markets Plus Congestion Rent Tariff Sections 11_15_2023 - Consolidated Edits - Clean.docx; Markets Plus Congestion Rent Tariff Sections 11_15_2023 - Consolidated Edits - Redlines.docx

Markets+ Congestion Rent Task Force,

Please see the two attached documents containing Congestion Rent Tariff language, as they will be referenced in tomorrow's MCRTF Meeting (11/16/2023).

Thanks,
Gentry Crowson

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or send a blank email to leave-124739-234283.ab060f4db6e56ad7a74d8702edd00012@spplist.spp.org

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Definitions

Congestion Rent

Revenue collected by the Market Operator resulting from binding transmission constraints in the Day-Ahead Market that will be allocated to Congestion Rent Eligible Transmission Service Reservation Holders and Markets+ Transmission Service Providers.

Conditional Firm Point-To-Point Transmission Service

The reservation and transmission of capacity and energy on a conditional firm basis from specified Point(s) of Receipt to specified Point(s) of Delivery. This service is equivalent to Firm Point-To-Point Transmission Service except that, under certain system conditions or under a number of hours in real-time, this service will be curtailed ahead of Firm Point-To-Point Transmission Service, as further defined in each transmission service provider's Open Access Transmission Tariff (OATT).

Congestion Rent Eligible Transmission Service Reservation (CRETSR)

The MW quantity of Firm Point-to-Point Transmission Service, Conditional Firm Point-To-Point Transmission Service, Network Integration Transmission Service, and/or Legacy Transmission Service of a monthly or longer service increment that spans the full applicable calendar month and is available for use by Markets+.

Congestion Rent Eligible Transmission Service Reservation (CRETSR) Holder

A Market Participant with a Congestion Rent Eligible Transmission Service Reservation.

Designated Network Resource

Any designated generating resource owned, purchased or leased by a Network Customer for the purposes of serving Network Load, as further defined in each Markets+ Transmission Service Provider's Open Access Transmission Tariff.

Firm Point-To-Point Transmission Service

The reservation and transmission of capacity and energy on a firm basis from a specified Point(s) of Receipt to specified Point(s) of Delivery, as further defined in each Markets+ Transmission Service Provider's Open Access Transmission Tariff

Legacy Transmission Service

Transmission service that existed on a transmission service provider's system prior to the effective date of that transmission service provider's Open Access Transmission Tariff that is equivalent to Network Integration Transmission Service or Firm Point-To-Point Transmission Service.

Markets+ Transmission Contributor *(Definition approved by MTWG and MDWG)*

Any Market Participant that voluntarily provides its transmission service rights on a non-participating transmission service provider's system for Markets+ optimization.

Markets+ Transmission Service Provider *(Definition approved by MTWG and MDWG)*

Any transmission service provider in the Markets+ Footprint that executes the agreement for a Markets+ Transmission Service Provider in Markets+ and contributes Markets+ Transmission Capability.

Markets+ Transmission User *(Definition approved by MTWG and MDWG)*

Any Market Participant offering or bidding load, generation, interchange, or virtual transactions within Markets+.

Network Customer

An entity receiving Network Integration Transmission Service under one or more Markets+ Transmission Service Provider's Open Access Transmission Tariff.

Network Integration Transmission Service (NITS)

The reservation and transmission of capacity and energy on a firm basis between Designated Network Resources and Network Load, as further defined in each Markets+ Transmission Service Provider's Open Access Transmission Tariff.

Network Load

The load that a Network Customer designates for Network Integration Transmission Service under a Markets+ Transmission Service Provider's Open Access Transmission Tariff. The Network Customer's Network Load will include all load served by the output of any Designated Network Resources identified by the Network Customer.

Network Service Distribution Cap

The monthly maximum MW for which a Network Integration Transmission Service NITS customer is eligible to receive Congestion Rent. The MW cap is equal to a monthly load used for Network Integration Transmission Service billing for the applicable Congestion Rent allocation month by each respective Markets + Transmission Service Provider.

Point-to-Point Transmission Service Distribution Cap

The monthly maximum MW for which a CRETSR Holder is eligible for Congestion Rent associated with each of its Firm or Conditional Firm Point-to-Point Congestion Rent Eligible Transmission Service Reservations. The monthly cap for a Firm or Conditional Firm Point-to-Point Congestion Rent Eligible Transmission Service Reservation is equal to its eligible reserved MW quantity.

Transmission Constraint Shadow Price

The reduction in production cost, in $/MWh, that is realized by increasing the MW limit of a binding transmission constraint by 1 MW.

Section 7.16: Congestion Rent Eligible Transmission Service Reservation Verification

1) The Market Operator, in collaboration with Markets+ Transmission Service Providers and Market Participants within the Markets+ Footprint, will retrieve and verify each Market Participant's Congestion Rent Eligible Transmission Service Reservations from the applicable transmission service provider's Open Access Same-time Information System (OASIS), including relevant DNRs and Network Loads associated with NT Service, pursuant to the Markets+ Protocols.:

1) A resale of a Congestion Rent Eligible Transmission Service Reservation to a different transmission customer that does not span the entire duration of the upcoming month, or that is arranged after the verification process begins, will not be considered in the congestion rent allocation process. The congestion rent associated with the Congestion Rent Eligible Transmission Service Reservation will be allocated to the CRETSR Holder that previously held the rights for the entire month.

2) A redirect of a Congestion Rent Eligible Transmission Service Reservation to a different POR or POD that does not span the entire duration of the upcoming month, or that is made after the verification process begins, will not be considered in the congestion rent allocation process. The congestion rent associated with the Congestion Rent Eligible Transmission Service Reservation will be allocated based on the last valid POR and POD that spanned the entire month for that CRETSR Holder.

3) If a Markets+ Transmission Service Provider or Markets+ Transmission Contributor is unable to provide information such as that related to Legacy Transmission Service on OASIS, the Markets+ Transmission Service Provider or Markets+ Transmission Contributor will notify the Market Operator and the Markets+ Transmission User, and the Market Operator will coordinate the exchange of Legacy Transmission Service information.

4) The Market Operator will obtain the transmission service reservation information as specified under subsections (1), (2), (3), and (4) above at the beginning of the verification period as defined in the Markets+ Protocols and:

   a) Provide such information to each identified Markets+ Transmission Service Provider, Markets+ Transmission Contributor, and CRETSR Holder for verification/correction.

   b) Unless the Markets+ Transmission Service Provider, Markets+ Transmission Contributor, or CRETSR Holder communicates a potential error during the verification period as defined in the Markets+ Protocols, the Market Operator will deem the transmission service reservation information provided to be a valid Congestion Rent Eligible Transmission Service Reservation. Errors identified after the verification period must follow the [Markets+ settlements dispute process]

   c) If a Markets+ Transmission Service Provider, Markets+ Transmission Contributor, or CRETSR Holder identifies a potential error with the transmission service reservation information, the respective Markets+ Transmission Service Provider, Markets+ Transmission Contributor, or CRETSR Holder will contact the Market Operator. The Market Operator will communicate its determination of the validity of the transmission service reservation to the Markets+ Transmission Service Provider, Markets+ Transmission Contributor and CRETSR Holder, including the correction of any error(s).

5) For Firm or Conditional Firm Point-to-Point Transmission Service CRETSR Holders, the TSR MW used for settlements is equal to the Point-to-Point Transmission Service Distribution Cap for each Firm or Conditional Firm Congestion Rent Eligible Transmission Service Reservation.

6) For Network Integration Transmission Service (NITS) TSR Holders, the total TSR MW used for settlements from each Designated Network Resource (DNR) to Network Load is calculated by the Market Operator using the following procedure:

a) The Designated Network Resource MW capacity, and associated Point-of-Receipt will be obtained during the verification period. Network Integration Transmission Service for Designated Network Resources that are located outside of the Markets+ Transmission Service Provider's system that is serving Network Load inside of the Markets+ Transmission Service Provider's system, the Point of Receipt will be based on the modeled injection point for delivering energy to the Markets+ Transmission Service Provider's or Markets+ Transmission Contributor's system.

b) Based on the information obtained in Subsection 7(a) and for each hour of the Operating Day, the Market Operator will systematically select each Network Integration Transmission Service CRETSR Holder's source to sink paths from its Designated Network Resources (DNRs) to its Network Loads as follows:

   i. The Market Operator will create a merit order stack by sorting the supply available from the Network Integration Transmission Service CRETSR Holder's DNRs from lowest cost supply to highest cost supply, where:

      a) The total supply included in the merit order stack from each DNR will not exceed the designated capacity of the DNR.

      b) Supply from a DNR with a Day Ahead Commit Status of Self or Reliability Must Run will be considered the lowest cost supply for purposes of this merit order process and will be added to the merit order stack first.

      c) The Market Operator will next add supply from the Network Integration Transmission Service CRETSR Holder's DNRs made available in the Day Ahead Market from lowest cost to highest cost based on the incremental cost, in $/MWh, of each segment of the Energy Offer Curves or Mitigated Energy Offer Curves as applicable in the Day Ahead Market.

d) Any portion of a DNR that is not available in the Day Ahead Market will be considered the highest cost for purposes of the merit order process and will be added to the merit order stack after all available supply from the Network Integration Transmission Service CRETSR Holder's DNRs have been included as described in subsections (b) and (c) above.

ii. Starting with the lowest cost supply in the merit order stack created in Section 7.16(7)(b)(i) of this Attachment A, the Market Operator will select the Network Integration Transmission Service Holder's DNRs from the merit order stack until the total MW capacity selected is equal to the Network Integration Transmission Service TSR Holder's Network Service Distribution Cap. Such selected DNR PORs to the Network Load POD will be used for Congestion Rent allocation purposes as described under Section 9.2.14 of this Attachment A.

Section 7.17: Coordinated Interchange Scheduling Limits

1) If Markets+ participating BAA requires a coordinated scheduling limit at a single location involving two or more Markets+ Transmission Service Providers, the Market Operator will activate the scheduling limit as a constraint in the market solution. The Market Operator will separate the congestion rent available for allocation on the binding constraint, as calculated under Section 9.2.13 of this Attachment A, into an Export Share and an Import Share. The Export Share will be associated with Congestion Rent Eligible Transmission Service Reservations to the coordinated scheduling location and will be distributed in the same manner as set forth in Sections 9.2.14 and 9.2.15 of this Attachment A. The Import Share will be associated with Congestion Rent Eligible Transmission Service Reservations from the coordinated scheduling location and will be allocated in the same manner as set forth in Sections 9.2.14 and 9.2.15 of this Attachment A.

2) For the coordinated scheduling limit as described in (1) above, the Market Operator will allocate 50% of the congestion rent available for allocation on the binding constraint, as calculated under Section 9.2.13 of this Attachment A, to the Export Share and 50% to the Import Share, provided that the applicable Markets+ Transmission Service Providers and/or participating Markets+ BA associated with a coordinated scheduling limit may mutually agree and instruct the Market Operator to use a different sharing ratio that better reflects the particular arrangement associated with the constraint.

3) The Market Operator will maintain a list of all the coordinated scheduling limits that will be activated on its public website.

Section 9.2.13: Day Ahead Congestion Rent Available for Allocation Amount

The Market Operator calculates the Congestion Rent on each binding transmission constraint for each hour in the Day-Ahead Market as follows:

1) The Congestion Rent Available for Allocation on each binding transmission constraint in each hour is calculated as follows:

Congestion Rent Available for Allocation =
(Hourly Transmission Constraint Shadow Price of that constraint)

* (Hourly Day-Ahead Market Flow).

a) Hourly Day-Ahead Transmission Constraint Shadow Price is calculated by the Day-Ahead Market solution and is defined in the Markets+ Tariff.

b) Hourly Day-Ahead Market Flow is the hourly flow quantity across that binding Transmission Constraint calculated by the Day-ahead Market solution.

Section 9.2.14: Day Ahead TSR Holder Congestion Rent Distribution Amount

The Market Operator distributes the Congestion Rent collected to each CRETSR Holder for each hour in the Day-Ahead Market as follows:

1) A CRETSR Holder's Total Congestion Rent Allocation in an hour is calculated as follows:

CRETSR Holder's Total Congestion Rent Allocation = the sum of that CRETSR Holder's Congestion Rent Allocations for all binding transmission constraints.

a) CRETSR Holder Congestion Rent Allocation = CRETSR Holder Congestion Rent Allocation Factor multiplied by the Congestion Rent Available for Allocation for that binding transmission constraint multiplied by (-1)

i. Congestion Rent Available for Allocation is the value calculated under Section 9.2.13 for that binding constraint.

b) If the Total of all CRETSR Holders' Positive MW Impacts in the Binding Flow Direction on that binding transmission constraint is greater than or equal to the Hourly Day-Ahead Market Flow on that binding transmission constraint,

Then

CRETSR Holder Congestion Rent Allocation Factor =

(CRETSR Holder's Positive MW Impact in the Binding Flow Direction on that binding transmission constraint) /

(Total of all CRETSR TSR Holders' Positive MW Impacts in the Binding Flow Direction on the same binding transmission constraint).

c) If the total of all CRETSR Holders' Positive MW Impact in the Binding Flow Direction on that binding transmission constraint is less than the Hourly Day-Ahead Market Flow on that binding transmission constraint

Then

CRETSR Holder Congestion Rent Allocation Factor =

(CRETSR Holder's Positive MW Impact in the Binding Flow Direction on that binding transmission constraint /

Hourly Day-Ahead Market Flow on that binding transmission constraint).

d) CRETSR Holders' Positive MW Impact in the Binding Flow direction on the binding constraint =

CRETSR Holder's TSR Reserved MW Quantity *

Percentage flow impact in the binding flow direction on the binding constraint, calculated as part of the Day-Ahead Market solution, for that CRETSR Holder's CRETSR.

i. For Firm or Conditional Firm Point-To-Point TSR Holders, TSR Reserved MW Quantity is equal to the Firm Conditional Firm Point-To-Point Service Distribution Cap for that Congestion Rent Eligible Transmission Service Reservation.

ii. For Network Integration Transmission Service TSR Holders, TSR Reserved MW Quantity is equal to the MW amounts identified under Section 7.1.6(7)(b)(ii) of this Attachment A.

Section 9.2.15: Day Ahead Excess Congestion Rent Distribution Amount

For each hour in the Day Ahead Market in which the Market Operator collects Excess Congestion Rent, the Market Operator shall distribute the excess Congestion Rent collected to the applicable Markets+ Transmission Service Providers for distribution to its transmission customers under each Markets+ Transmission Service Providers respective OATT as follows:

1) A Markets+ Transmission Service Provider's Total Congestion Rent Allocation in an hour is calculated as follows:

   Markets+ Transmission Service Provider's Total Congestion Rent Allocation = the sum of that Markets+ Transmission Service Provider's Congestion Rent Allocations for all binding transmission constraints associated with that Markets+ Transmission Service Provider, multiplied by (-1).

   a) Markets+ Transmission Service Provider's Congestion Rent Allocation = Excess Congestion Rent for that binding transmission constraint associated with any unsold capacity available to the market in that hour. For elements of a constraint associated with more than one Markets+ Transmission Service Provider, the Market Operator will allocate the Excess Congestion Rent for the constraint based on the percentage of market available capacity associated with each Markets+ Transmission Service Provider.

   b) Excess Congestion Rent = (Congestion Rent Available for Allocation in that hour), Plus

      (the sum of all CRETSR Holder Congestion Rent Allocations for that binding constraint associated with the Markets+ Transmission Service Provider in that hour)

      i. Congestion Rent Available for Allocation is equal to the value calculated under Section 9.2.13(1) of this Attachment A.

ii. CRETSR Holder Congestion Rent Allocation is equal to the value calculated under Section 9.2.14(1)(a) of this Attachment A.

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Definitions

Congestion Rent

Revenue collected by the Market Operator resulting from binding transmission constraints in the Day-Ahead Market that will be allocated to Congestion Rent Eligible Transmission Service Reservation Holders and Markets+ Transmission Service Providers.

Conditional Firm Point-To-Point Transmission Service

The reservation and transmission of capacity and energy on a conditional firm basis from specified Point(s) of Receipt to specified Point(s) of Delivery. This service is equivalent to Firm Point-To-Point Transmission Service except that, under certain system conditions or under a number of hours in real-time, this service will be curtailed ahead of Firm Point-To-Point Transmission Service, as further defined in each transmission service provider's Open Access Transmission Tariff (OATT).

Congestion Rent Eligible Transmission Service Reservation (CRETSR)

The MW quantity of Firm Point-to-Point Transmission Service, Conditional Firm Point-To-Point Transmission Service, Network Integration Transmission Service, and/or Legacy Transmission Service of a monthly or longer service increment that spans the full applicable calendar month and is available for use by Markets+.

Congestion Rent Eligible Transmission Service Reservation (CRETSR) Holder

A Market Participant with a Congestion Rent Eligible Transmission Service Reservation.

Designated Network Resource

Any designated generating resource owned, purchased or leased by a Network Customer for the purposes of serving Network Load, as further defined in each Markets+ Transmission Service Provider's Open Access Transmission Tariff.

Firm Point-To-Point Transmission Service

The reservation and transmission of capacity and energy on a firm basis from a specified Point(s) of Receipt to specified Point(s) of Delivery, as further defined in each Markets+ Transmission Service Provider's Open Access Transmission Tariff

Legacy Transmission Service

Transmission service that existed on a transmission service provider's system prior to the effective date of that transmission service provider's Open Access Transmission Tariff that is equivalent to Network Integration Transmission Service or Firm Point-To-Point Transmission Service.

Markets+ Transmission Contributor *(Definition approved by MTWG and MDWG)*

Any Market Participant that voluntarily provides its transmission service rights on a non-participating transmission service provider's system for Markets+ optimization.

Markets+ Transmission Service Provider *(Definition approved by MTWG and MDWG)*

Any transmission service provider in the Markets+ Footprint that executes the agreement for a Markets+ Transmission Service Provider in Markets+ and contributes Markets+ Transmission Capability.

Markets+ Transmission User *(Definition approved by MTWG and MDWG)*

Any Market Participant offering or bidding load, generation, interchange, or virtual transactions within Markets+.

Network Customer

An entity receiving Network Integration Transmission Service under one or more Markets+ Transmission Service Provider's Open Access Transmission Tariff.

Network Integration Transmission Service (NITS)

The reservation and transmission of capacity and energy on a firm basis between Designated Network Resources and Network Load, as further defined in each Markets+ Transmission Service Provider's Open Access Transmission Tariff.

Network Load

The load that a Network Customer designates for Network Integration Transmission Service under a Markets+ Transmission Service Provider's Open Access Transmission Tariff. The Network Customer's Network Load will include all load served by the output of any Designated Network Resources identified by the Network Customer.

Network Service Distribution Cap

The monthly maximum MW for which a Network Integration Transmission Service NITS customer is eligible to receive Congestion Rent. The MW cap is equal to a monthly load used for Network Integration Transmission Service billing for the applicable Congestion Rent allocation month by each respective Markets + Transmission Service Provider.

Point-to-Point Transmission Service Distribution Cap

The monthly maximum MW for which a CRETSR Holder is eligible for Congestion Rent associated with each of its Firm or Conditional Firm Point-to-Point Congestion Rent Eligible Transmission Service Reservations. The monthly cap for a Firm or Conditional Firm Point-to-Point Congestion Rent Eligible Transmission Service Reservation is equal to its eligible reserved MW quantity.

Transmission Constraint Shadow Price

The reduction in production cost, in $/MWh, that is realized by increasing the MW limit of a binding transmission constraint by 1 MW.

Section 7.16: Congestion Rent Eligible Transmission Service Reservation Verification

1) The Market Operator, in collaboration with Markets+ Transmission Service Providers and Market Participants within the Markets+ Footprint, ~~shall~~will retrieve and verify each Market Participant's Congestion Rent Eligible Transmission Service Reservations. from the applicable transmission service provider's Open Access Same-time Information System (OASIS), including relevant DNRs and Network Loads associated with NT Service, pursuant to the Markets+ Protocols.:

~~1) The Market Operator will retrieve each CRETSR Holder's transmission service information from the applicable Transmission Service Provider's Open Access Same-time Information System (OASIS), which may include:~~

~~a) Transmission Service Provider;~~

~~b) Transmission Customer;~~

~~c) Reservation Number or Assignment Reference Number (AREF);~~

~~d) MW Quantity granted;~~

~~e) Markets+ Transmission User;~~

~~f) Service Increment~~

~~g) Service Type (Firm Point-to-Point Transmission Service, Conditional Firm Point-to-Point Transmission Service, Network Integration Transmission Service, Legacy Transmission Service);~~

~~h) Start Time;~~

~~i) End Time;~~

~~j) Designated Network Resource Facility Name;~~

~~k) Designated Network Load Name;~~

~~l) Source;~~

~~m) Sink;~~

~~n) Point-of-Receipt (POR); and~~

~~o) Point-of-Delivery (POD).~~

~~2)~~1) A resale of a Congestion Rent Eligible Transmission Service Reservation to a different transmission customer that does not span the entire duration of the upcoming month, or that is arranged after the verification process begins, will not be considered in the congestion rent allocation process. The congestion rent associated with the Congestion Rent Eligible Transmission Service Reservation will be allocated to the CRETSR Holder that previously held the rights for the entire month.

3)2) A redirect of a Congestion Rent Eligible Transmission Service Reservation to a different POR or POD that does not span the entire duration of the upcoming month, or that is made after the verification process begins, will not be considered in the congestion rent allocation process. The congestion rent associated with the Congestion Rent Eligible Transmission Service Reservation will be allocated based on the last valid POR and POD that spanned the entire month for that CRETSR Holder.

4)3) If a Markets+ Transmission Service Provider or Markets+ Transmission Contributor is unable to provide information such as that related to Legacy Transmission Service on OASIS, the Markets+ Transmission Service Provider or Markets+ Transmission Contributor will notify the Market Operator and the Markets+ Transmission User, and the Market Operator will coordinate the exchange of Legacy Transmission Service information.

~~***BULLET 5) is was the last topic of discussion in the 11/09/2023 MCRTF**********~~

5)4) The Market Operator ~~shall~~will obtain the transmission service reservation information as specified under subsections (1), (2), (3), and (4) above at the beginning of the ~~Verification Period~~verification period as defined in the Markets+ Protocols and:

a) Provide such information to each identified Markets+ Transmission Service Provider, Markets+ Transmission Contributor, and CRETSR Holder for verification/correction.

b) Unless the Markets+ Transmission Service Provider, Markets+ Transmission Contributor, or CRETSR Holder communicates a potential error during the verification period as defined in the Markets+ Protocols, the Market Operator will deem the transmission service reservation information provided to be a valid Congestion Rent Eligible Transmission Service Reservation. Errors identified after the verification period must follow the [Markets+ settlements dispute process]

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Comment [SJ1]: Proposal from **Steve Szablya**: Markets+ Transmission Service Providers shall make available on OASIS Legacy Transmission Service that is eligible to be a CRETSR by posting such information on OASIS

Comment [MK(E2]: Will there be a verification with the TSP as to validate data?

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Comment [SJ3]: From **Steve Szablya**: Why not make the CRETSR Holder submit flat files to the SPP MO, then the SPP MO can verify against OASIS programmatically? I know it's a rethink of the process, but it seems like if you force the CRETSR Holder to be in charge of their own destiny, you can eliminate the requirement for a cure period

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c) If a Markets+ Transmission Service Provider, Markets+ Transmission Contributor, or CRETSR Holder identifies a potential error with the transmission service reservation information, the respective Markets+ Transmission Service Provider, Markets+ Transmission Contributor, or CRETSR Holder will contact the Market Operator. The Market Operator will communicate its determination of the validity of the transmission service reservation to the Markets+ Transmission Service Provider, Markets+ Transmission Contributor and CRETSR Holder, including the correction of any error(s).

~~6)~~5) For Firm or Conditional Firm Point-to-Point Transmission Service CRETSR Holders, the TSR MW used for settlements is equal to the Point-to-Point Transmission Service Distribution Cap for each Firm or Conditional Firm Congestion Rent Eligible Transmission Service Reservation.

~~7)~~6) For Network Integration Transmission Service (NITS) TSR Holders, the total TSR MW used for settlements from each Designated Network Resource (DNR) to Network Load is calculated by the Market Operator using the following procedure:

a) The Designated Network Resource MW capacity, ~~Point-of-Receipt and Point-of-Delivery will be obtained from the Markets+ Transmission Service Provider's or Markets+ Transmission Contributor's OASIS, if available, as described under Subsection 1) above. During the Verification Period, if the above information cannot be obtained through OASIS, the Market Operator will coordinate with the applicable Markets+ Transmission Service Provider, Markets+ Transmission Contributor and NITS TSR Holders to obtain and maintain a record of such data.~~and associated Point-of-Receipt will be obtained during the verification period. Network Integration Transmission Service for Designated Network Resources that are located outside of the Markets+ Transmission Service Provider's system that is serving Network Load inside of the Markets+ Transmission Service Provider's system, the Point of Receipt will be based on the

Comment [BK4]: Same comment as above.

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Comment [AC5]: Can a single DNR serve multiple NT customers? How would the offer curves of the resources be allocated? Maybe that is covered by 5)a)

~~modelled~~modeled injection point for delivering energy to the Markets+ Transmission Service Provider's or Markets+ Transmission Contributor's system.

b) Based on the information obtained in Subsection 7(a) and for each hour of the Operating Day, the Market Operator will systematically select each Network Integration Transmission Service CRETSR Holder's source to sink paths from its Designated Network Resources (DNRs) to its Network Loads as follows:

i. The Market Operator will create a merit order stack by sorting the supply available from the Network Integration Transmission Service CRETSR Holder's DNRs from lowest cost supply to highest cost supply, where:

a) The total supply included in the merit order stack from each DNR ~~shall equal~~will not exceed the ~~maximum registered operating capability~~designated capacity of the DNR.

b) Supply from a DNR with a Day Ahead Commit Status of Self or Reliability Must Run will be considered the lowest cost supply for purposes of this merit order process and will be added to the merit order stack first.

c) The Market Operator will next add supply from the Network Integration Transmission Service CRETSR Holder's DNRs made available in the Day Ahead Market from lowest cost to highest cost based on the incremental cost, in $/MWh, of each segment of the Energy Offer Curves ~~submitted in the Day Ahead Market. The Market Operator may also consider~~or Mitigated Energy Offer Curves as applicable in the ~~merit order process.~~ Day Ahead Market.

d) Any portion of a DNR that is not available in the Day Ahead Market will be considered the highest cost for purposes of the merit order process and will be added to the merit order

Comment [MTC6]: What if we have better modeling of the off system resource? It has to be the POR of import location?

Comment [WC7]: Agree. We could add that here or include as a Protocol detail.

Comment [MTC8]: This is fine for reliability must run - but a "reliability" status for only running during reliability events should not be positioned at bottom. Also, what does "bottom" mean, one could argue what it means.

Comment [WC9]: "Reliability Status" is not being included in Markets+. A Resource in RMR status is basically the same as Self-Schedule except it is eligible for Make-Whole Payment. Bottom of the Stack means "lowest cost".

Comment [WC10]: What Criteria is used to determine this.

stack after all available supply from the Network Integration Transmission Service CRETSR Holder's DNRs have been included as described in subsections (b) and (c) above.

ii. Starting with the lowest cost supply in the merit order stack created in Section 7.16(7)(b)(i) of this Attachment A, the Market Operator will select ~~paths from~~ the Network Integration Transmission Service Holder's DNRs ~~to its Network Load~~ from the merit order stack until the total MW capacity selected is equal to the Network Integration Transmission Service TSR Holder's Network Service Distribution Cap. Such selected DNR PORs to the Network Load ~~paths~~POD will be used for Congestion Rent allocation purposes as described under Section 9.2.14 of this Attachment A.

Comment [MTC11]: Why is this Nomination instead of Distribution Cap as it is called in 7.16 subsection 5? Where is the nomination cap set that allows for the 4CP, monthly billing etc.?

Comment [WC12]: Mistake. Should be Distribution Cap.

Comment [BK13]: Is this correct? Nomination Cap is not defined.

Section 7.17: Coordinated Interchange Scheduling Limits

1) If Markets+ participating BAA requires a coordinated scheduling limit at a single location involving ~~one~~two or more Markets+ Transmission Service Providers, the Market Operator will activate the scheduling limit as a constraint in the market solution. The Market Operator will separate the congestion rent available for allocation on the binding constraint, as calculated under Section 9.2.13 of this Attachment A, into an Export Share and an Import Share. The Export Share will be associated with Congestion Rent Eligible Transmission Service Reservations to the coordinated scheduling location and will be distributed in the same manner as set forth in Sections 9.2.14 and 9.2.15 of this Attachment A. The Import Share will be associated with Congestion Rent Eligible Transmission Service Reservations from the coordinated scheduling location and will be allocated in the same manner as set forth in Sections 9.2.14 and 9.2.15 of this Attachment A.

2) For the coordinated scheduling limit as described in (1) above, the Market Operator will allocate 50% of the congestion rent available for allocation on the binding constraint, as calculated under Section 9.2.13 of this Attachment A, to the Export Share and 50% to the Import Share, provided that the applicable Markets+ Transmission Service Providers and/or participating

Markets+ BA associated with a coordinated scheduling limit may mutually agree and instruct the Market Operator to use a different sharing ratio that better reflects the particular arrangement associated with the constraint.

3) The Market Operator will maintain a list of all the coordinated scheduling limits that will be activated on its public website.

Section 9.2.13: Day Ahead Congestion Rent Available for Allocation Amount

The Market Operator calculates the Congestion Rent on each binding transmission constraint for each hour in the Day-Ahead Market as follows:

1) The Congestion Rent Available for Allocation on each binding transmission constraint in each hour is calculated as follows:

Congestion Rent Available for Allocation =

(Hourly Transmission Constraint Shadow Price~~)~~ of that constraint)

* (Hourly Day-Ahead Market Flow).

a) Hourly Day-Ahead Transmission Constraint Shadow Price is calculated by the Day-Ahead Market solution and is defined in the Markets+ Tariff.

b) Hourly Day-Ahead Market Flow is the hourly flow quantity across that binding Transmission Constraint calculated by the Day-ahead Market solution.

Section 9.2.14: Day Ahead TSR Holder Congestion Rent Distribution Amount

Comment [EL(P514]: Will this be a defined term in the tariff?

Comment [WC15]: That was not the intent. I think FERC is familiar with terminology we but could define it if needed.

Comment [EL(P516]: Did not see this in the definition section

Comment [WC17]: Its defined within this Settlements Section. This is typical since we don't want list out all of billing determinants in the definitions section.

Comment [AC18]: Signs of elements in the various formulas is a little confusing. Can SPP walk through this and/or verify that signs are correct?

Comment [AC19]: Can we define this in a way that doesn't use the term in the definition?

Comment [BK20]: Is "distribution" the right term here? Or should it be "allocation"? "Distribution" implies payment, but this section does not discuss payment. It discusses allocation amounts.

The Market Operator distributes the Congestion Rent collected to each CRETSR Holder for each hour in the Day-Ahead Market as follows:

1) A CRETSR Holder's Total Congestion Rent Allocation in an hour is calculated as follows:

CRETSR Holder's Total Congestion Rent Allocation = the sum of that CRETSR Holder's Congestion Rent Allocations for all binding transmission constraints.

a) CRETSR Holder Congestion Rent Allocation = CRETSR Holder Congestion Rent Allocation Factor multiplied by the Congestion Rent Available for Allocation for that binding transmission constraint multiplied by (-1)

i. Congestion Rent Available for Allocation is the value calculated under Section 9.2.13 for that binding constraint.

b) If the Total of all CRETSR Holders' Positive MW Impacts in the Binding Flow Direction on that binding transmission constraint is greater than or equal to the Hourly Day-Ahead Market Flow on that binding transmission constraint,

Then

CRETSR Holder Congestion Rent Allocation Factor =

(CRETSR Holder's Positive MW Impact in the Binding Flow Direction on that binding transmission constraint) /

(Total of all CRETSR TSR Holders' Positive MW Impacts in the Binding Flow Direction on the same binding transmission constraint).

Comment [BK21]: Is this subsection redundant with the preceding language? Consider deleting.

Comment [MK(E22]: The group agreed this is not pro rata. Yet this definition looks like it could still be pro rata

Comment [EL(P523]: Confirm that this is somehow tied to MCC being a negative value? CR Factor should be a positive number and the CR Available Allocation should be positive number, but don't see that term defined anywhere

Comment [WC24]: This multiply by (-1) is get the sign convention correct for Settlements. Negative values are credits. The CR Available for Allocation is the value calculated under Section 9.2.13. Need to add this Section reference here.

Comment [MK(E25]: Disagree with this language.

Comment [MK(E26]: This looks like pro rata. That is not the case. How are we carving out unsold capacity beyond what was reserved by TSR rights holders?

c) If the total of all CRETSR Holders' Positive MW Impact in the Binding Flow Direction on that binding transmission constraint is less than the Hourly Day-Ahead Market Flow on that binding transmission constraint

Then

CRETSR Holder Congestion Rent Allocation Factor =

(CRETSR Holder's Positive MW Impact in the Binding Flow Direction on that binding transmission constraint /

Hourly Day-Ahead Market Flow on that binding transmission constraint).

d) CRETSR Holders' Positive MW Impact in the Binding Flow direction on the binding constraint =

CRETSR Holder's TSR Reserved MW Quantity *

Percentage flow impact in the binding flow direction on the binding constraint, calculated as part of the Day-Ahead Market solution, for that CRETSR Holder's CRETSR.

i. For Firm or Conditional Firm Point-To-Point TSR Holders, TSR Reserved MW Quantity is equal to the Firm Conditional Firm Point-To-Point Service Distribution Cap for that Congestion Rent Eligible Transmission Service Reservation.

ii. For Network Integration Transmission Service TSR Holders, TSR Reserved MW Quantity is equal to the MW amounts identified under Section 7.1.6(7)(b)(ii) of this Attachment A.

Comment [BK27]: Do we need this new term? Or is it the same as the "Congestion Rent Eligible Transmission Service Reservation"?

Section 9.2.15: Day Ahead Excess Congestion Rent Distribution Amount

Comment [BK28]: Same comment as above re: "distribution" vs. "allocation".

For each hour in the Day Ahead Market in which the Market Operator collects Excess Congestion Rent, the Market Operator shall distribute the ~~Excess~~ excess Congestion Rent collected to the applicable Markets+ Transmission Service Providers for distribution to its transmission customers under each Markets+ Transmission Service Providers respective OATT as follows:

1) A Markets+ Transmission Service Provider's Total Congestion Rent Allocation in an hour is calculated as follows:

   Markets+ Transmission Service Provider's Total Congestion Rent Allocation = the sum of that Markets+ Transmission Service Provider's Congestion Rent Allocations for all binding transmission constraints associated with that Markets+ Transmission Service Provider, multiplied by (-1).

   a) Markets+ Transmission Service Provider's Congestion Rent Allocation = Excess Congestion Rent for that binding transmission constraint associated with any unsold capacity ~~the Markets+ Transmission Service Provider makes~~ available to the market in that hour. For elements of a constraint associated with more than one Markets+ Transmission Service Provider, the Market Operator will allocate the Excess Congestion Rent for the constraint based on the percentage of market available capacity associated with each Markets+ Transmission Service Provider.

   b) Excess Congestion Rent = (Congestion Rent Available for Allocation in that hour), Plus

      (the sum of all CRETSR Holder Congestion Rent Allocations for that binding constraint associated with the Markets+ Transmission Service Provider in that hour)

      i. Congestion Rent Available for Allocation is equal to the value calculated under Section 9.2.13(1) of this Attachment A.

Comment [BK29]: Should this say "Excess" instead, referring to the term later defined?

Comment [MK(E30]: Don't love this term, but tried to help define what this is a little more

Comment [MTC31]: Should this be minus?

Comment [WC32]: No. It's a little confusing. Its plus here because the TSR Congestion Rent Allocations is a negative number. (See Section 9.2.14(1)(a), there is multiply by (-1) to get the settlement sign convent4ion correct, negative values are credits.)

ii. CRETSR Holder Congestion Rent Allocation is equal to the value calculated under Section 9.2.14(1)(a) of this Attachment A.

Ensuring Physical Resources Can Be Attributed To Specific Loads in Markets+

A large portion of the physical resources participating in Markets+ are likely to be either owned by a load-serving entity (LSE) or under forward arrangements to serve an LSE's load. As explained further herein, the ability of an LSE to attribute these specific generation resources to its load is necessary in multiple circumstances and for multiple purposes.

Markets+ will operate an organized market, utilizing all available supply to serve the collective load of the entire market footprint, limited only by transmission and reliability constraints. Since organized markets generally do not link any particular generation resource to any particular load, it may initially appear that Markets+ would not conflict with the ownership or contractual arrangements under which specific generation resources are attributed to serve specific loads, and participants could simply continue to engage in those activities independent of the market framework. However, there are at least three discrete ways in which Markets+ will need to incorporate the attribution of specific generation resources to specific loads:

- Specified source imports into a GHG pricing zone need to be attributed to specific generation resources;
- Generation resources offered or self-scheduled need to be attributed to meeting the must-offer obligation of a specific Markets+ Participant (which may not always be the Markets+ Participant offering the resources into Markets+); and
- In the unlikely event that available supply in Markets+ is insufficient to meet all load in the Markets+ footprint, specific loads will need to continue to receive the output of specific generation resources they own or have procured on a forward basis (including resources in other Balancing Authority Areas).

Each of the above must be performed in a manner that is fully consistent with LSEs' ownership and contractual arrangements for their load to be served by specific generation resources. For example, it would be problematic for an LSE that has forward contracted for clean or renewable supply from a particular generator to have Markets+ not attribute the supply from that resource to the LSE's load and instead attribute a different resource to serving its load. Such misattribution could lead to an LSE effectively double paying for the clean benefits used to meet its load service (by directly paying the first resource through the forward contract at a clean supply price, and by also incurring an LMP that includes GHG costs paid to the second resource, which is attributed by Markets+ to be the source of a specified source import). Similarly, it would be unworkable for an LSE that has contracted with a generation resource in another BAA to meet its resource adequacy requirements to find that the resource's offers were not credited toward meeting the LSE's Markets+ must-offer obligation.

Absent appropriate mechanisms to ensure that the generation resources LSEs own or have procured on a forward basis are attributed to their load, entities may be incented to "carve out" certain generation resources and associated load, as well as associated transmission rights, or may be discouraged from participating in Markets+ altogether. At the same time, an attribution

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framework in Markets+ must be applied in a manner that preserves the ability of Markets+ to achieve an efficient least-cost solution through access to all aggregate supply to serve all load within the footprint. More specifically, the attribution of generation resources to specific loads should not render that supply unavailable to support reliable and economic service to other loads.

Arrangements for attributing physical generation resources to meet a specific load arise for different purposes. Some examples are presented in the following section, including identifying what is necessary for Markets+ to be consistent with these purposes. A potential approach to registering the attribution of specific generation resources to specific loads is also discussed, as well as proposed language to incorporate this approach in the Markets+ tariff.

Use Cases For Attribution Of Generation Resources To Loads

This section briefly describes several scenarios where an LSE owns or has forward procured specific generation resources to serve its load, and how Markets+ can accurately reflect the arrangement through its attribution of generation resources to specific loads.

Resource adequacy—LSEs generally own generation or procure supply from unaffiliated generation resources in order to ensure reliable service to their customers.

Ensuring that participation in Markets+ provides the reliability benefits of such arrangements, it will be necessary for the Markets+ design to:

- Apply economic offers or self-schedules from the generation resource toward meeting the contractual LSE's Must Offer Obligation, and not toward meeting the Must-Offer Obligation of any other Markets+ Participant (such as the resource owner or operator's must offer obligation).
- Ensure LSEs are able to receive supply from resources they own or have procured on a forward basis in the unlikely event that Markets+ is unable to reach a feasible solution due to insufficient supply, software malfunction, or any other reason. In such cases, the BAA where the LSE is located must continue to receive supply from resources in other BAAs (i.e., through interchange schedules) that are owned or under contract to LSEs within the BAA.

GHG-pricing programs—LSEs serving load in a jurisdiction that has enacted a GHG pricing program may build or enter into forward contracts with non-emitting generation resources located outside of the GHG pricing zone, and import the clean supply to serve their load.

To ensure that participating in Markets+ does not undermine the ability of the owning/contracting LSE to benefit from such arrangements, it will be necessary for Markets+ to reflect these arrangements in its attribution of imports into GHG pricing zones. Specifically:

- Any output from such generation resource must be identified by Markets+ as the source of specified-source imports into that GHG pricing zone; and

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- Markets+ should facilitate arrangements to enable the LSE to ultimately receive any GHG payments associated with specified-source imports attributed to its owned or contracted generation resources. This could occur directly through Markets+ settlements, or through re-distribution under the forward contract from the Markets+ participant offering the resource into the market and receiving the GHG payment.

Note that the output of the identified generation resources will continue to be available to increase the aggregate supply in Markets+. However, this will effectively entail a specified-source import into the respective GHG pricing zone along with a transfer out of the GHG pricing zone into the non-GHG pricing zone, since the environmental attributes of the generation resources must continue to be attributed to the owning/contracting LSE.

The details of this attribution framework for owned and forward contracted resources are being established by the GHG taskforce and will be set forth in a separate section of the Markets+ tariff.

Environmental policies other than GHG pricing programs (Areas with programs other than GHG-pricing)—Several states are pursuing environmental goals by requiring LSEs to build or contract for the output of certain types of supply (*e.g.*, Renewable Portfolio Standards, Clean Energy Standards). LSEs comply with these requirements by building and/or entering into forward contracts with generation resources with the necessary attributes to serve their load.

To ensure that participation in Markets+ does not undermine the ability of such arrangements to meet environmental program requirements, it will be necessary for Markets+ to avoid attributing the identified generation resources to other loads. In particular, where an identified generation resource is owned by or under a forward contract with an LSE that relies on attributing that resource to its load in order to meet its program requirements, the output of that resource must not be attributed by Markets+ as the specified source of imports into a different area.

Note that the output of the identified generation resource will continue to be available to increase the aggregate supply that can be used to meet load anywhere in the Markets+ footprint. That is, Markets+ will still be able to increase the output of the identified generation resource if that is the least-cost option to serve load anywhere in the footprint. However, this will effectively entail an import of the identified resource to the area where the owning/contracting LSE is located, along with a generic export out of that area to a different location in the footprint, such that the environmental attributes of the generation will continue to be attributed to the owning/contracting LSE.

Preference mandates—Some physical resources, in particular the Federal Columbia River System, are under statutory mandates to be used to serve the load of identified preference customers.

In order for Markets+ participation to continue to provide preference customers with all of the benefits of their associated generation facilities, it will likely be necessary for Markets+ to ensure that:

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- For preference customers with load located within a GHG pricing zone, the generation resources serving that load are identified as specified-source imports into that GHG pricing zone; and
- For preference customers with load anywhere in the western grid, the load continues to receive the reliability benefits of the generation resources (*i.e.*, the resource adequacy benefits described above).

Proposed Procedures To Communicate And Confirm Generation Resources Attributed To Specific Loads

Advance Registration

The attribution of identified physical generation resources to specific loads to reflect ownership or forward contracts arranged in advance of Markets+ must likewise be communicated to Markets+ in advance. It is proposed that this information initially be part of the resource registration process, to be updated when these underlying arrangements change.

The registration of a specific generation resource as serving a specific load will need to be confirmed by the identified LSE. This requirement will provide an important safeguard that ensures that the consequences of such a registration are fully considered and evaluated by the LSE to be in the best interests of its customers (from a reliability, economic and environmental perspective).

Deliverability

LSEs that own or enter into forward contracts with resources to serve their load will continue to be required to demonstrate they have arranged for delivery of those specific resources to their specific load. Participation in Markets+ will enable those resources and loads to be optimized together with all resources and loads in the market, but this must not have the effect of eliminating the need to arrange for transmission service in order to attribute specific resources to specific loads under arrangements entered into outside of Markets+.[1] It would be inappropriate, and potentially disruptive to the OATT framework, to declare outside of the Markets+ optimization that a particular generation resource is serving a particular load without demonstrating that the resource can be delivered to that load.

In order for generation resources to be attributed to specific loads, it is proposed to require demonstration of transmission service reservations for a valid delivery path for each delivery hour. Transmission service reservations may be for any type of service offered by the respective transmission provider(s), including Network service or Point-to-Point service, and may be of any scheduling priority.

[1] The attribution established through arrangement that occur entirely outside of Markets+ is distinct from any attributions that occur through the Markets+ optimization, including the attribution of Type 2 Specified Source Imports into a GHG pricing zone. Generally, attributions that result from the Markets+ optimization are not conditioned on arranging transmission service under the current OATT framework.

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The demonstration of transmission service will not necessarily require submitting an e-Tag. For instance, e-Tags will not be required for resources attributed to loads in the same BAA. E-Tags may often be necessary, however, when resources located in one BAA are attributed to load located in a different BAA. In order for such resource arrangements to fulfill their reliability objective, the receiving BA must have the ability to receive the identified supply even in the event that Markets+ does not reach a feasible solution (*e.g.*, due to overall supply insufficiency, or where a software or technical malfunction prevents the market from running at all). By requiring implemented e-Tags for resources in one BAA that are attributed to load in a different BAA, the receiving BAA will have the means to ensure delivery of such resources, consistent with ownership or forward contracts.

An LSE that owns or has a forward contract for a generation resource in a different BAA may elect to not e-Tag those deliveries if it accepts that the supply may not be delivered to its BAA if Markets+ does not reach a feasible solution. The LSE is in the best position to evaluate whether achieving the core purpose of its owned or forward contracted resource requires high confidence of physical delivery, and therefore whether or not to submit e-Tags ahead of the Markets+ optimization.

Proposed Tariff Language

The specific procedures for registering, confirming, and effectuating the attribution of generation resources to specific loads in a manner consistent with LSEs' ownership or forward contracting of generation resources will largely be contained in business practice manuals and protocols. The Markets+ tariff should articulate the general principle that Markets+ will make any attribution of generation resources to specific loads in a manner that is consistent with registered arrangements communicated by Participants to the Market Operator.

The following language is proposed for inclusion in the Markets+ tariff:

"Markets+ Participants shall have ability to communicate to the Market Operator any arrangements, including through ownership or contract, providing for specific loads to be served by all or a portion of a generation resource or group of resources, and that such arrangements shall be respected and fully reflected in any and all Markets+ processes involving the attribution of specific generation resources to specific loads."

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From: Mantifel,Russell (BPA) - PGL-5
Sent: Wednesday, August 9, 2023 4:11 PM
To: Spires, Jeff
Subject: Declined: [EXTERNAL] Markets+ Hydro Aggregation / DEB

Hi Jeff,

I'll be OOO on Friday. Todd and Sara should be there.

29334940

From: Mantifel,Russell (BPA) - MTM-3
Sent: Monday, April 8, 2024 9:23 AM
To: Spires, Jeff; Laura Trolese; Tyler.Moore@aps.com; Tuuli Hakala; Hofmann Christiaan A (Chris); Taylor, Joseph
Subject: RE: [EXTERNAL] RE: Today's Markets + BA Working Group

I'll do my best.

From: Spires, Jeff <Jeff.Spires@powerex.com>
Sent: Monday, April 8, 2024 9:00 AM
To: Laura Trolese <ltrolese@teainc.org>; Mantifel,Russell (BPA) - MTM-3 <rxmantifel@bpa.gov>; Tyler.Moore@aps.com; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Hofmann Christiaan A (Chris) <Chris.Hofmann@srpnet.com>; Taylor, Joseph <joseph.c.taylor@xcelenergy.com>
Subject: [EXTERNAL] RE: Today's Markets + BA Working Group

Hi Laura, that works for me. It won't take long for CRTF.

Jeff

From: Laura Trolese <ltrolese@teainc.org>
Sent: Monday, April 8, 2024 7:41 AM
To: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>; Spires, Jeff <Jeff.Spires@powerex.com>; Tyler.Moore@aps.com; Tuuli Hakala <Tuuli.Hakala@chelanpud.org>; Hofmann Christiaan A (Chris) <Chris.Hofmann@srpnet.com>; Taylor, Joseph <joseph.c.taylor@xcelenergy.com>
Subject: Today's Markets + BA Working Group

⚠ **Caution: External Email**

Hello Markets + Working Group and Task Force Chairs,
I was wondering if each of you would be willing to give an overview of what has been/is being discussed in your respective working groups and task forces at today's Markets + BA Working Group meeting?

Laura Trolese
Director, Western Markets & Strategy

Mobile: (b) (6) [redacted]
Email: ltrolese@teainc.org

TEA
THE EnergyAuthority

29335020

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From: Mantifel,Russell (BPA) - PGL-5
Sent: Wednesday, August 23, 2023 8:39 AM
To: Detmer, Nicholas J; Kristen Darden
Subject: RE: [EXTERNAL] RE: Agenda for next meeting

Same here

From: Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Sent: Wednesday, August 23, 2023 6:31 AM
To: Kristen Darden <kdarden@spp.org>; Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Subject: [EXTERNAL] RE: Agenda for next meeting

I am good with another hour and I am good with the agenda.

From: Kristen Darden <kdarden@spp.org>
Sent: Tuesday, August 22, 2023 8:44 AM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nicholas J <nick.detmer@xcelenergy.com>
Subject: RE: Agenda for next meeting

EXTERNAL - STOP & THINK before opening links and attachments.

Hey guys –

For our meeting next week, 8/29, the agenda is super packed, but we have to big items we need to get through. Thoughts on adding another hour to the meeting so that it is 8:30-3:00 PT/9:30-4:00 MT/10:30-5:00 CPT?

From: Kristen Darden
Sent: Monday, August 21, 2023 3:11 PM
To: Mantifel, Russ <rxmantifel@bpa.gov>; Detmer, Nick <nick.detmer@xcelenergy.com>
Subject: RE: Agenda for next meeting

Hey Russ –

I have not sent it yet. Here you go! I've looped in Nick too. Let me know your thoughts.

Thanks!

Kristen Darden | Senior Market Analyst | Real-Time Markets | Markets+ Design Working Group Staff Secretary | kdarden@spp.org | O-501.482.2395 | C-(b)(6)
201 Worthen Drive * Little Rock, AR 72223-4936
Southwest Power Pool | SPP.org | twitter.com/SPPorg | facebook.com/SouthwestPowerPool
Working together to responsibly and economically keep the lights on today and in the future.

29335034

From: Mantifel,Russell (BPA) - PGL-5 <rxmantifel@bpa.gov>
Sent: Monday, August 21, 2023 3:10 PM
To: Kristen Darden <kdarden@spp.org>
Subject: **External Email** Agenda for next meeting

CAUTION: This email originated from outside of the SPP network. Do not click links or open attachments unless you recognize or can verify the sender, or were expecting an email from the sender. The original sender of this email is rxmantifel@bpa.gov

Hi Kristen,

Is there a draft agenda for the next meeting? Sorry if you sent it and I missed it.

Russell Mantifel (he/him/his)
Director | Market Initiatives
BONNEVILLE POWER ADMINISTRATION
rxmantifel@bpa.gov | P 503-230-4372



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Participating In Markets+ With Imports, Exports, and Wheel-Through Activity

The following describes the initial concepts discussed by a subgroup of members of this Imports/Exports/Wheel-through sub-group regarding several key elements of a Markets+ framework for imports, exports, and wheel-through transactions.

Approach: Apply Design From SPP Eastern RTO, Modified As Necessary

The proposed approach is intended to be consistent with the recent MPEC resolution to adopt SPP's Eastern RTO design as a default starting point for the initial Markets+ tariff, with modifications as necessary to accommodate different circumstances encountered in the west.

The following design elements are proposed to be adopted from SPP's Eastern RTO framework:

1. *Entities will be required to have an implemented e-Tag in order to have their bids and offers accepted by the market for exports, imports, or wheel-through transactions.*

Parking lot item: Bid information (including quantities and prices, as applicable) will be included on and submitted via a designated field in the e-Tag. While this approach is used in SPP's Eastern RTO, the e-Tag specification used in the west is different. It will be necessary to verify that the e-Tag specification used in the west supports information fields that are confidential and not visible to all entities on the e-Tag. Absent such verification, a different procedure for submitting bid information and for associating bid information with an e-Tag will need to be explored.

2. *The market optimization will evaluate imports, exports and wheel-through transactions based on the source BAA and/or the sink BAA on the implemented e-Tag*

Imports, exports, and wheel-through transactions will be evaluated based on the external sink BAA (for exports), the external source BAA (for imports) or both (for wheel-through) as identified on the e-Tag. This approach better enables the market optimization to identify the most efficient Markets+ generation—which may be located anywhere within the Markets+ footprint—to increase or decrease, considering expected power flows, as well as transmission and other security constraints.

For example, an export from Markets+ sinking in the CAISO BAA would be evaluated, dispatched and priced based on the least-cost increase in generation in the Markets+ footprint capable of supporting a reduction in generation within the CAISO BAA.

Under this approach, the evaluation of imports, exports, and wheel-through transactions will not depend on which particular Markets+ boundary interface is identified by the market participant on the e-Tag.[1] Requiring an implemented e-Tag in order to submit bids for imports, exports, or

[1] In the specific case of transactions involving the use of the Pacific DC Intertie, additional steps will be taken to ensure the evaluation of these transactions appropriately reflects the

wheel-through transactions ensures Markets+ market awards are consistent with transmission service arrangements under the OATT framework of the applicable TSPs, but it does not dictate the change in dispatch (or the price) associated with such transactions.

The transmission service and scheduling requirements for e-Tags for exports, imports and wheel-through transactions are discussed in a separate section, below.

3. *Opportunities to participate with imports, exports and wheel-through transactions in the day-ahead and real-time markets*

The day-ahead market will support both economic (*i.e.,* price-based) bids and self-schedules (*i.e.,* price-taker bids) for imports, exports, and wheel-through transactions.

Initially, all imports, exports and wheel-through transactions in the real-time market will be required to be self-scheduled. Entities will be able to submit such self-schedules either prior to or during the operating hour (but subject to intra-hour market deadlines), and any self-schedule may be adjusted within the operating hour.

For the initial tariff, the real-time market will consist of a 5-minute dispatch run only. There will be no hour-ahead market process and no 15-minute market process initially.

A stakeholder process will be commenced to explore the pros and cons of enhancing this initial framework by:

- Enabling economic bidding of imports, export or wheel-through transactions in the real-time market; and/or
- Including real-time market processes (*e.g.*, Hour Ahead, 15-min) in addition to the 5-minute dispatch.

Scheduling and E-Tagging Requirements

Entities participating in Markets+ with exports will be able to e-Tag their transactions either from an identified source located in Markets+ (system, plant, or unit) or from a generic source, called a Generic Source Centroid. Similarly, entities participating in Markets+ with imports will be able to e-Tag their transactions either to an identified load within Markets+, or to a Generic Load Centroid. The use of Generic Source Centroids and Generic Load Centroids enables participation in Markets+ by any registered participant, without requiring that participant have any relationship with an identified generation source or an identified load.

One Generic Source Centroid and one Generic Load Centroid will be established for every TSP that includes one or more Markets+ boundary interfaces in its service area. A TSP that does not include a Markets+ boundary interface in its service area will not establish any centroids.

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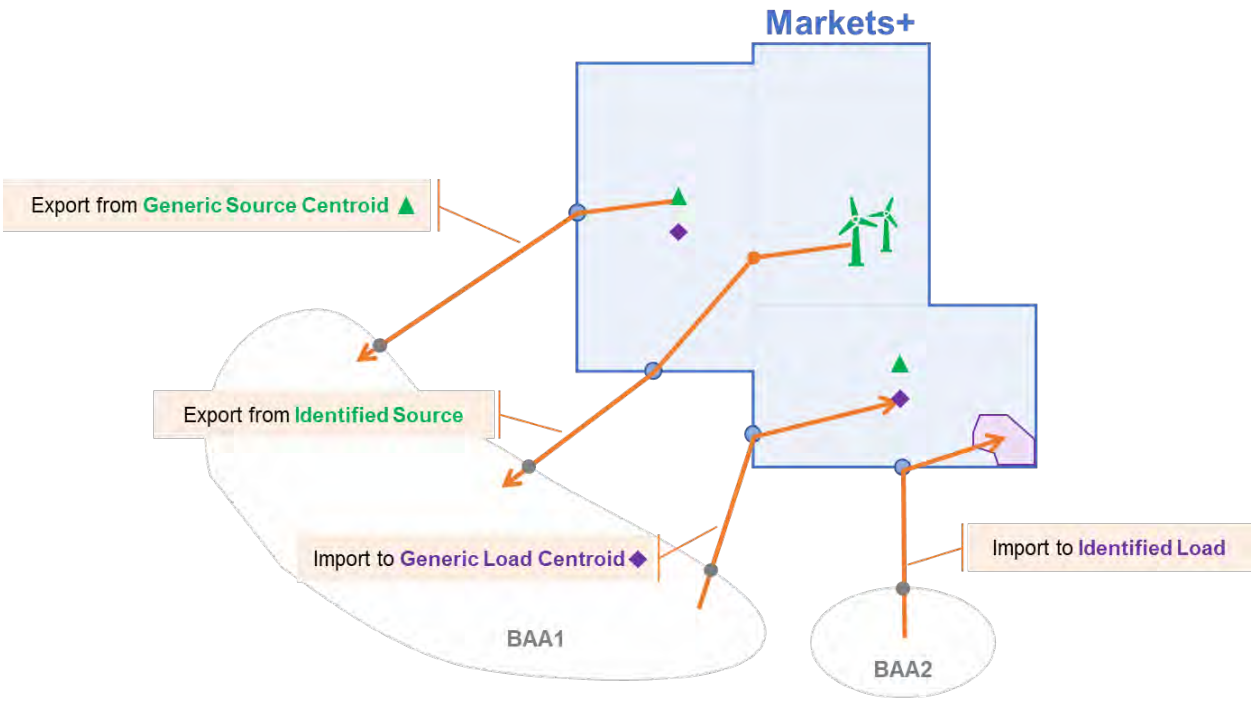
controllable nature of these facilities. Transactions on these facilities will be treated differently in the bid/offer evaluation, dispatch and pricing processes, but will be scheduled and e-Tagged similarly to other Markets+ import, export and wheel-through transactions

Market participants submitting imports that do not sink to an identified load will use the Generic Load Centroid of the TSP for the Markets+ boundary location over which the import is scheduled. Similarly, market participants submitting exports without an identified source of generation will use the Generic Source Centroid of the TSP for the Markets+ boundary location over which the export is scheduled.



Parking Lot Item: How will wheel-through transactions be e-Tagged? One concept for consideration: Wheel-through transactions are required to be e-Tagged from an external source BAA to the applicable Generic Load Centroid associated with the Markets+ import location of the wheel-through transaction and then from the Generic Source Centroid associated with the Markets+ export location of the wheel-through transaction and then to external sink BAA.

Transmission Service Requirements

All imports, exports, and wheel-through transactions require OATT transmission service consistent with their schedules.

Exports from an identified source require one or more segments of OATT transmission service from the identified source to the Markets+ boundary interface. Exports from a Generic Source Centroid require OATT transmission service from the Generic Source Centroid to the Markets+ boundary interface.

Imports to an identified load require one or more segments of OATT transmission service from the Markets+ boundary interface to the identified load. Imports to a Generic Load Centroid require OATT transmission service from the Markets+ boundary location to the Generic Load Centroid.

Wheel-through transactions require one or more segments of OATT transmission between the two Markets+ boundary interfaces that are the POR and POD for the wheel-through transaction.

The above requirements may be met from existing OATT reservations held by a transmission customer or by purchasing new transmission service from the applicable TSP(s). The required transmission service may be Firm or Non-Firm service. These requirements are intended to support TSPs continuing to receive revenue from the sale of long-term and short-term OATT transmission service associated with imports, exports, and wheel-through transactions at their prevailing OATT rates.

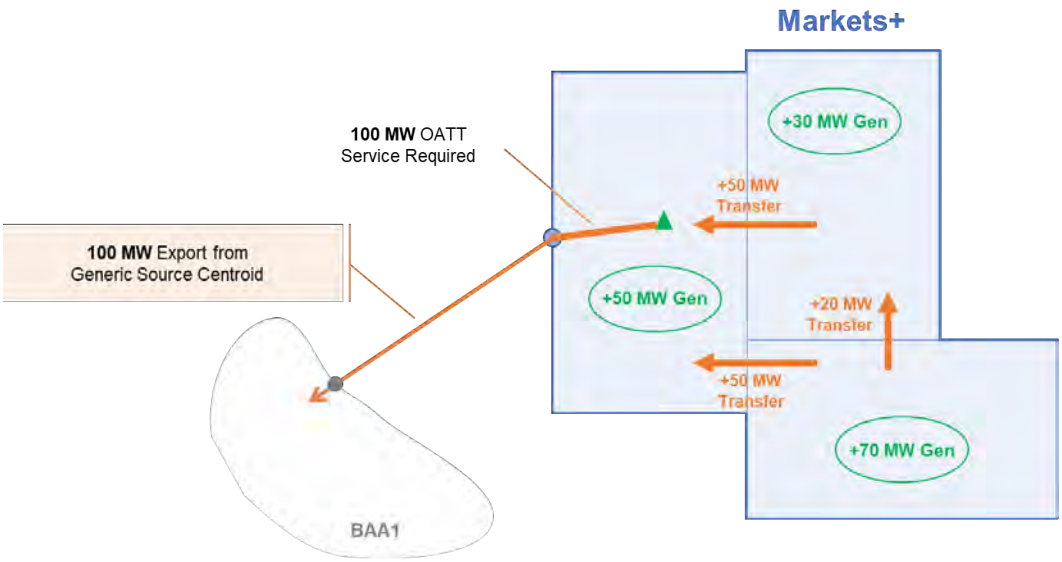
Application Of Markets+ Transmission Usage Charge For Schedules To Or From A Centroid

A centroid is a scheduling convenience that enables the scheduling and e-Tagging of imports and exports in Markets+. It is recognized that the incremental generation that supports an export will not necessarily be located in the service area of the TSP/BAA associated with the Generic Source Centroid on the e-Tag for that export. Similarly, the reduction of generation within Markets+ resulting from an import will not necessarily be located in the service area of the TSP/BAA associated with the Generic Load Centroid on the e-Tag for the import.

For example, a 100 MW export from Markets+ at Mead could be scheduled from NV Energy's Generic Source Centroid. But it is not necessarily the case that the additional generation dispatched by the Markets+ optimization will be located within the NV Energy BAA. If the incremental generation is located in APS's BAA, for example, then the export transaction, when viewed on a standalone basis, would result in:

- The exporter's e-Tag from the NV Energy Generic Source Centroid to Mead (and on to the sink BAA); *and*
- A 100 MW increase in the quantity shown on the dynamic e-Tags used by Markets+ from APS to NV Energy.

Requiring OATT transmission service between the NV Energy Generic Source Centroid and Mead only supports appropriate funding of NV Energy's transmission facilities. But this requirement does not support appropriate funding of the internal transmission facilities that enable the economic dispatch of generation elsewhere in Markets+ footprint (*i.e.,* the facilities that enable transfers from resources in the APS BAA to the NV Energy BAA).



Parking Lot Item: Stakeholders may consider whether to explore the application of a charge (such as the Markets+ Transmission Usage Charge, or an alternative appropriate charge) to ensure that imports and exports scheduling to or from a centroid contribute equitably to the other transmission facilities that enable those transactions.

Ensuring Reliability Of BAAs With Markets+ Boundary Interfaces

The participation of imports and exports at Markets+ boundary interfaces will necessarily impact the net interchange between the BAA associated with a boundary interface and adjacent BAAs outside of Markets+. To the extent that these external imports and exports are not fully offset by changes in transfers with other BAAs within the Markets+ footprint, the difference will reflect the change in net generation required from the BAA with the boundary interface.

The scheduling of imports and exports to or from a centroid is a form of intertie bidding, implemented in a different way than elsewhere in the west. This implementation approach must include protections to ensure the impacts of enabling intertie bidding do not fall disproportionately upon the BAAs where these interties are located.

At a minimum, the day-ahead and the real-time market solutions leave each BAA with a boundary interface in a reliable position. BAAs may require specific minimum or maximum levels of generation to meet reliability needs (*e.g.*, voltage stability), and BAAs may only be able to accommodate aggregate changes in generation output up to a certain level. These types of requirements cannot be represented in the market optimization solely through unit-specific constraints on minimum and maximum output or ramp rates.

It is proposed to enable each boundary BAA to specify BAA-level constraints that will be enforced in the market optimization. Specifically, each boundary BAA will be able to specify for each hour, and in both the day-ahead and real-time timeframes:

- Minimum BAA generation;

- Maximum BAA generation; and
- Maximum hour-to-hour change in BAA generation.

Similar types of BAA-level constraints are defined and enforced in the Western EIM, for similar reasons.

Given that these BAA-level constraints can impact the availability of supply in Markets+, these constraints must be determined and communicated by the Balancing Authority, based on the operational and reliability needs of the BAA, and not involve the merchant function in any way.

From: Holman, Mark <Mark.Holman@powerex.com>
Sent: Monday, August 28, 2023 6:32 AM
To: Mantifel,Russell (BPA) - PGL-5; Dan Williams; jonathan.glasgow@pse.com
Cc: Clint Savoy; Spires, Jeff; Russell, Derek
Subject: [EXTERNAL] Import/Export/Wheel-throughs write-up
Attachments: 230825 M+ boundary transactions_v3 (clean).docx

Please see attached draft write-up from our last group discussion.

Best regards,

Mark Holman
Managing Director | Powerex Corp.
1300 - 666 Burrard Street | Vancouver, BC | V6C 2X8
Direct 604.895.7084 | Fax 604.891.5045 | Cell 604.506.6899

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