

Conditional Firm Transmission Service

September 24, 2020



Agenda

1. Conditional Firm Service 101

- Background & Overview
- Attributes of Service
- Requesting a CFS Study
- CFS Study & Offer Process

2. Conditional Firm Service 102

- Managing CFS Reservations
- Managing CFS Schedules and CCO Integration

3. Clarifying BPA's Processes for Managing Reassessment CFS

CONDITIONAL FIRM SERVICE 101: BACKGROUND & OVERVIEW

Background & Overview

- In Order No. 890, FERC adopted a requirement for Transmission Service Providers (TSP) to offer Conditional Firm Service (CFS) to address what they called the “all or nothing” problem associated with requesting long-term firm (LTF) transmission service¹
 - Example #1 - Transmission lines are often “sold out” on a firm basis but have physical capacity available in all but a small percentage of the year during peak loads
 - Example #2 – Generation developers may require long-term firm service to secure financing for new projects or to participate in Request for Proposals
- CFS enables the TSP and Customers to optimize the long-term use of the existing transmission system

Citations: 1 Order 890 para ¶925

Background & Overview (cont.)

- Conditional Firm Service is a form of LTF Point to Point (PTP) service that is conditioned by a defined Number of Hours of the year or during defined System Conditions when firm service is not available²
 - Number of Hours - e.g. 200 hrs. per year
 - System Conditions – e.g. limiting transmission line, substation, flow-based path, 1:1 path transmission elements,
 - If the condition occurs, service may be conditionally curtailed at the NERC Reservation Priority equal to 6NN³
 - Service may be conditionally curtailed solely for reliability reasons⁴

Citations: 2 Order 890 ¶ 1043; 3 Order 890 ¶ 1074; 4 Order 890 ¶ 1043

NERC Reservation Priority

Transmission Service Reservation Priorities		
Priority	Acronym	Name
0	NX	Next-hour Market Service
1	NS	Service over secondary receipt and delivery points
2	NH	Hourly Service
3	ND	Daily Service
4	NW	Weekly Service
5	NM	Monthly Service
6	NN	Network Integration Transmission Service from sources not designated as network resources
7	F	Firm Point-to-Point Transmission
	FN	Network Integration Transmission Service from Designated Resources

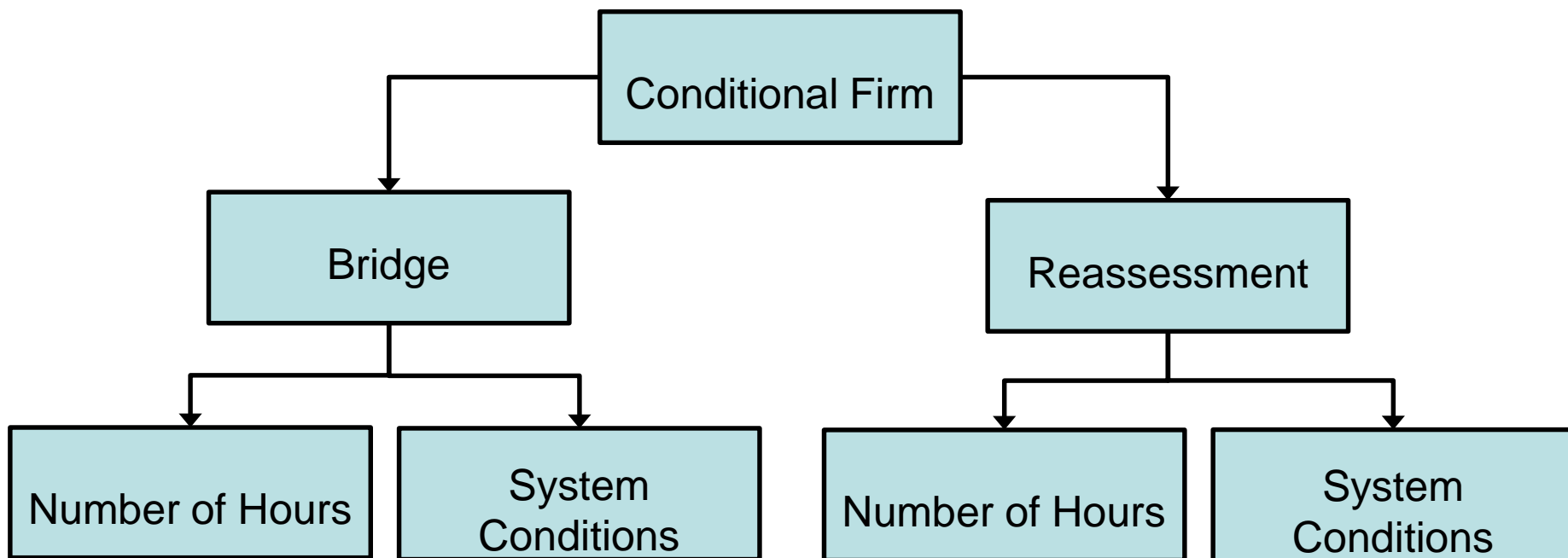
Overview of Types of CFS

Number of Hours and System Conditions are delineated by the following two types of CFS:

- 1. Bridge** - for Customers that choose to support the construction of transmission infrastructure to enable long-term firm capacity⁵
 - Number of Hours or System Conditions defined in the CFS service agreement are not subject to change.
- 2. Reassessment** - for Customers that choose not to support the construction of transmission infrastructure to enable long-term firm capacity⁶
 - The Number of Hours or System Conditions in the Customer's CFS agreement may be reassessed every two years

Citations: 5 Order 890 ¶1980; 6 Order 890 ¶1981

Overview of CFS Hierarchy



CFS reservation may only consist of:

1. Bridge or Reassessment (not both), and
2. Number of Hours or System Conditions (not both).

CONDITIONAL FIRM SERVICE 101: ATTRIBUTES OF SERVICE

General CFS Limitations

- CFS is not always available, the TSP must ensure that offering CFS will not adversely impact transmission system reliability and existing firm transmission Customers^{7,8}
- CFS is only available as a type of LTF PTP transmission service (i.e. beyond 13 months), it is not available as a type of short-term service (i.e. 0-13 months)^{9,10,11}
- CFS reservations may not be aggregated with any other reservations¹²

Citations: 7 Order 890A ¶552; 8 WEQ 001-21.1.1; 9 Order 890 ¶978; 10 Order 890-A ¶561; 11 WEQ 001-21.1.3; 12 WEQ 001-11.3.2

General Attributes of CFS

- CFS has many of the same rights as LTF PTP transmission service
 - Deferral – service commencement may be deferred up to 5 years
 - Resale – reassignment of scheduling rights
 - Transfer – reassignment of scheduling and rollover rights
 - Reservation Priority (i.e. Rollover or Renewal) – option to continue transmission service
 - Redirect – modification of reserved POR/POD in both the short-term and long-term markets
- CFS is billed at the LTF PTP transmission rate with no adjustment/credit for conditional curtailment(s)¹³
- CFS has priority access to short-term firm ATC (e.g. Monthly, Weekly, Daily, Hourly) in queue order before it is offered to the short-term market for sale^{14,15}

Citations: 13 Order 890 ¶1047; 14 Order 890 ¶1078; 15 WEQ 001-21.1.6

Specific Attributes of Bridge CFS

- TSR retains its position in BPA's LTF transmission queue
 - Eligible for STF ATC that alleviates the Number of Hours or System Conditions.
 - Eligible for LTF ATC that alleviates the Number of Hours or System Conditions.
- The Number of Hours or System Conditions defined in the CFS service agreement are not subject to change
- Upon completion of the necessary transmission system upgrades (i.e. Plans of Service) Bridge CFS will convert to LTF, or;
- If LTF ATC becomes available that can permanently remove conditional curtailment, the CFS will convert to LTF
- If the Customer stops supporting the transmission system upgrades required for firm service, or the TSP makes a decision not to build it, the customer has the option to convert to Reassessment CFS
 - BPA will perform an evaluation to determine service can be converted without impacts to reliability

Specific Attributes of Reassessment

- Number of Hours or System Conditions in the Customer's CFS agreement may be reassessed every two years for reliability purposes only
- Reassessment study may include reevaluating all constraints and conditions, associated with all paths, Interties, and External Interconnections impacted by the reservation (i.e. both the firm and CFS impacts)¹⁶
 - If reassessment results in a change to the Number of Hours or System Conditions in the Customer's CFS agreement, the Customer may terminate service^{17,18}
 - BPA may terminate the service at the time of reassessment if it can no longer be offered reliably
- TSR does not retain its position in BPA's LTF transmission queue
 - Eligible for STF ATC that alleviates the Number of Hours or System Conditions
 - Not eligible for LTF ATC that alleviates the Number of Hours or System Conditions

Citations: 16 Order 890-A ¶590; 17 Order 890 ¶ 981; 18 WEQ 001-21.3.5

Specific Attributes of Reassessment (cont.)

- Customer has the option to submit a new “Bridging TSR” that can convert the Reassessment to Bridge CFS
 - Unique BPA practice that was retained, at the request of Customers, in [CFS BP V24](#)
 - Bridging TSR must have the same attributes as the Reassessment CFS
 - Same POR/POD
 - Same Source/Sink
 - Same Term
 - Same Capacity/MW Demand
 - Customer must participate in a subsequent Cluster Study or Individual Study
 - Must request a new CFS study
 - Bridging TSR is assessed taking into account (i.e. crediting) any firm and CFS capacity of the Reassessment reservation

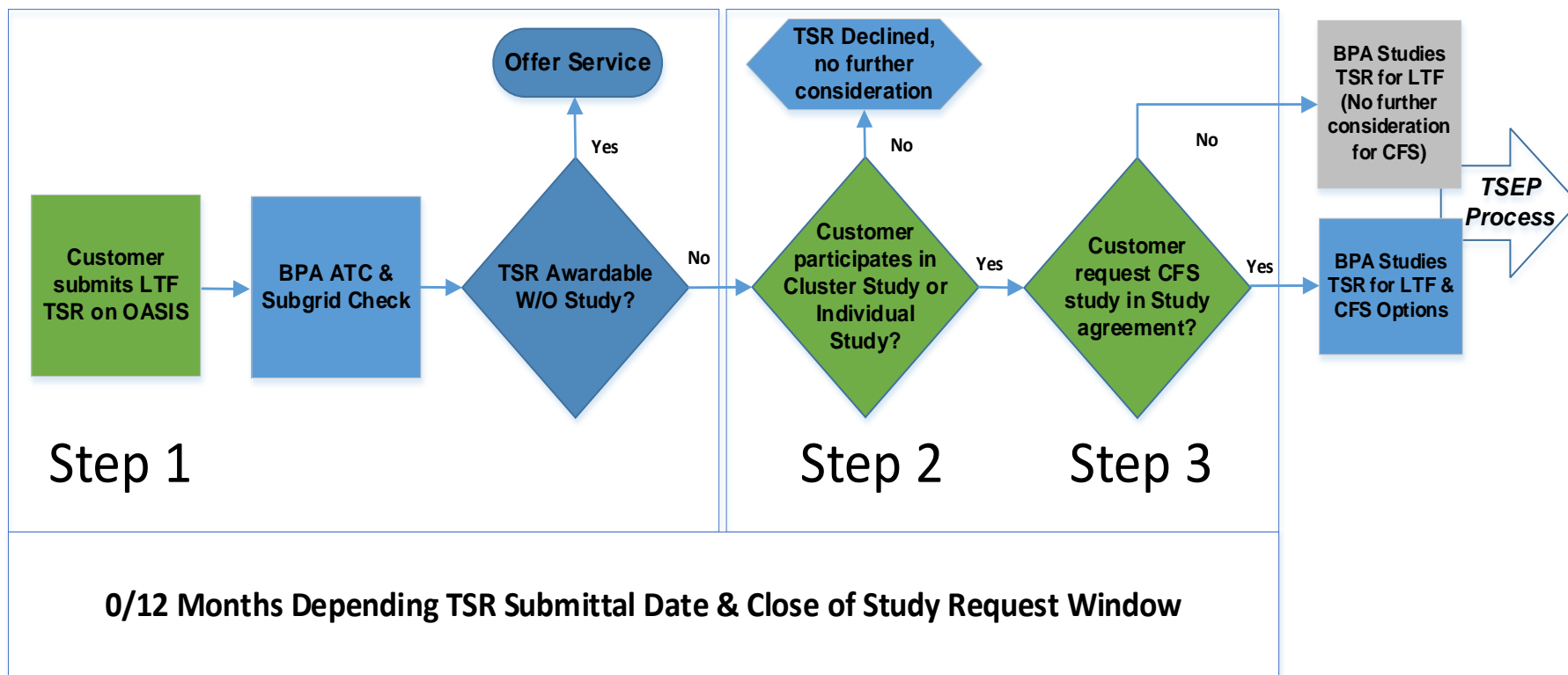
CONDITIONAL FIRM SERVICE 101: REQUESTING A CFS STUDY

Requesting a CFS Study

- As of July 2019, all CFS must now be studied through an Individual Study or a Cluster Study before being offered^{19,20}
 - [CFS Business Practice](#)²¹
 - [TSR Study and Expansion Process \(TSEP\) Business Practice](#)²²
- CFS may no longer be requested on OASIS
 - Customer may still enter CFS comments in the customer comment field on OASIS

Citations: 19 Order 890 ¶ 986; 20 WEQ 001-21.1.3.1; 21 CF BP V24 Section B; 22 TSEP BP V4 Section B

Requesting a CFS Study (cont.)



Step 1: Customer must first request LTF PTP service

Step 2: If BPA cannot award the requested service Customer must participate in a Cluster Study or Individual Study

Step 3: Customer must request a CFS Study as part of the study agreement

Requesting a CFS Study (cont.)

(a)	(b)	(c)	(d)	(e)		(f)	(g)
AREF No. (TSR)	Quantity (MW)	Source	Sink	Conditional Firm Transmission Service Options		Estimated TSR Study Cost ¹	TSR to be Included in Study (initial)
				Number of Hours per year	System Conditions		
				<input type="checkbox"/>	<input type="checkbox"/>		

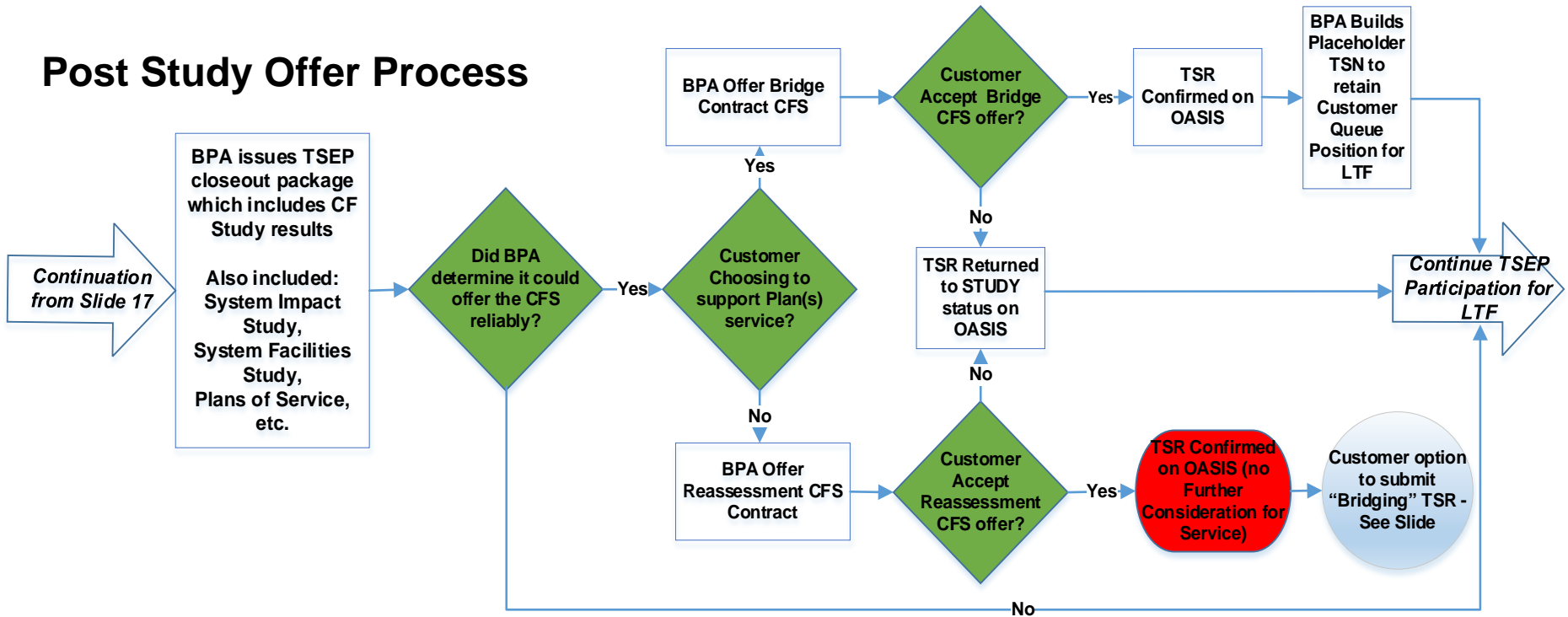
- Customer may request to be studied for CFS by completing the table (shown above) through the Cluster Study Agreement’s (CSA) Exhibit A or the Individual Study Agreement (ISA)
- Customer may request a study for either or both types of CFS (System Conditions and Number of Hours) but it may only accept an offer for either type of service²³.
- Specific to Number of Hours, Customer may provide a maximum acceptable number of conditional curtailment hours per year
 - BPA will not make a Number of Hours offer if CFS study findings exceed the elected number of hours
- The Customer is responsible for the costs associated with CFS studies^{24, 25}
 - Currently BPA does not charge for CFS study

Citations: 23 WEQ 001-21.1.5; 24 CFS BP V24 Section B1C; 25 Order 890 ¶ 978

CONDITIONAL FIRM SERVICE 101: CFS STUDY & OFFER PROCESS

CFS Study & Offer Process

Post Study Offer Process



- CFS offers are based upon the constraints identified in the study
- Bridge or Reassessment is determined by customer participation in plan(s) of service identified in the study
- CFS offers are optional but customer must participate in plans of service for Bridge CFS and remain in queue

Post-study CFS Offer Criteria

- BPA does not guarantee that it will offer CFS at the conclusion of a study
- There must be sufficient CFS Inventory or capability on the parts of the BPA Network impacted by the Customer's TSR
- There must not be an impact on another TSP's transmission system that BPA cannot prevent through CFS curtailment
- The CFS must not degrade existing LTF service
- The CFS must not jeopardize transmission system reliability
- BPA must have an appropriate path and systems to manage the CFS
 - POR/POD Conformance or other operating requirements may be necessary to protect system reliability (every request is different)
- Cluster Study Report identifies the CFS capabilities & constraints
- Customer-specific Close-out letter identifies CFS eligibility & CFS study results (e.g. Number of Hours and/or System Conditions) requested in its study agreement
 - Close-out letter will include a CFS election form
 - Customer uses election form to indicate type of CFS offer it would like to receive
 - BPA will not make a CFS offer if the customer does not request a CFS offer in the election form

CFS Study & Offer Process

- Currently BPA makes CFS offers utilizing, in part, CFS Inventory calculated on most flow-based paths
 - CFS Inventory is calculated based on 5-minute path use data (three years minimum)
 - Capacity available 97% of the time based on historical system use e.g. (LTF, STF, non-firm reservations) during Heavy Load Hours for the path's the most constrained season (three months) after taking into account all Total Transfer Capability derates (e.g. planned outages, etc.)
 - PTDF impacts of awarded offers that have not yet reached their start date are subtracted assuming that those reservations will be 100% utilized
- CFS Inventory calculation is only a general indication of CFS capability on the BPA flow-based paths
- CFS Inventory is posted on the [Transmission Availability](#) website
- BPA intends to fully replace the CFS Inventory with a study-based methodology beginning with the 2022 Cluster Study

CFS Service Agreement/Contract Paradigm

#1

PTP Service Agreement

General PTP Provisions of Service



#2

CFS EXHIBIT

General CFS Terms and Conditions

- Definitions
- Conditional Firm Service
- Priority Rights to Short-Term Firm Service
- Termination of Bridge Conditional Firm Service
- Termination or Modification of Reassessment Service
- Curtailments
- Transmission Customer Obligation to Pay for Studies



#3

CFS EXHIBIT Table

Specific Terms and Conditions

- Bridge
 - Plan(s) of Service
- Reassessment
 - Reassessment eligibility Date
- Conditional Curtailment Criteria
 - Number of Hours
 - System Condition

CFS Study & Offer Process

- If BPA determines in the Cluster Study that a CFS offer can be made, BPA requires a Customer to execute the following agreements:
 - CFS Exhibit – Contains general terms and conditions of CFS service.
 - BPA has updated the CFS Exhibit to reflect the method for counting and resetting the number of Conditional Curtailments annually
 - Old Process – Counted curtailments based upon calendar year
 - New Process: Counts based upon the Service Commencement Date + 364 Days
 - BPA will or has tendered updated Exhibits (#2) to customer with existing CFS.
 - CFS Table (#3) contains CFS conditions specific to CFS (e.g. Service Commencement Date, Number of Hours or System Conditions, etc.)
 - Customers requesting new CFS will be tendered the new Exhibit and Table upon tendering of CFS offer

CONDITIONAL FIRM SERVICE 102: MANAGING CFS RESERVATIONS

Long-term & Short-term ATC Management Paradigms

- BPA uses two separate systems for managing LT and ST ATC
 - Long-term (14 months – 10 years) = Outside of OASIS System
 - Manual LT ATC calculations
 - Manual LT TSR processing/sales
 - Short-term (0-13 months) = OATI WebTrans – Vendor Software
 - Automated ST ATC calculations
 - Automated ST TSR processing/sales
 - OATI is the system responsible for short term firm ups of CFS as well as tracking curtailment data
- CCO functionality only integrates with WebTrans (i.e. short-term), not LT ATC management tools
 - Impacts the processes for awarding CFS
 - Impacts the processes for managing CFS attributes

CFS Counteroffers to Queued LT TSRs

1. CFS is offered to the queued TSR
2. If accepted, the TSR is no longer in LT Pending TSR queue
 - Applies to both Bridge & Reassessment CFS
 - CCO does not distinguish Bridge from Reassessment
3. BPA utilizes a Transmission Service Number (TSN) to ensure that customers with Bridge CFS retain:
 - Queue position of TSR
 - Eligibility for LTF ATC returned to inventory
 - Access to LTF ATC enabled by customer participation in transmission infrastructure expansion
 - BPA identifies Bridge CFS TSNs with a Bridge Reservation Marker (BRM) prefix plus the TSR number of the accepted Bridge CFS (e.g. BRM123456)
 - BRM TSNs are not visible on OASIS, however they are listed in the Long-Term Pending Queue posted on the [Transmission Availability](#) website

CONDITIONAL FIRM SERVICE 102: MANAGING CFS SCHEDULES & CONDITIONAL CURTAILMENT OPTION (CCO) INTEGRATION

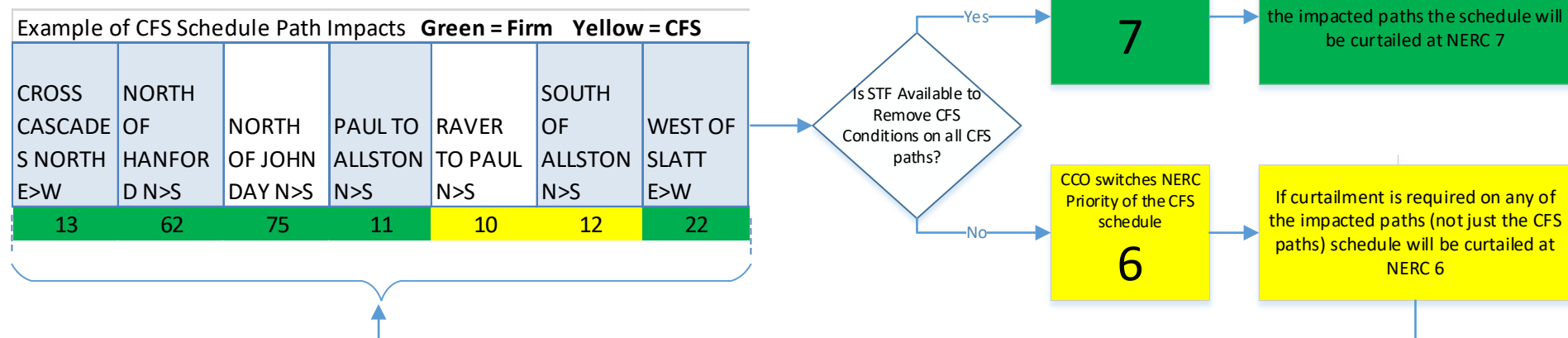
Scheduling CFS Reservations with CCO

- CFS is always scheduled as 7F firm
- Specific to Number of Hours schedules
 - If STF is unavailable to firm-up the schedule (see next slide) CCO will switch the NERC priority of the schedule from 7 to 6
- Specific to System Conditions schedules
 - If STF is unavailable to firm-up the schedule (see next slide) CCO will leave the NERC priority of the schedule at 7 until/unless the CFS is curtailed for the contract defined system conditions
- NERC priority of schedule only determines curtailment order in the event of curtailment, it does not mean the schedule will be curtailed

“Allocation” of STF ATC to CFS (i.e. Firm-up)

- CCO automatically assigns STF (Monthly, Weekly, Daily, Hourly) to both System Conditions and Number of Hours (e.g. firm-up) before it's released to the market
- CCO counts CFS reservations as a firm commitment
 - If firm ATC is unavailable to satisfy a CFS reservation's demand, the CFS reservation is counted as negative firm commitment within the STF horizon (e.g. 0-13 months)
 - STF ATC must be greater than zero to allow any new STF market purchases
 - Ensures the CFS maintains priority access to STF ATC (ahead of new short-term market purchases)
 - Under BPA's CCO configuration, STF must \geq zero for any CFS to be firmed-up
 - When a CFS reservation is firmed-up, the Number of Hours or System Conditions are removed for that STF increment (e.g. Monthly, Weekly, Daily, Hourly)
 - Once a CFS reservation is firmed-up in a specific STF increment, CFS conditions cannot be reapplied to the reservation

Example: Number of Hours CFS Curtailment in CCO

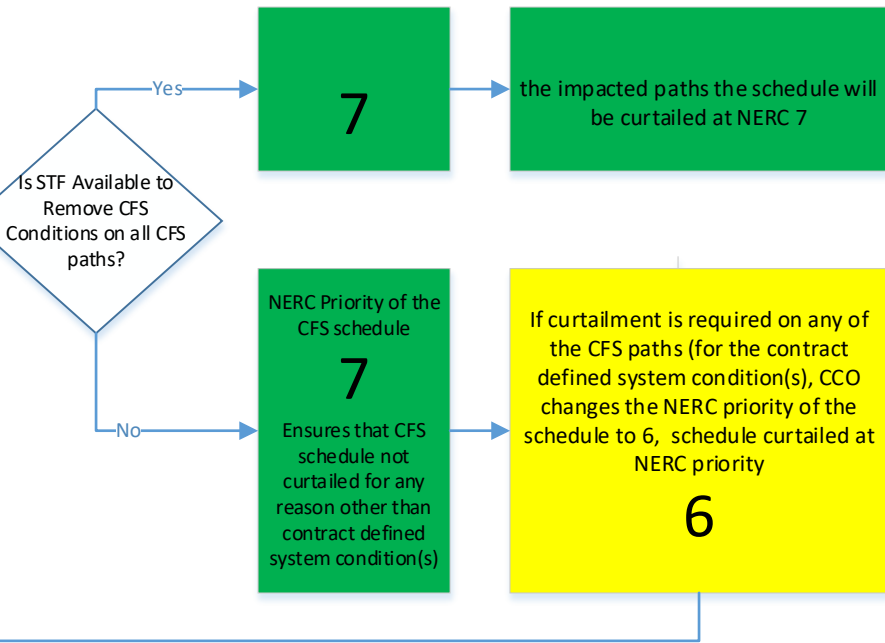


- Number of Hours CFS reservation may only be curtailed at NERC Priority 6 for the contract defined number of annual curtailment hours (e.g. 200)
- If the number of curtailment hours is reached within the year (year is counted based upon the service commencement date + 365 days), the reservation may only be curtailed at NERC Priority 7 for the remainder of the year
- NERC priority only matters when it's necessary to curtail the schedule

Example: System Conditions CFS Curtailment in CCO

Example of CFS Schedule Path Impacts **Green = Firm** **Yellow = CFS**

CROSS CASCADE S NORTH E>W	NORTH OF HANFORD N>S	NORTH OF JOHN DAY N>S	PAUL TO ALLSTON N>S	RAVER TO PAUL N>S	SOUTH OF ALLSTON N>S	WEST OF SLATT E>W
13	62	75	11	10	12	22



- System Condition CFS reservation may be curtailed at NERC Priority 6 (if not firmed-up) any time the contract defined condition(s) occurs
- No limit to annual curtailments (i.e. 8760 hrs.)

CFS Reservation Attributes on OASIS User Interface

TSR Information

TP	Seller	Customer	POR	POD	Path	Start Time	Stop Time	MW Req	MW Grant
			Source: []	[]	Request Type: []	[]	[]	100	100
			Sink: []	[]	Service Code: LTF-YEARLY PTP				

Reservation Profile

Start Time	Stop Time	MW Req	MW Grant	MWH	Bid Price	Offer Price
[]	[]	100	100	10298300.00	\$0.0000	\$0.0000
Profile Total:				10298300.00		

Service Details

Preconfirmed	Increment	Class	Type	Period	Window	Subclass	Nerc Priority	Ceiling Price	Price Unit
YES	YEARLY	FIRM	POINT_TO_POINT	FULL_PERIOD	EXTENDED		7	\$1471.0000	\$/MW-MONTH

Comments

Status	Seller	Provider	Customer
	[]	[]	[]

Additional Information

Competing: N	Related: []	<div style="border: 2px solid green; border-radius: 50%; padding: 10px; display: inline-block;"> <p>Provider Approval:</p> <p>Provisions: YES (RollOver/CCO) ←</p> <p>Rollover Waived:</p> <p>CG Status:</p> <p>CG Deadline:</p> <p>Concomitant Eval Flag:</p> <p>Status Notification:</p> </div>
Negotiated:	Reassigned: []	
Affiliate: NO	Sale: []	
Impacted: []	Request:	
Effective Queued Time:	Seller:	
Queued: []	Deal: []	
Updated: []	Posting:	
Response:	SIS: NO	
Accepted: []		
Confirmed: []		

OASIS User Interface of CFS Reservation Attributes Visible

Reassessment End	Option	Service Description	Conditional Start	Conditional Stop	Max. Hrs	Accum. Hrs
2022-01-01 02:00:00 CS	CONDITIONS	SOA				
				Curtailment Accounting Profile		
			2020-01-01 02:00:00 CS	2022-01-01 02:00:00 CS	99999	0
				Conditional Priority Profile		
			2020-01-01 02:00:00 CS	2022-01-01 02:00:00 CS		
2024-01-01 02:00:00 CS	CONDITIONS	SOA				
2026-01-01 02:00:00 CS	CONDITIONS	SOA				
2028-01-01 02:00:00 CS	CONDITIONS	SOA				
2030-01-01 02:00:00 CS	CONDITIONS	SOA				
2031-10-01 01:00:00 CS	CONDITIONS	SOA				

1
2
3
4
5
6

Key to Identifying CCO Attributes:

- (1) Biennial reassessment eligibility dates
- (2) CFS Type: Number of Hours or System Conditions
- (3) Conditional Paths / System Condition Procedure(s)
- (4) Conditional curtailment time periods within the two year increments
 - Enables TSP to configure conditional periods within the two year reassessment window (e.g. seasonal conditions)
- (5) Maximum allowable annual conditional curtailment hours
- (6) Accrued conditional curtailment hours

CLARIFYING BPA'S PROCESSES FOR MANAGING REASSESSMENT CFS

Managing Reassessment CFS

- Customers requested that BPA clarify the queue management practices it applies to Reassessment CFS reservations
 - Comments were received as part Version 24 CFS BP this past May
- BPA's Status quo process:
 - Once a Customer has confirmed a Reassessment reservation on OASIS the TSR is no longer in the long-term transmission queue
 - CCO will automatically look for instances where the reservation can be firmed up in the 0-13 month horizon
 - Customers have the option to submit a Bridging TSR that enables Reassessment CFS to convert to LTF service

Queue Management Considerations

- There is no queued TSR to consider for LTF ATC should it become available
 - Reassessment CFS TSRs is in a final OASIS state
 - BPA processes ST and LT requests separately
- NAESB Standards only address the assignment of STF capacity²⁶
- BPA's status quo process honors first-come first serve principles
 - Otherwise Customers with lower queued TSRs, participating in upgrades could be disadvantaged if a queued Reassessment CFS TSR has priority access (i.e. queue order) to firm capacity
 - Examples:
 - Partial LTF offers
 - LTF ATC becomes available due to a customer not rolling over existing service

CFS Tools on BPA.gov

- [CFS Business Practice v24](#)
- [CFS Inventory Methodology](#)
- [TSEP Business Practice v4](#)
- [Commercial Transmission Inventory Map](#)
- [CFS Inventory](#)

Questions?

- BPA welcomes Customer feedback on the content presented in today's workshop
- Please feel free to contact your AE directly with questions or send an email to techforum@bpa.gov with “Conditional Firm Service” in the subject line.