NW Energy Coalition
for a clean and affordable energy future

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Comments on BPA Policy Direction on
Potential Day-Ahead Market Participation

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The NW Energy Coalition, supported by the Oregon Citizens' Utility Board, appreciates the opportunity to provide introductory comments on the Bonneville Power Administration's Public Engagement for Establishing a Policy Direction on Potential Day Ahead Market Participation.

Stages in Western Market Development

NWEC and CUB join many of our colleagues in supporting the staged development of a single western market – whether called an Regional Transmission Organization (RTO) or Independent System Operator (ISO) – in due course.

Indeed, the urgency to do so has only grown with the fast-changing resource mix, evolving demand profile and rapid emergence of new clean energy technology in the last several years, the onset of extreme weather and wildfire conditions that are clearly driven by climate change on top of existing factors, and the necessity of expanding grid capacity and improving reliability due to transportation and building electrification and new industrial demand.

It has long been clear that a single step to a full western RTO or ISO was not feasible. Debate over formation of one or more power markets alongside the California Independent System Operator (CAISO) and the Alberta Electric System Operator (AESO) ran on for nearly two decades before the emergence of a possible multi-stage strategy.

As a result, the Western Energy Imbalance Market (Western EIM) was launched in 2014 and now covers over 80% of the western region, providing system coordination for more efficient unit commitment and dispatch, reductions in duplicative operating reserves, and improved reliability. The Western EIM has facilitated rapidly accelerating value and has already provided over $4 billion in benefits flowing to consumers served by participating wholesale and load serving entities.

More recently, the Southwest Power Pool (SPP) began operating the Western Energy Imbalance Service (WEIS) on a smaller basis for the eastern edge of the interconnection.

While there has been longstanding discussion of developing a western RTO, in the last few years a consensus emerged on stepping up from the EIM to a day-ahead market construct and then considering the potential for a full RTO. Thus, the west is now on a three-stage development pathway for western markets:

1. An **energy imbalance market** which manages transactions within each operating hour to assure system balance and to optimize resource dispatch and management of reserves. For each interval within the operating hour, the EIM tightly runs an auction market for residual loads and resources and transmission "donated" to the market and then directs overall system dispatch. Typically the EIM accounts for about 5% of all grid transactions.

2. The **day-ahead market** will incorporate a comprehensive operational process including both day-ahead and realtime (equivalent to EIM) auction markets. The difference from the EIM is the combined binding commitment of all resources and transmission, not simply the residual available to the EIM. The day-ahead market construct effectively includes all power system transactions, including honoring pre-existing arrangements for resources and transmission.

3. A **full RTO** will include the day ahead/realtime markets and full commitment of transmission from the second stage, operate the footprint as a single balancing area authority, and add planning functions including resource adequacy (RA) and transmission planning (TP). Previous experience shows that the negotiations to construct a full RTO will take several years, so the urgency of gaining the benefits of the day-ahead market(s) as soon as feasible is clearly justified even though there will necessarily be complex interim features which a full RTO can simplify.

Consumer Value and Clean Energy Policy

NWEC and CUB consider that the progression toward a full RTO must be guided by two primary outcomes: maximizing consumer value and achieving clean energy policy.

Consumer value is the result of power sector operations that improve reliability, accelerate the uptake of clean energy resources, and keep energy costs stable, all of which must be underpinned by equity.

Clean energy policy has been adopted widely in the west by states, provinces and utilities, and serves to promote these valuable and essential benefits.

The purpose and need of market development must be to *optimize* consumer value and achievement of clean energy policy, not merely to improve on the existing system. This should

be the core of Bonneville's consideration of joining a day-ahead market – the achievement of full available benefits over time, not merely a one-time increase in value.

Full Transparency

The next stages of western market development will have profound consequences. It is not an exaggeration to say that billions of dollars in benefits and measurable improvements in grid reliability are at stake if day-ahead market development does not proceed with that broad picture in mind.

Therefore, it is crucially important for Bonneville to proceed through the day-ahead market review with the utmost in transparency about assumptions, scenarios, data and modeling, and provide full opportunity for all stakeholders to participate and provide analysis and comments.

Recent consideration of the broad issues for western market development started several years ago, notably with the State-Led Market Study issued in 2021.[1] That report, sponsored by western states with support from the US Department of Energy, was conducted with full transparency and still provides an important starting point for consideration of different western market constructs and footprints.

Numerous developments have occurred since the State-Led Market Study, including several more specific reviews. In particular, we understand that the Western Markets Exploratory Group (WMEG), with participation by Bonneville and many other potential day-ahead and RTO participants, has completed a review. However, to our knowledge no public information has been provided about the outcomes of the WMEG study, much less details of data, models and methods.

To assess the forthcoming decision on the day-ahead market stage, it is crucial to bring forward credible, transparent assessment of different pathways for market development that focus on the key outcomes: consumer value and clean energy policy.

That effort should also facilitate presentations and comments by BPA's customers, our states, independent resource developers (generation, storage and customer side), expert analysts, and all other stakeholders.

We urge Bonneville to commit to a comprehensive and fully transparent decision process, just as it successfully did for its decision to join the Western EIM. Consideration of the pathway

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[1] *The State-Led Market Study*, Energy Strategies, July 2021, https://www.energystrat.com/s/Final-Roadmap-Technical-Report-210730.pdf

toward a day-ahead market and eventually an RTO has even more profound consequences, and there should be no shortcuts.

One Market or Two?

In considering all the factors discussed above, NWEC and CUB pose the following key question: what will Bonneville's standard of review be for this decision?

We affirm the importance of reviewing and comparing the elements of the two major offers on the table – SPP Markets+ and CAISO Extended Day-Ahead Market (EDAM). And we agree that Bonneville must honor all of its statutory requirements including protection of fish and wildlife resources, Treaty responsibilities, contractual obligations, good utility practices and full transparency.

However, there has been a strong tendency to consider this western day-ahead market decision only as a bakeoff between two competing proposals. As stated above, the driver of market decisions should not be whether a particular choice provides better results, but whether it provides the best results for consumer value and clean energy policy in the near term and over time.

And when we consider that broader scope, the overarching question before us is not which of the day-ahead offers to pick, but whether the west will have one big market or two.

Above all, the overwhelming evidence from eastern day-ahead markets and RTOs is that once their boundaries are set, the internal process of each market area creates strong lock-in. Few utilities have ever switched RTOs, and no RTOs have ever merged.

A recent example is the study requested by the State of Illinois to consider whether Ameren, a member of the Midcontinent Independent System Operator (MISO), should move to PJM, the adjacent RTO. Despite what a cursory look at the map suggests, as well as ongoing difficulties for operations and resource adequacy in the isolated Zone 4 area of MISO in southern Illinois, the review concluded that the switching costs from MISO to PJM are too high.[2]

No matter how good the governance, market design and GHG accounting may be in each day-ahead market offer, there is credible analysis, staring with the State-Led Market Study, showing that a two-market outcome will dramatically decrease the results for consumer value and for public policy across the entire western region.

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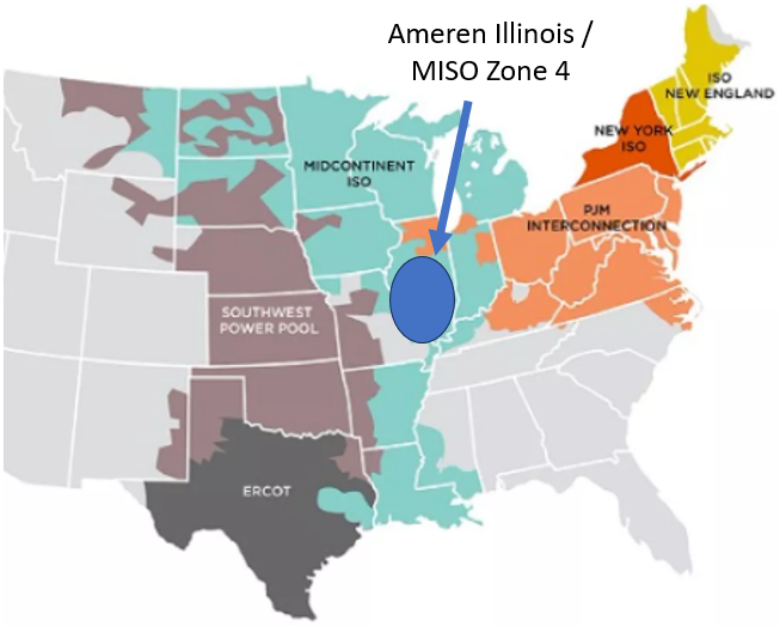
[2] *Ameren Illinois RTO Cost Benefit Study*, Charles River Associates, Astrapé Consulting and Quanta Technology, July 2023, *https://www.icc.illinois.gov/docket/P2022-0485/documents/340219/files/593571.pdf*



Map source: NRDC

If Bonneville chooses to step out of the Western Energy Imbalance Market to join a second market footprint, we are concerned that will trigger a long term loss of value not only in our region but across the west. This is the most consequential decision facing the Western Interconnection in decades, and it is here before us . . . now.

As a result, an updated and focused assessment is needed, building on the example of the State-Led Market Study, to ascertain whether two big western markets can ever really be as good as one.

There are two significant top-level aspects to consideration of a one-market vs. two-market outcome: load and resource diversity, and seams.

For each, the unique nature of the Western Interconnection must be considered, with our long transmission supply lines and resource diversity by location, type and scale. It is also important to provide equal focus to load diversity – the diverse demand profiles of major western load centers. In most hours, outside exceptionally widepread extreme weather events, load diversity is of especially high value for the western grid.

First Tier: Load and Resource Diversity

As the 2021 State-Led Market Study demonstrated, the reduction of load and resource diversity with two major markets could result in a loss of a quarter or more of the net benefits compared to a single market, as measured by production cost (energy) and long term (capacity) savings.

The State-Led study is arguably conservative on the effects of a two-market outcome, considering the accelerating changes we are now seeing for load, resources, and climate-amplified weather events.

That also sharpens the focus on reliability risk, which is harder to measure directly but is paramount, as the heat waves in early September 2022 and this summer have shown. It is no longer an issue for only one part of the region at a given time, it is a common concern for the entire Western Interconnection.

The loss of a quarter or more of total incremental value with two markets will have effects across the board: higher dispatch costs, more congestion, greater reserve requirements, slowdown for clean energy integration, higher emissions, reduced reliability, and constant attention and costs to never-finalized seams agreements. All this will increase costs for consumers and impede achievement of clean energy policy.

Second Tier: Seams

A second aspect of two big western market footprints is the complex set of issues called "seams." Seams is not merely about congestion management and market-to-market impacts in operating time, it is also about the effects over the longer term for both resource adequacy and transmission expansion.

While it is said that two markets can have seams agreements and continue cross-seam power trade, the evidence from eastern RTOs is that seams effects are expensive, complex and permanent.

The Regional States Committee of SPP and the Organization of MISO States commissioned a multi-part seams assessment from Potomac Economics that was published three years ago.[3]

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[3] *OMS-RSC Seams Study: Joint Dispatch Evaluation*, November 2019; *OMS-RSC Seams Study: Market-to-Market Coordination,* May 2020; *OMS-RSC Seams Study: Interface Pricing, August 2020*; prepared for the Organization of MISO States and SPP Regional States Committee by Potomac Economics, available at, respectively,
https://spp.org/documents/61081/seams%20study_miso%20imm_joint%20dispatch_final.pdf
https://www.spp.org/documents/62144/seams%20study_miso%20imm_m2m%20study_final.pdf
https://www.spp.org/documents/62738/seams%20study_miso%20imm_interface%20pricing%20study_final.pdf

The review showed that, even 15 years after the initial Joint Operating Agreement by MISO and SPP, major gaps and alignment issues between the markets were causing seams burdens of well over $100 million per year, not including the time, attention and costs for market operators, participants, regulators and stakeholders. For day ahead markets and RTOs, seams create a massive, never ending effort to analyze and negotiate reforms that are never entirely satisfactory.

With our long transmission supply lines and already diverse load and resources, the west has much higher vulnerability to seams effects. Looking at potential boundaries for Markets+ and EDAM, it is obvious that seams management would require an extraordinary effort.

Just one of the complexities will be seams interchange issues including dynamic transfers, pseudo-ties, wheelthroughs and reliability concerns such as unscheduled flows, both within markets (where transactions and dispatch must be carried as wheel throughs in a separate market or non-market area) as well as between them. This fragmentation is especially important given the very limited transmission connecting the Northwest, Southwest and intermountain west, even as system needs for wider access for load and resource diversity rapidly increase.

Furthermore, the complex boundaries between major transmission owners such as Bonneville and others will effectively result in two markets running on top of the same transmission in many locations across the west. We must be serious about a full understanding of the potential costs and risks that this would entail.

No Way Back

The choice of one market or two for the day ahead market development stage will likely be a one-time and effectively permanent choice for the west. Because day ahead markets commit and coordinate both transmission and resources for the day ahead and realtime markets, they naturally create trading and planning zones that are self perpetuating.

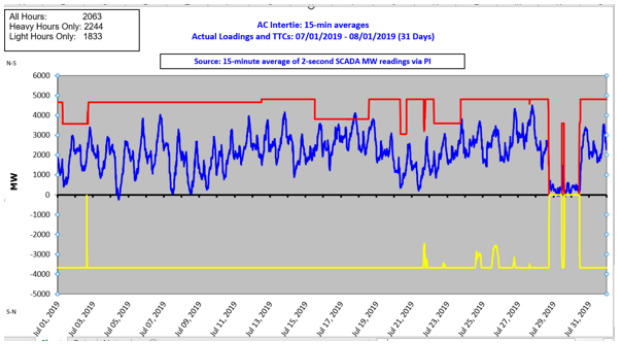
In the east, where much of the RTO-ISO map does not make much sense, very few utilities have moved from one market to another as development progressed from day ahead markets to RTOs. And no serious proposals have been made to merge eastern RTOs and ISOs, even where it would make a good bit of sense.

Our existing bilateral markets and the EIM are already sending a strong signal not to go down that road. Today, for example, power flow between the Northwest and California is no longer a one way street.

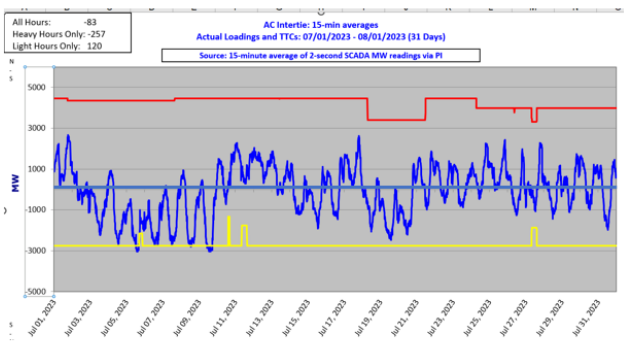
As we can see in recent months, the Pacific region has already undergone a permanent modal shift where power now flows from south to north on the AC and DC Interties in every month,

reversing the decades-long pattern dominated almost exclusively by north-south transfers. As the charts below indicate, in July 2023 over 57% of all net flows were south-to-north on the AC Intertie.

July 2019



July 2023



Data source: Bonneville Power Administration (loop flow trace removed for clarity)

Rapid shifts in demand shape and load growth, the changing resource mix, wholesale gas price price volatility, and climate-amplified weather conditions are already pointing toward a future of increasing interdependence to keep the lights on across the west.

The path dependence of the day-ahead step followed by RTO formation strongly suggests that if the west goes to two major day ahead markets, that will be our permanent condition, and the opportunity cost of doing so deserves the closest possibility scrutiny going forward.

FERC Standard of Review

Finally, the primacy of a single western market is not only our view. More than two decades ago, in Order 2000,[4] the Federal Energy Regulatory Commission adopted four characteristics and eight functions in their standard of review for RTO filings. That remains Commission policy, and we believe they will apply the Order 2000 lens to the day-ahead filings going forward.

In its lengthy discussion of Characteristic 2, Scope and Regional Configuration, the Commission summarizes:

> We conclude that a large scope is important for an RTO to effectively perform its required functions and to support efficient and nondiscriminatory power markets. Adequate scope is not necessarily determined by geographic distance alone; other

[4] FERC Order No. 2000, *https://www.federalregister.gov/documents/2000/01/06/00-2/regional-transmission-organizations*

> factors include the numbers of buyers and sellers covered by the RTO, the amount of load served, and the number of transmission lines under operational control. The scope must be large enough to achieve the regulatory, reliability, operational and competitive objectives of this Rule . . .
>
> One of our concerns about an RTO's scope is that existing impediments to trade, reliability, and operational efficiency be eliminated to the greatest extent possible. However, an RTO application that proposes to rely on "effective scope" to satisfy Characteristic 2 **must demonstrate that the arrangement it proposes to eliminate the effect of seams is the practical equivalent of eliminating the seams by forming a larger RTO.**
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> *(emphasis added)*

In adopting Order 2000, the Commission noted concerns from the west about the feasibility of implementing a single market at that time. But that was a quarter century ago, and today we have the Western EIM covering over 80% of the loads and resources in the west. Stepping back from that would undermine the long effort to build toward a single western market.

It is NWEC and CUB's strong view that the rebuttable presumption on the table is that only one major western power market can optimize consumer value and achievement of clean energy policy. And only relevant, transparent evidence and discussion can test whether our proposition is correct.

Unite the West

We already have the foundation for a single organized market with the Western EIM. We must review and thoroughly understand what the potential losses and risks are for a two market result.

In the words of Brian Silverstein, former BPA Transmission vice president, we are all part of one big grid. Now is the time for the west to pull together, not apart.

Bonneville has the ability – and the obligation – to take on a comprehensive and transparent review for the western market decision and must be a leader in that effort.

/s/

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