Department of Energy

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CAISO Extended Day-Ahead Market (EDAM) Policy Initiative
Comments on EDAM Bundle #1 Workshop
Submitted by Bonneville Power Administration, March 4, 2020

Submitted by	Company	Date Submitted
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Bonneville Power Administration[1] appreciates this opportunity to comment on CAISO's February 11-12 Extended Day-Ahead Market (EDAM) Workshop. Bonneville is generally supportive of extending the CAISO's day-ahead market to EIM Entities, finds the market design and policy issues identified during the Workshop to be very important to Bonneville and its customers, and expects to be highly engaged in the CAISO policy initiative process.

With this comment, Bonneville seeks to:

- reinforce the broad scope of Bonneville's participation in EDAM;
- emphasize that Bonneville sees EDAM as a positive step towards a more comprehensive, well-designed electricity market;
- offer Bonneville's support for the positions of the EIM Entities and Northwest public power on EDAM;
- reiterate the criticality of the DAME initiative for the success of EDAM;
- build upon our earlier comments on Transmission in EDAM; and,
- encourage the EDAM Resource Sufficiency discussion to consider more broadly additional perspectives on four issues.

[1] Bonneville is a federal power marketing administration within the U.S. Department of Energy that markets electric power from 31 federal hydroelectric projects and some non-federal projects in the Pacific Northwest with a nameplate capacity of 22,500 MW. Bonneville currently supplies 30 percent of the power consumed in the Northwest. Bonneville also operates 15,000 miles of high voltage transmission that interconnects most of the other transmission systems in the Northwest with Canada and California. Bonneville is obligated by statute to serve Northwest municipalities, public utility districts, cooperatives and then other regional entities prior to selling power out of the region.

1. Bonneville's Scope of Participation in EDAM

Bonneville is participating in this process both as a potential EDAM participant and as a transmission provider for other potential EDAM participants. Additionally, Bonneville serves loads in other potential EDAM Entity balancing authority areas (BAA), and, therefore, has an interest in ensuring that EDAM market design does not conflict with Bonneville's statutory obligations to serve those loads. Bonneville is also a participant in the CAISO's current day-ahead market, and a future participant in the Western Energy Imbalance Market (EIM) and wants to ensure access to and benefits of those markets are sustained or enhanced. In short, Bonneville has a myriad of interests and perspectives regarding EDAM market design, regardless of whether or how it decides to participate in EDAM.

2. Bonneville's General Position Regarding EDAM

Bonneville sees EDAM as a positive step towards a more comprehensive, well-designed market to compensate Bonneville – and other similarly-situated resources – for the value of the flexible, carbon-free power each chooses to provide while helping to better integrate renewable generation. Bonneville also anticipates EDAM could provide a more effective and efficient use of transmission. Thus, Bonneville seeks a well-designed transmission framework to compensate for the increased value derived from transmission made available for EDAM.

EDAM has the potential to fundamentally shift the commercial construct for load service throughout the Western Interconnection. This could include changes to transmission usage, scheduling, and generation commitment. As such, EDAM will likely affect all generation – including forward marketing commitments – and the transmission used to move it, as nearly all generation is effectively committed in the day-ahead market.

3. Bonneville's Support of Other Stakeholder Comments

Bonneville generally supports the comments of the EIM Entities and seeks to expand on them here in areas where Bonneville encourages deeper exploration.

Bonneville also generally supports the comments of the Public Power Council (PPC) and the Public Generating Pool (PGP). PPC and PGP note their alignment with EIM Entity principles and they raise pertinent questions for additional discussion as this EDAM policy development process moves forward.

4. Bonneville's Comments Regarding Alignment of EDAM with the CAISO's Day-Ahead Market Enhancements Initiative

EDAM market design should be built on the CAISO's Option 2 for the Day-Ahead Market Enhancement (DAME). This option will provide two critical elements for EDAM. First, it will reconcile the day-ahead financial commitment in the CAISO with EIM Entities that commit physical resources to meet their forecast of load. Second, it will provide a framework that aligns long-term resource adequacy requirements with more stable, effective real-time market dispatch

that is able to reliably integrate increasing amounts of renewable resources. This would be done through an Imbalance Reserve Product that can commit and compensate a fleet of resources sufficient to meet steep morning and evening ramps in net load.

5. Bonneville's Comments Regarding Transmission

Principle to clarify the cost recovery for transmission

In reviewing the CAISO's principles for Transmission, we feel that there is a fundamental principle around cost recovery which is inherently missing. Bonneville would like to propose that the CAISO consider adopting a cost recovery principle which captures full and fair compensation for unused ATC Transmission that is donated. Bonneville puts forth the following recommendation:

- Full and timely transmission cost recovery that reflects cost causation and usage while minimizing cost shifts among transmission providers regardless of the manner that transmission is made available.

As a corollary to this principle, Bonneville also asserts that a principle highlighting that Congestion Revenue Allocation reflect the value of Congestion Revenues also be added to the CAISO's principles, and offers the following:

- Congestion revenue distribution reflects cost causation, benefits, and its use as a signal for transmission expansion while balancing its use as a means to incentivize bringing transmission capacity to the market. Congestion revenue distribution is not a primary means to recover the costs of expanding the transmission system.

Flexibility for modeling and internal requirements

Bonneville agrees with the sentiment stated in the workshops that the EDAM market design needs to remain flexible enough to meet the diverse needs of all EIM Entities, and would add that this remains true for EIM Entities who wish to delay in joining the EDAM, or decide it is not prudent to join but will want to enable participation of adjacent EIM Entities.

Bonneville believes a critical aspect of a flexible market design is the need to ensure alignment between the modeling of EDAM transfers (ETSRs) and within-BAA network modeling of transmission. Modeling ETSRs as they are today is inadequate to fully capture congestion constraints on the system since the borders between BAAs in the Pacific Northwest rarely correspond to discrete transmission paths or facilities. One Entity's internal network constraints may impact transfers for multiple EDAM Entity BAAs. The result of this may be a suboptimal EDAM market dispatch which actually causes congestion that does not otherwise exist. Giving these modeling aspects proper consideration will ultimately benefit the market overall by finding a means to capture the transmission which is truly available to the market for optimization.

More consideration of flexibility needed regarding unused ATC transmission that is donated into the market

Bonneville stresses the need for more consideration of what "state" unused ATC transmission must be in to be eligible for donation into the EDAM. The conversations at the workshop focused on the need for unused ATC to be in an unreserved state. While Bonneville supports the concept of enabling donation of unreserved ATC, this as a sole requirement for donation may be

limiting further opportunities to provide unused ATC to the market. Each discrete BAA may be able to ascertain conditions about specific reservations which would provide certainty that reserved transmission will go unscheduled for a specific time period. It is important to fully consider the types of unused ATC that may be made available in EDAM in order to facilitate bringing enough transmission to the market to enable optimizing dispatches most efficiently.

Clarity around the discretion to make transmission available in all buckets
Speaking to the importance of the voluntary nature of the EDAM, Bonneville seeks clarification from the CAISO that any and all means of making transmission available to the market (currently proposed are transmission to meet the Resource Sufficiency Evaluation [Bucket 1], transmission donated by interchange rights holders [Bucket 2], and unused ATC transmission donated by the transmission provider [Bucket 3]) are voluntary, and it is entirely at the discretion of the rights holders and transmission providers to make transmission available to the EDAM. If the CAISO disagrees with this stance, Bonneville wishes to fully understand the CAISO's position on the voluntary nature (or lack thereof) of transmission capacity made available to the EDAM in addition to the reasoning for that position.

Further consideration of the distribution of Congestion Rents from the CAISO
The CAISO's presentation appears to propose a direct relationship between individual transmission customers of EDAM Entities and the Market Operator for the purposes of distributing congestion rents. There is no corollary for such an arrangement in the EIM and Bonneville believes it is unnecessary and unwise to create such a relationship for EDAM. No two potential EDAM entities are identically situated and may require different methods of distributing congestion rents. Bonneville agrees that certain principles should guide that distribution but the CAISO should not replace the EDAM Entity or relevant Transmission Service Provider in the distribution of revenue generated from products it sells to customers.

This may be solved by creating Congestion Revenue (CR) accounts for each BAA and/or Transmisison Service Provider. This would ensure that each entity is paying/receiving their fair share of congestion revenue but also allows each Entity to distribute the CR consistent with its own tariff, statutes, etc. Bonneville emphasizes the need for further analysis around Congestion Revenue distribution to ensure flexibility for differently situated Transmission Provider's is addressed, while also adhering to the principles for allocation.

6. Bonneville's Comments Regarding Resource Sufficiency

Day-Ahead Market Enhancements (DAME) are critically important to the success of EDAM, as it establishes the foundation for meeting obligations with physical capacity that has been contracted for, this includes demonstrating the ability to meet a P50 load forecast and showing a level of Imbalance Reserves (new CAISO product) covering some defined confidence level. These enhancements to the CAISO's day-ahead market within its Balancing Authority contribute to establishing a baseline for Resource Sufficiency in other Balancing Authorities within an extended day-ahead market footprint.

Bonneville supports the four core objectives that EIM Entities have established for considering EDAM Resource Sufficiency:

- Promotes reliability;
- Sustains robust market depth and promotes participation;
- Ensures fairness; and,
- Complements individual RA/IRP processes.[2]

Bonneville emphasizes the voluntary nature of the proposed extension of the day-ahead market and the resulting need to promote, rather than mandate, participation by generation, load and transmission outside of the CAISO BAA. By sustaining robust market depth, EDAM transfers will provide more efficient and more effective market solutions that can be relied upon collectively to serve load even as uncertainty on the grid continues to evolve and grow. Bonneville believes that participation is promoted through efficient implementation that applies the following key principles developed by the EIM Entities[3] and expanded upon by Bonneville here:

- **Simple and workable:** EDAM Entities must be able to *efficiently* determine whether or not they are able to pass their own Resource Sufficiency test. This includes knowing the distribution of the hourly net load forecast used and an estimate of the diversity credit available to their EDAM Entity multiple hours before the market run kicks off at 10am on the day-prior.
- **Full transparency:** Buyers and sellers must be equally informed of the characteristics of products that are sold and used to satisfy the EDAM resource sufficiency test. This includes any transfer of bid range (or products being used to transfer bid range) from one EDAM Entity to another. Transparency also includes rigorous after-the-fact review of RS test inputs, outputs and historical performance to inform consideration of enhancements on a routine (at least annual) basis.
- **Preventive enforcement:** A simple and workable EDAM RS test will encourage EDAM entities to self-iterate to meet the test as needed (ie. open book test), rather than having a single entity administer a test that is run at the last minute which can result in limiting the participation of those entities that fail with little or no prior notice or opportunity to cure (ie. pop quiz). If EIM Entities seek access to the benefits provided by the efficient day-ahead dispatch, EIM Entities will endeavor to satisfy the test.
- **Transmission deliverability:** There needs to be a simple and workable test to determine if transmission contract rights are available to the meet the RS test.

At this early stage in the policy development process for resource sufficiency in the EDAM context, Bonneville offers additional input in four areas: 1) implications for the existing EIM

[2] EIM Entities Presentation on EDAM Resource Sufficiency Design, slide 6, February 11, 2020.
[3] EIM Entities Presentation on EDAM Resource Sufficiency Design, slide 9, February 11, 2020.

real-time test; 2) consideration of fuel as it implicates duration of energy dispatch; 3) role of internal transmission constraints; and, 4) failure consequences and preventive measures to avoid them.

EIM Real-time test is likely still going to be required. The question is how much more simplified can it become. This is a function of how much transacting is or can be done between the DA market run and t-75 minutes. Until this is better understood, we should continue to rely on a EIM real-time test. Furthermore, the EIM real-time test should still be required of those participating in EIM only and not in EDAM. If however, changes materialize because of higher levels of uncertainty than forecast, then changes to the Imbalance Reserve Product should be considered. If not, changes to the EIM real-time test should be considered.

Allowing the market solution to be aware of and work within fuel constraints is an important consideration for Bonneville. A starting point for discussion could be a mechanism to allow EDAM Entities to inform the market of an energy constraint – agnostic to whether that energy constraint is derived from water or gas etc. – and let the market solve around that constraint rather than attempt to somehow incorporate multiple different types of fuel forecasts into the market optimization. We understand that CAISO currently employs similar functionality in a number of different applications (ie. use limited resources, energy constraints, etc.) and would encourage exploring these further in the context of resource sufficiency for EDAM.

As discussed earlier in this comment, as well as Bonneville's November 2019 EDAM comment, testing for internal transmission constraints to an EDAM Entity BAA, merits further consideration and will need to be balanced with simple and workable solutions. The market outcome will adhere to internal constraints and therefore, this may be more about how do we get enough generation and transmission offered into the market to mitigate internal congestion. This could argue for a broader confidence interval and/or more in-depth analysis of advisory dispatch intervals. Bonneville encourages further consideration of the role internal transmission constraints play and the EDAM mechanisms to address them.

Bonneville believes further consideration of consequences of failure is warranted. Bonneville wants to ensure that the consequences place EDAM participants in a similar position to that which they were in before volunteering to participate in the market and do not unwind previously scheduled transfers to the detriment of both the sending and receiving parties. Bonneville seeks a considered dialogue on this important topic, as well as the preventative mechanisms in place to avoid failing in the first place.