



Department of Energy

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**CAISO Extended Day-Ahead Market (EDAM) Policy Initiative
Comments on EDAM Issue Paper
Submitted by Bonneville Power Administration, November 22, 2019**

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Bonneville Power Administration¹ (Bonneville) appreciates this opportunity to comment on CAISO's Extended Day-Ahead Market (EDAM) Issue Paper. Bonneville is generally supportive of extending the CAISO's day-ahead market to EIM Entities, finds the market design and policy issues identified in the CAISO's EDAM Issue Paper to be very important to Bonneville and its customers, and expects to be highly engaged in the CAISO policy initiative process.

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.

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.

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 capacity 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. Bonneville recently signed its EIM Implementation Agreement with the CAISO and therefore has not completed its analysis of the more granular details set forth in the EIM Entities joint comment. Bonneville looks forward to further evaluating these details before it fully endorses the EIM Entities' positions advanced in their joint comment on the CAISO's EDAM Issue Paper. The remainder of Bonneville's comments below clarifies Bonneville's position on certain issues in the EIM Entities joint comment.

Bonneville also generally supports the comments of the Public Power Council, the Public Generating Pool and the Northwest Requirements Utilities on the CAISO's EDAM Issue Paper.

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 2² 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

Bonneville generally supports the CAISO's EDAM Issue Paper and the "need to address transmission provision and compensation." Bonneville encourages the evaluation of transmission provision from multiple perspectives. For example, Bonneville has the potential to

² DAME Option 2 is the "Financial plus forecast" option identified by the CAISO.

be an EDAM Entity providing transmission service, a load service provider in multiple EDAM BAAs utilizing transmission, and a transmission provider to multiple third-party EDAM BAAs. The latter two are possible regardless of whether Bonneville ultimately decides to join EDAM. This also means that Bonneville will have to work with the CAISO, EDAM Entities, and Bonneville's customers to evaluate whether and how its transmission can be used for EDAM participation irrespective of whether it participates in EDAM.

Bonneville believes that the discussion on transmission needs to dive deeply into the commercial and operational aspects of EDAM. Bonneville believes EDAM presents an opportunity for meaningful improvements in both areas, but a thorough analysis is required to avoid the opposite. To this end, Bonneville encourages the evaluation of additional transmission attributes beyond those described in the EIM Entities' joint comment, including: 1) the use of EDAM transmission made available by third-party transmission providers (who may, or may not, also be EDAM Entities), and 2) any disconnects between the way transmission is commercially made available and the way it is physically operated.

To evaluate potential market design alternatives for EDAM, Bonneville will be assessing possible solutions against a number of transmission principles and interests and invites the CAISO to consider them, including:

- Impacts to reliability;
- Effectiveness of congestion management and impacts on flowgates, not just at BA-to-BA boundaries;
- Adherence to Open Access principles;
- Adequacy of transmission compensation framework(s);
 - Use of transmission on each impacted transmission provider's system, regardless of their EDAM participation, should be a factor in this compensation framework (i.e. source, sink and wheel through);
- Level of potential cost shifts between transmission customer classes;
- Clarity in the delineation of products and their objectives; and
- Potential for utilization of price signals for transmission expansion over congested paths.

a. Third-Party Transmission Providers

Bonneville provides transmission service to a multitude of Pacific Northwest EIM Entities. This has been true since the EIM went live in 2014. Bonneville has worked with the CAISO and its customers to develop operational controls and evaluate commercial impacts of allowing its transmission customers to use their transmission rights for EIM participation. To that end, Bonneville and the CAISO executed the Coordinated Transmission Agreement in 2017 to codify the use of the Federal Columbia River Transmission System.

EDAM has the potential for greater transmission usage than the EIM and may fundamentally change the way parties interact with the transmission system. Though Bonneville will be participating in the CAISO's EDAM stakeholder process as a potential EDAM participant, Bonneville will be impacted by EDAM regardless of whether it joins or participates. The issues

laid out in the EIM Entities' joint comment should be evaluated, but how those issues would work for an entity such as Bonneville should also be considered to best design this new market. This includes potential fundamental shifts in the way Bonneville customers purchase and use transmission for wheel-through transactions. The CAISO's EDAM Issue Paper identifies some potential mechanisms for third-party transmission provision, including transmission provision by a transmission customer in return for congestion revenues or in return for transmission compensation. EDAM should also consider commercial and operational attributes when that transmission does not "reside" in an EDAM Entity BAA.

b. Commercial and Physical Operation of the Transmission System

The issues in the CAISO's EDAM Issue Paper and the EIM Entities' joint comment appear to primarily be concerned with transmission at interchanges between EIM Entity BAAs. Evaluation of such transmission is appropriate but insufficient. Transmission constraints and operational controls do not always take place at the "border" between two BAAs. In fact, in the Pacific Northwest, the border between two BAAs is often just an artifact of interchange scheduling and may not clearly correspond to discrete transmission elements. This is particularly the case for many entities who utilize Bonneville's transmission system to deliver remote resources to load centers.

Bonneville encourages the evaluation of transmission to contemplate how the transmission system will be operated – notably where congestion occurs and is relieved. For instance Bonneville manages impacts on its internal network largely by monitoring "flowgates". Flowgates do not correspond to the boundary between any two BAAs but if they are congested it can impact how BAAs serve their load. Not addressing a disconnect between the commercial provision of transmission between BAAs and how the system is operated can distort both market solutions and congestion rent signals.

These questions are equally true for both internal and external resource participation. In fact, given the way Bonneville's transmission system is situated, there will often be little to no difference between an internal and external resource. In some cases a single physical resource is modeled in multiple BAAs, some of which are current EIM Entity BAAs (and potential EDAM Entity BAAs) and some are not. Their impacts on Bonneville's transmission system may have little to do with whether they are external to the market because they are electrically connected to Bonneville's transmission system.

c. Distribution of congestion rents

As discussed above, the physical and commercial operation of the transmission system directly impact congestions rents. As such, Bonneville believes that elements of the Congestion Revenue Rights market design are important in any EDAM transmission compensation framework and therefore, believes these are part and parcel of the forgoing section on Transmission Provision. Any congestion revenue framework should be predicated on the physical operation of the transmission system.

6. Bonneville's Comments on Resource Sufficiency

Bonneville strongly supports the CAISO's proposal to comprehensively revisit its resource sufficiency rules as part of its EDAM policy initiative process. Given the potential expansion of the EIM to include a day-ahead component, Bonneville believes overhauling the resource sufficiency rules is critical to the success of EDAM. At a high-level, Bonneville also supports the EIM Entities' joint comment regarding resource sufficiency. However, there are certain details in the EIM Entities' joint comment that Bonneville needs to further evaluate before it fully endorses their comments on resource sufficiency, particularly around the interaction between resource sufficiency for the EDAM and resource sufficiency for the EIM.

Additionally, Bonneville believes the CAISO's rules regarding resource sufficiency should:

- Be clear, uniform, and not unduly burdensome for market participation;
- Prohibit one participating Entity leaning on another at the BAA level;
- Ensure the deliverability of energy where it is intended;
- Provide a clear delineation of resource attributes (i.e., energy, capacity, flex, deliverability, etc.);
- Prevent double counting of resources by requiring clear accounting (i.e., source, sink, quantity, and other characteristics) and timely notification to all resources and contract holders used to meet resource sufficiency requirements;
- Allow EDAM Entity BAAs to retain the ability to determine whether and how to allocate the BAA-level RS standard to entities within their respective BAAs;
- Include timelines that allow participation in bilateral markets; and
- Allow EDAM and EIM Entities to market capacity to other entities for purposes of meeting resource sufficiency requirements.

7. Bonneville's Comments on External Resource Participation

EDAM is an extension of the CAISO's day-ahead market outside of the CAISO BAA. External resources currently participate in the CAISO day-ahead market through the intertie bidding framework and there is not a good rationale to support excluding external resources from any BAA participating in EDAM. Attempting to exclude resources from what may become the predominate energy market in the Western Interconnection could be deemed to be anti-competitive or face other legal challenges, and, at the very least, it will turn the creation of EDAM into a confrontation rather than a collaboration.

Bonneville strongly supports the CAISO's consideration of allowing external resources to participate in EDAM. That said, Bonneville also supports the CAISO's efforts to grow the market by incenting full participation in EDAM. Bonneville believes the CAISO should strive to balance external resource participation and its desire to grow the market through full participation.

Bonneville does not support the EIM Entities joint comment that external resource participation should be addressed in a later phase, if at all. Bonneville believes there is lack of clarity

regarding external resource participation and thus further discussion on the characteristics of this type of market participation is necessary.

Assuming EDAM becomes operational in 2022 and that Bonneville wants to participate in EDAM, Bonneville might first have to participate in EDAM with external participating resource(s) given Bonneville's timeframe for EIM implementation (projected March 2022 "go-live" date). A formal decision by Bonneville to join and participate in EDAM will most likely occur after the 2022 timeframe.

Participation by Bonneville and others as external resource participants would significantly increase the depth and liquidity of the market, which would benefit market participants through more efficient and effective dispatch overall. While participation by bidding an external resource into the market is a benefit to the resource owner, more significant benefits from EDAM will flow to all participants that are operating transmission and using EDAM to serve load. In regard to any concerns regarding freeridership and reliability, the CAISO and stakeholders are able to design requirements and charges that are fair and equitable for all participants in EDAM, including those participating with external resources that are not in an EDAM Entity BAA.

8. Bonneville's Comments on Price Formation

Bonneville generally supports the EIM Entities' comments regarding price formation. Additionally, Bonneville believes the following principles should be applied to the discussion regarding price formation:

- Price formation should reflect the opportunity costs of use-limited hydro resources;
- Price formation should also ensure a fair compensation that realizes the value of Bonneville's flexible, carbon-free federal generation, including but not limited to start-up and min-gen costs; and
- EDAM should integrate the financial plus forecast option from DAME, i.e., IRP and reliability energy.