

**To:** Lead Team members of the State-Led Market Options Study funded by U.S. Department of Energy grant received by the Utah Governor’s Office of Energy Development

**From:** Portland General Electric, on behalf of the Joint EIM Entities

**Date:** January 23, 2020

**Subject:** Joint Response to Request for Market Operator and Utility Feedback on State-Led Market Options Study

The EIM Entities<sup>1</sup> are existing or planned participants in the Western Energy Imbalance Market (“EIM”) and were the participants in the Extended Day-Ahead Market (“EDAM”) Feasibility Assessment. The EIM Entities appreciate the opportunity to provide feedback and input on the State-Led Market Options Study (“Study”). Additionally, the EIM Entities recognize the value in providing regulators and policymakers with a neutral forum and analysis that can provide tools to enable the evaluation of market options and impacts in the West. The EIM Entities realize that the wholesale market landscape is rapidly evolving and providing a “roadmap” and tools for reviewing and evaluating this changing landscape can help facilitate decision-making.

As noted in the Study, since the inception of the EIM in 2014, the wholesale energy market in the West has had an impact on bilateral trading timeframes and is moving towards greater degrees of regional integration and market optimization. This shift has enabled EIM and California Independent System Operators (CAISO) market participants to reduce costs for customers and enable greater integration of variable renewable generation; it has also brought intangible benefits that have strengthened reliability through improved situational awareness. As the region faces decisions regarding the incremental evolution of these market structures, the EIM Entities recognize the value that tools contemplated by the Study such as a “market factor scorecard” can provide in supporting decision-making among policy makers and regulators when faced with multiple options to evaluate.

However, the EIM Entities stress that the benefits calculated in any study are dependent on the assumptions that underly the study, including assumptions regarding the ultimate design of the market option. As the EIM Entities noted in their September 16, 2019, public letter and principles for EDAM:

*The EDAM Feasibility Assessment identified a range of potential aggregate gross benefits of \$119 to \$227 million annually, if the market is able to attract broad participation across the West. The Feasibility Assessment, however, is merely a directional indicator of possible aggregate benefits, and relies on the market’s ability to attract broad participation across the West. It is neither a precise estimate of aggregate benefits, nor does it inform whether there is a positive business case for each individual EIM Entity to participate in EDAM. Further, it*

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<sup>1</sup> The following EIM Entities are signatories to these comments. Those Entities marked in **bold** were also part of the EDAM Feasibility Assessment.

**Arizona Public Service Company (“APS”), Avista Corporation (“AVA”), Balancing Authority of Northern California (“BANC”), Bonneville Power Administration (“BPA”), Idaho Power Company (“Idaho Power”), The City of Los Angeles, Department of Water and Power (“LADWP”), NV Energy (“NV Energy”); PacifiCorp, Portland General Electric Company (“PGE”); Powerex Corp. (“Powerex”), Public Service Company of New Mexico (“PNM”), Puget Sound Energy, Inc. (“PSE”), Salt River Project (“SRP”), The City of Seattle, acting by and through its City Light Department (“Seattle City Light”), The City of Tacoma, Department of Public Utilities, Light Division (“Tacoma Power”), Tucson Electric Power (“TEP”), Turlock Irrigation District (“TID”); and NorthWestern Corporation d/b/a NorthWestern Energy (“NWE”).**

*does not identify the extent to which economic and environmental benefits may be reduced should only a limited number of EIM Entities elect to participate in EDAM.*

Therefore, the EIM Entities request that the Study Team recognize the same limitations of the study it is undertaking, namely that the Study will provide valuable *directional indicators* that enable policy makers and regulators to compare different market options based on a common set of assumptions, but that the ultimate net benefit to any market participant will be determined by the specific design details of that market.

Indeed, the EIM Entities agree with the approach taken by the Study to “focus on the comparative benefits of different market proposals” rather than “rank” market options. This approach is appropriate and may enable the Study to achieve its goal of providing neutral analysis to the policy and regulatory community that will facilitate the necessary decision-making that the region faces as the wholesale energy market landscape evolves. As noted in response to the specific questions below, this Study can provide the regulatory and policy making community with information regarding the impact that certain market design elements can have on ultimate market benefits. The EIM Entities hope that policymakers can use this information to provide input on these market design elements through the upcoming EDAM stakeholder process.

Finally, the EIM Entities note that some of the information requested below is sensitive, requiring a Non-Disclosure Agreement. The EIM Entities recommend that the Study Team utilize publicly available information, or information available to the Study Team’s “Lead Team” members.

The EIM Entities respond to the specific requested feedback below. Note that for some of the questions below, the information requested is specific to each EIM Entity. For these questions, individual companies may choose to submit their own comments in response to those questions.

**References to your most recent resource and transmission planning documents:**

The response to this question is specific to each EIM Entity.

Generally, for investor-owned utilities, the most recent resource plan is filed with the state Public Utility Commission. The most recent transmission plan is posted to each company’s Open-Access Same Time Information System (“OASIS”) website.

**Input on which units should be modeled as “must-run” for your utility or Balancing Authority Area (BAA) and how those “must run” designations would likely change from a real-time energy market, day-ahead market, and in a regional transmission organization**

The EIM Entities recommend that the study utilize the WECC base case model which includes all relevant information for each resource and each load condition. The designations should not change between each market construct.

**Data or recommendations related to transmission contracts and “remote” resources. Any information or data sources for your utility’s existing, long-term transmission reservations/rights and list of resource remote from your BAA which may be imported without wheeling charges in today’s market structure.**

Again, The EIM Entities recommend that the study utilize the WECC base case model to start. Generally, utilities procure enough firm long-term transmission to cover the nameplate capacity of each remote resource. Additional information regarding long-term transmission reservations can be found in the FERC EQR reports.

Additional company-specific responses to this question may be provided.

**Suggested data sources or reasonable assumptions for transmission availability and cost, particularly for the day-ahead market.**

The EIM Entities categorized the transmission into three buckets or types of transmission for the day ahead market feasibility assessment.<sup>2</sup>

Bucket 1: Resource Sufficiency Transmission

Transmission needed for transactions made prior to EDAM to meet Resource Sufficiency requirements. This transmission could include long-term contracts for remote resources, block purchases from other BAAs, or purchases of dispatchable Resource Sufficiency capacity that can be bid into the EDAM.

Bucket 2: “Donated” transmission contracts

Long-term and highly reliable transmission contracts that are voluntarily made available to enable EDAM transfers between BAAs.

Bucket 3: EDAM BA-to-BA transmission that can be sold by the Transmission Provider

Highly reliable transmission that can be sold by the Transmission Provider for EDAM on a day-ahead basis at a pre-determined EDAM hurdle rate. The feasibility assessment assumed a rate of \$3/MWh. This study could use a similar rate or apply sensitivities around a hurdle rate in an extended day-ahead market.

The EIM Entities’ principles for EDAM state that EDAM should not result in materially significant cost shifts; EDAM transmission design should seek to balance the costs and benefits of transmission, including recovery of transmission costs and compensation for transmission utilization. A uniform incremental rate should be considered. EDAM transmission should facilitate the market and not place an unreasonable hurdle to impede EDAM efficiency.

An option for this study could include running sensitivities around different rates for the third bucket of transmission to inform stakeholders of the (\$/MWh) rate that recovers the costs for the transmission use without harming the market benefits.

Additional details about the transmission availability assumptions can be found in the comments to the CAISO’s issue paper for the Extended Day Ahead Market on pages 5 – 7<sup>3</sup>.

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<sup>2</sup> Available at <http://www.caiso.com/InitiativeDocuments/Presentation-ExtendedDayAheadMarketFeasibilityAssessmentUpdate-EIMEntities-Oct3-2019.pdf>

<sup>3</sup> Available at <http://www.caiso.com/InitiativeDocuments/EIMEntityJointComments-ExtendedDay-AheadMarket-IssuePaper.pdf>

**For those entities that participated in the Extended Day-Ahead Market (EDAM) Feasibility Assessment, information on whether the scenario with a \$3/MWh transmission charge included that charge for real-time (EIM) transactions.**

The \$3/MWh rate was selected as a reasonable working assumption but was not an output of any quantitative or operational analysis. The hurdle rate that was used for “bucket 3” transmission in the EDAM feasibility assessment was not used for the real-time EIM.

**Relevant import or net export limits which you believe should be modeled (e.g. the CAISO net export limit) Please specify if/how these limits might change between the three different market structures being analyzed.**

The Feasibility Assessment utilized a CAISO net export limit of 5,000 MW in the unit commitment cycle and 7,000 MW in the dispatch and EIM cycles in the business as usual case.<sup>1</sup> The EDAM Feasibility Assessment did not consider any additional net import or export limits.

**Suggestions or past experience regarding the application of GHG emission prices and GHG reduction requirements in west-wide production cost modeling. Input on proposed accounting for GHG emissions from imports or exports of power.**

- The EIM Entities note that the application of any GHG framework to a production cost model is extremely complex. Improving GHG modeling and accountability has been the subject of numerous CAISO stakeholder working groups and is going to be the subject of additional stakeholder meetings for EDAM. Therefore, the EIM Entities recommend that the Study Team review these stakeholder processes to better understand the challenges and complexity of incorporating a GHG framework into a wholesale market model. The EDAM Feasibility Assessment modeled GHG prices only in certain regions, namely California, Oregon, Washington and British Columbia. The Feasibility Assessment assumed that in 2028, these regions participate in a market with the same GHG price.
- The EIM Entities used the California Energy Commission’s high forecast for the GHG prices in the Feasibility Assessment.

**Details regarding Resource Sufficiency tests that have been used in prior analyses.**

The EDAM feasibility assessment assumed that each BAA had sufficient capacity to cover their contingency reserve and regulation obligations, uncertainty of day-ahead load and variable energy resources forecasts, and a small amount of replacement reserves to cover real-time forced outage events that last beyond 60 minutes. The capacity needed to cover the forecast uncertainties and replacement reserves were reduced by a diversity benefit for sharing among the region.

**Specific information on how a resource sufficiency test should be performed and its applicability to each market construct.**

For the EIM and EDAM market constructs, a resource sufficiency test is performed close to the market optimization time horizon to ensure that each market participant is bringing enough generation to meet their own load obligations *for the specific timeframe that the market is running*. For an RTO, a more long-term approach to resource adequacy is required.

The resource sufficiency test would be applicable to the EIM real-time market “status quo” and the day-ahead market constructs. An RTO must also include a mechanism to ensure that enough generation is committed to the market to meet load service obligations and reliability requirements. A resource sufficiency test could be replaced with a must offer obligation for specific resources in the RTO market construct.

Please refer to the comments from the EIM Entities to CAISO's EDAM issue paper pages 8 – 11.

***“To the extent possible, EDAM participants should not be held to a new standard in the EIM once they have met a Day-Ahead requirement***

The EDAM RS test will include requirements to ensure sufficient resources are set aside to respond to day-ahead uncertainty in real-time system conditions (such as changes in load and VER output, forced unit outages, and unexpected interchange deviations). To the extent that such uncertainty is properly addressed in the day-ahead timeframe, an entity that has passed the day-ahead test should not be required to supply additional resources into the EIM as such uncertainty materializes.

A major benefit of EDAM is to pool resources on a day-ahead basis to commit resources more efficiently across the EDAM footprint. Holding entities to a full-blown hourly real-time RS test has the potential to undermine these benefits if entities believe they will have to hold aside additional supply in order to meet such a test in real-time.

It is conceivable, however, that a simplified real-time test may be necessary to verify that the participant has not taken actions in Real Time that would undermine the day-ahead RS result (such as entering into a new bilateral transaction in Real Time that relies on the same capacity that is already committed to an EDAM Day-Ahead market award).”

Resource sufficiency is an important component to design a market that maintains grid reliability. The EIM Entities also note that the design of the resource sufficiency test can have an impact on the market benefits. Running sensitivity scenarios on variations of this market element could inform the Study Team of the impacts to benefits of certain market design choices.

**Data or information sources that would be helpful in modeling contracted resources in any Resource Sufficiency tests that might be conducted.**

The EIM Entities recommend that the Study utilize the WECC base case model which includes all relevant information for each resource and each load condition.

**Was this constraint/application of this test frequently binding in the study(ies) you have performed? If so, please provide any information on why that was the case.**

This analysis was not conducted in the EDAM feasibility assessment.

**Natural gas price assumptions.**

The EDAM feasibility assessment utilized the California Energy Commission's 2019 forecast for natural gas prices.