

**COMMENTS OF SELECT EIM ENTITIES¹ ON THE CAISO'S
DAY AHEAD MARKET REVISED STRAW PROPOSAL
July 13, 2020**

The Commenters appreciate the opportunity to comment on the CAISO's Day-Ahead Market Enhancements Initiative (DAME) Revised Straw Proposal. The Commenters support the objectives of enhancing the CAISO's existing energy market, and believe a successful day-ahead market solution should meet a number of key design objectives:

1. **Reliability:** the DAM should commit sufficient physical capacity and flexibility to maintain reliability under a range of uncertain real-time conditions.
2. **Efficiency:** the DAM should produce an efficient market solution that selects the most cost effective resources to meet the needs of the grid.
3. **Pricing and compensation:** the DAM should provide accurate pricing and appropriate compensation for the capacity and flexibility attributes of physical resources that are needed to operate the grid.

The Commenters believe each of these key objectives should be met in a well-designed CAISO day-ahead market, and any DAME proposal should be measured by how well it meets these market design objectives.

I. The CAISO Straw Proposal

The Commenters supported the original Straw Proposal that would enable a single co-optimized procurement of all the day-ahead products needed to operate the CAISO BAA. This approach would ensure the day-ahead market procures the most efficient (i.e., lowest production cost) mix of resources to provide the hourly energy, capacity and flexibility needed to ensure reliability, while producing accurate and transparent price signals for each of those attributes. The Commenters recognize, however, that some stakeholders raised a number of pertinent concerns with the Straw Proposal, including:

1. whether capacity compensation, in the form of RCU awards and/or physical resources receiving a premium above virtual supply, could be perceived as a double-payment to resources that had already received forward compensation for their capacity attributes under the California RA program;
2. whether the total cost to each load entity (after considering cost allocations for RCU) would be consistent with the entity's submitted bid prices; and

¹ These comments are submitted on behalf of the following EIM Entities: Arizona Public Service, Avista, Bonneville Power Administration, Idaho Power, Portland General Electric Company, Powerex, Salt River Project, Seattle City Light, and Tacoma Power (the "Commenters"). Some EIM Entities may not have yet formulated their own specific positions on all issues addressed within this document or may have different views. Therefore, while these comments represent a consensus position of the "Commenters," these comments may not necessarily represent the views on every specific issue by each individual EIM Entity.

3. whether the decomposition of the day-ahead LMP into a separate “energy only” and “reliable energy” component would reduce the ability for LSEs to hedge their energy purchases between day-ahead and real-time.

II. The CAISO Revised Proposals

The Commenters support seeking solutions to the concerns described above while continuing to strive to meet the high-level objectives of supporting reliability, market efficiency and appropriate compensation for the capacity and flexibility attributes provided by physical resources. The Commenters also appreciate the significant effort of CAISO staff to propose alternatives that attempt to address many competing perspectives that have been shared by stakeholders during this initiative.

Most recently, the CAISO proposed two alternatives: the written Revised Straw Proposal (“Revised Proposal”), and a subsequent modified version of the Revised Proposal (“Modified Proposal”) which was explained by CAISO staff during the most recent stakeholder meeting.

Both alternatives are based on an iterative approach to arrive at the day-ahead market solution. The first market iteration would be identical to the formulation from the previous Straw Proposal, and would efficiently procure sufficient physical capacity to meet the operator load forecast, a defined quantity of flexible reserves, and energy to meet bid-in load. Like before, the first market iteration would distinguish between physical resources and virtual supply offers when determining the most efficient market solution to simultaneously satisfy the need for all market products.

Rather than use the market awards and market prices resulting from the first iteration as the binding market solution, the CAISO’s Revised Proposal would use those results only to (1) set a fixed RCU/RCD procurement target, and (2) lock in unit commitment instructions for internal resources. The fixed RCU/RCD target and unit commitment instructions would then be used as inputs into a second market iteration that would produce binding market awards and prices for energy, reliability capacity and imbalance reserves using a simplified market formulation that would no longer differentiate between physical supply and virtual supply.

During the recent stakeholder calls, it was identified that the Revised Proposal could lead to reliability challenges if the second iteration allows virtual supply to displace physical resources (including imports) and results in a final market solution in which sufficient physical supply is no longer committed. The CAISO acknowledged the potential for such unintended outcomes and verbally introduced a Modified Proposal that would include a third iteration that would allow the CAISO to increase the RCU requirement if needed to address any physical capacity shortfalls created by the second iteration.

The Commenters appreciate the CAISO’s responsiveness in addressing this reliability concern and believe that adding a third iteration would allow the day-ahead market to procure the correct quantity of physical capacity to meet the operator load forecast as intended. In this regard, the Modified Proposal is a significant improvement from the written Revised Proposal. The Commenters believe, however, that it is important to recognize that the Modified Proposal faces certain limitations relative to the original Straw Proposal in two key areas:

- 1) Market efficiency – the Modified Proposal may not result in the most efficient dispatch solution when physical resources that are efficiently selected in the first iteration are subsequently

displaced by virtual supply in the second iteration. This displacement could occur even if selecting the virtual would require the CAISO also to procure additional RCU at a higher total production cost than simply providing the energy award to the physical resource as originally determined in the first iteration.

- 2) Pricing and compensation – in contrast to the February 3rd Straw Proposal, market prices and compensation under the Modified Proposal will not recognize the additional capacity value provided by physical resources and will result in compensation to firm energy being the same as what is paid to virtual supply.

III. Considerations for EDAM

The DAME proposal that is ultimately adopted by the CAISO is also likely to establish the core design elements of a future EDAM. The Commenters believe that the Modified Proposal, if adopted with its existing limitations, would require further stakeholder dialogue and additional enhancements before being extended to EDAM.

For example, a failure to include compensation for firm energy will likely fail to provide accurate price signals and is also likely to create challenges for allowing EDAM benefits to be equitably shared between buyers and sellers within a broad regional footprint. The potential for aggregate EDAM benefits are largely driven by day-ahead unit commitment savings – a significant quantity of which is likely to occur within the CAISO BAA (given that the CAISO BAA is the largest net importer in the EIM footprint, and is often importing energy during peak hours when most EIM Entity BAAs are exporting).

While these unit commitment savings are expected to lead to *aggregate* benefits, appropriate compensation for firm energy is necessary to ensure those benefits can be equitably shared between the CAISO BAA and the exporting BAAs that enable those savings. Appropriate compensation for firm energy is also critically important given that EDAM does not simply represent incremental trade: it is also likely to replace a significant quantity of existing day-ahead transactions outside of the CAISO BAA, potentially resulting in today's bilateral firm energy transactions being replaced by EDAM transactions at non-firm/virtual prices. Such a shift would likely discourage EDAM participation by entities that would be forced to include the potential loss in sales revenues from existing transactions into their cost-benefit analysis for EDAM.

IV. Imbalance Reserve Up and Down products and the Sequential Residual Unit Commitment (RUC)

Throughout the DAME Initiative there has been broad stakeholder support for the design of a day-ahead imbalance reserve product to decrease operator intervention and increase market efficiencies. In the last two stakeholder meetings, some stakeholders have recommended that CAISO abandon attempts to co-optimize the Integrated Forward Market (IFM) and Residual Unit Commitment (RUC) and focus (instead) on the implementation of the least controversial element of the DAME proposal.

However, just utilizing the imbalance reserves product will not guarantee that any of the market design objectives will be met:

- 1) Reliability – imbalance reserves will not guarantee that enough physical capacity is being secured. If virtual supply clears and the market is short capacity, operators may still need to

seek out of market actions, even after buying imbalance reserves that were based on some historical analysis.

- 2) Efficiency – imbalance reserves won't allow the market to make a meaningful distinction between whether or not it's more cost effective to choose a physical resource or to select a virtual offer.
- 3) Pricing and compensation – there is no mechanism introduced that would value the characteristics of the physical resources that are helping to achieve the capacity needs of the system by providing physical firm energy.

At most, the recommendation to only implement the imbalance reserves product and to maintain the sequential RUC process is an interim step that still ignores the full quantity of the reliability capacity needed to cover the resources that are cleared in the market. These inefficiencies were acknowledged on the last stakeholder call and were coupled with a suggestion that the CAISO agree to commit to evaluating whether (and how) an enhancement that only includes the imbalance reserves product should be reformulated at a later date. As such, it would appear that this recommendation merely delays the identification of a market solution that meets a broader set of design objectives just so that market participants can measure how large of a reliability problem the interim solution still fails to resolve. For this reason, the Commenters do not support this approach and believe it is more appropriate to continue to pursue a comprehensive solution that not only includes IRP, but also brings together the existing IFM and RUC in a single, efficient co-optimization.

V. Conclusion

The Commenters re-iterate their appreciation of CAISO's efforts to find a solution that would balance many stakeholder perspectives and priorities. Furthermore, the Commenters believe the Modified Proposal is a significant improvement over the CAISO's existing day-ahead market, and recognize that many of the stakeholder concerns with the Straw Proposal are addressed through the CAISO's iterative approach. However, the Commenters also believe the Modified Proposal contains certain limitations that are inconsistent with several important objectives and that those limitations merit further evaluation before moving forward. To this end, the Commenters support further stakeholder discussions regarding alternative design proposals, including the alternative proposed by Powerex, that have the potential to complement and further enhance the efficiencies and compensation structures put forth in the CAISO's Modified Proposal. If an acceptable alternative is not identified and the CAISO ultimately moves forward with the Modified Proposal in its current form, the Commenters believe that CAISO should commit to revisiting these topics in the EDAM initiative to allow for these issues to be considered in the context of extending a workable market design to a broader region footprint.