

Stakeholder Comments Template Day-Ahead Market Enhancements Initiative

This template has been created for submission of comments on proposed market design options discussed with stakeholders during the August 13, 2019 Day-Ahead Market Enhancements working group meeting. Information related to this initiative is available on the initiative webpage at:

<http://www.caiso.com/informed/Pages/StakeholderProcesses/Day-AheadMarketEnhancements.aspx>.

Upon completion of this template, please submit it to initiativecomments@caiso.com. Submissions are requested by close of business on August 27, 2019.

Submitted by	Organization	Date Submitted
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Please provide comments on the preferred market structures that were discussed during the August 13, 2019 working group meeting. Include the pros and cons for each option.

Bonneville Power Administration (Bonneville) appreciates the opportunity to comment on the Day-Ahead Market Enhancements stakeholder initiative as discussed during the Day-Ahead Market Enhancements Working Group of 13 August, 2019 and the Market Surveillance Committee Meeting of 19 August, 2019.

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 other regional entities prior to selling power out of the region.

1. At this time, does your organization support moving forward with **Option 1: Financial**, **Option 2: Financial + Forecast**, or **undecided**. Provide supportive comments (in favor of, or in opposition to) below.

<p><u>Option 1:</u></p> <p><input type="checkbox"/> Support</p> <p><input type="checkbox"/> Support with caveats</p> <p><input checked="" type="checkbox"/> Oppose</p> <p><input type="checkbox"/> Uncdecided</p>	<p><u>Option 2:</u></p> <p><input type="checkbox"/> Support</p> <p><input checked="" type="checkbox"/> Support with caveats</p> <p><input type="checkbox"/> Oppose</p> <p><input type="checkbox"/> Uncdecided</p>
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Option 1: Financial

- Co-optimizes bid-in demand, ancillary services and imbalance reserves
- Imbalance reserves cover historical uncertainty between IFM cleared net load and FMM net load
- Exceptional dispatch if IFM clears inconsistent with operational needs

Please provide comments to explain your position on option #1:

Bonneville is opposed to “Financial” Option #1. Bonneville appreciates the integrated, co-optimized procurement of imbalance reserves (as a step towards explicit procurement and pricing of flexible capacity). From a system reliability perspective, Bonneville believes Option #1 is strictly dominated by “Financial + Forecast” Option 2. Bonneville notes that in Option #1, the quantity of procured imbalance reserves is proposed to hinge on the observed, historical distribution of IFM cleared net load uncertainty. The empirical work presented on the various measures of uncertainty (market uncertainty, forecast uncertainty, adjusted forecast uncertainty) indicated that the MW quantities of uncertainty in the tail percentiles of these distributions tended to be larger when using bid-in load and virtual demand. This relative dispersion of the market uncertainty distribution implies that the out-of-market dispatch consequences (in terms of MW amounts) under Option #1 will be relatively large.

Further, as noted on multiple occasions, there is an obvious linkage between the formulation of the enhanced day-ahead market and the extension of this market to the EIM footprint. The formulation of Option #1 has significant implications for system reliability should this formulation be extended to EIM entities. First, BPA shares the concerns that several stakeholders identified over the potential for systematic “leaning” in such an extended market, since the Day-Ahead Market solution (and its approximation to Fifteen-Minute Market conditions) relies so heavily on the participation of virtual bids. Second, there is not an obvious mapping of the Option #1 formulation to the conventions and business processes other balancing authorities employ in the preschedule timeframe to ensure reliability of their systems in real-time operations.

Finally, Bonneville concurs with CAISO’s assessment that the uncertain deliverability of imbalance reserves, due to zonal procurement, is disadvantageous for reliability.

Option 2: Financial + Forecast

- Co-optimizes bid-in demand, ISO reliability capacity, ancillary services and imbalance reserves
- Imbalance reserves cover historical uncertainty between ISO's day-ahead net load forecast and FMM net load
- Reliability capacity covers differences between ISO net load and cleared net load
- Exceptional dispatch if IFM/RUC clears inconsistent with operational needs

Please provide comments to explain your position on option #2:

Recognizing that many substantive details have yet to be fully addressed in the stakeholder process, Bonneville supports (with caveats) "Financial+Forecast" Option #2. As noted above, Bonneville believes Option #2 strictly dominates Option #1 in terms of reliability. Bonneville acknowledges the important role played by financial bids in a centrally-cleared market, but believes explicit distinction between physical and virtual supply (as in Option #2) is critical in sending appropriate price signals and associated valuation of future investments in the physical grid.

To reiterate from above, Bonneville favors several aspects of Option #2 in terms of reliability. The first is using the CAISO Net Load Forecast as the basis for physical capacity procurement. The data presented in the stakeholder workshop indicated that the distribution of the uncertainty associated with Option #2 was less dispersed. Furthermore, extrapolating from information available for the tails of the uncertainty distributions, errors appear to be less consequential under Option #2 than under Option #1. Second, Bonneville believes the deliverability assessment inherent in procurement of the proposed reliability capacity product is appealing. This reliability capacity carries the benefit of being assessed against explicit transmission constraints and, as such, contributes more to reliability, than an equivalent amount of zonally-procured imbalance reserves.

With respect to the extension of the Day-Ahead Market to EIM entities (EDAM), Bonneville believes Option #2 provides a more straightforward transition, for entities outside the CAISO footprint, from current operations to the eventual operations under the revised Day-Ahead Market formulation. Again, as alluded to above, Option #2, on its face, is more closely aligned with day-ahead business practices and system operations outside of the CAISO footprint.

Bonneville acknowledges the complications associated with Option #2 that were identified by other stakeholders. These concerns ranged from settlement of reliability capacity and no-show provisions, to being mindful of incentives created for virtual bidders. To date, Bonneville is not convinced that any of these complications are insurmountable and believes that these concerns are outweighed by the perceived incremental reliability benefits provided under Option #2 over Option #1.

Bonneville would appreciate a deeper discussion among stakeholders on potential solutions to all of these issues, especially in the context of a more comprehensive dialogue on EDAM. Bonneville believes that EDAM feasibility, policy, and implementation are tied closely enough with the Day-Ahead Market Enhancements initiative that *de rigueur* consideration of impacts to EDAM would aid stakeholders (affected by both initiatives) in providing input that is consistent across both initiatives.

Please offer any other feedback your organization would like to provide on presentation materials and discussion for August 13, 2019 Day-Ahead Market Enhancements stakeholder working group meeting.

Comments:

With respect to the highlighted issue of the “correct” uncertainty confidence interval for imbalance capacity procurement, Bonneville reiterates comments made at the stakeholder workshop that the “correct” answer is fundamentally a function of risk preference, which will clearly vary across stakeholders. Bonneville notes the inverse relationship between the choice of this threshold and the magnitude of exceptional dispatch “expected” under the new market design.

Several stakeholders also expressed particular interest in the market’s price elasticity of demand for imbalance reserves. Bonneville welcomes discussion on the relative merits of a demand curve concept versus stepped penalty parameters in imbalance reserve procurement.

Finally, Bonneville expresses its continued appreciation for the extensive participation and engagement of all stakeholders in this process. Bonneville looks forward to further discussions on the important details of the new market design. In particular, further deliberation on the incentives created for virtual bidding and the interactions between virtual bidding and procurement of, and price formation for, the new (and existing) biddable Day-Ahead Market products would be most welcome.