California ISO

Stakeholder Comments Template

Day-Ahead Market Enhancements

This template has been created for submission of comments on proposed market design options discussed with stakeholders during the June 20, 2019 Day-Ahead Market Enhancements workshop. 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 July 11, 2019.

Submitted by	Organization	Date Submitted
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Please provide comments on the proposed formulation options described below. In your comments, please explain your rationale and include examples if applicable. Also, recommend any analysis and data that your organization believes would be helpful to review on these options. Include details and explain your reasoning for the type of analysis and data that you suggest.

1. At this time, does your organization support moving forward with **Option 1: Sequential Integrated Forward Market followed by an after-market Reliability and Deliverability Assessment (Sequential IFM-RDA)**, **Option 2: Integrated IFM and Residual Unit Commitment (Integrated IFM-RUC)**, or **undecided**. Provide supportive comments (in favor of, or in opposition to) below.

Please double click on check box below to select your position:

Option 1:	**Option 2:**
☐ Support ☐ Support with caveats ☐ Oppose ☒ Undecided	☐ Support ☐ Support with caveats ☐ Oppose ☒ Undecided

Option 1: Sequential IFM-RDA

Please provide comments to explain your position on Option 1:

The sequential IFM-RDA removes the current RUC process and replaces it with a day-ahead exceptional dispatch process. WPTF does not support implementing a day-ahead imbalance reserve product and removing RUC in the same pass. WPTF supports consideration of Option 1 or Option 2 after the imbalance reserve product has been implemented for 1-year and the CAISO can assess whether it lowered the need for RUC commitments as expected.

Option 2: Integrated IFM-RUC

Please provide comments to explain your position on Option 2:

WPTF believes an integrated IFM/RUC may be feasible but has concerns with the specific formulation proposed in option 2 for the reasons stated below. WPTF continues to support the initiative goals and exploration of alternative day-ahead market models. The CAISO explained that the purpose of the workshop was to seek stakeholder opinion prior to moving forward with a proposal, and WPTF believes the CAISO did a great job in describing the two options. We would like to note that our even being able to have an opinion on this complex option is due to the truly excellent work done by the CAISO team and in particular, Don Tretheway and Megan Poage.

Summary

- WPTF encourages the CAISO to take a step back and discuss different day-ahead market designs in the explicit context of extending the day-ahead market to EIM entities. Prior to moving forward with a specific design, it would be helpful to openly discuss whether the CAISO wants to have a day-ahead physical reliability market or a day-ahead financial market and why. This includes consideration of what it means to transact energy at large volumes between areas with different resource adequacy constructs and how to fairly compensate internal and external capacity for their must-offer obligation to the real-time market.
- Option 2 significantly shifts what the LMP represents and what the day-ahead market is compensating. Should the CAISO move forward with this option, WPTF requests that at the next meeting the CAISO walk through the proposal again from a policy perspective and discuss from higher level what they are proposing and why it is needed. In addition to concerns with how option 2 works with the RA program, WPTF is particularly struggling with the concept that the marginal energy offer would be obscured between a *nodal* LMP and *zonal* capacity price.
- Option 2 may have adverse effects on other aspects of the market and WPTF is particularly concerned with how option 2 may impact virtual trading and Congestion Revenue Rights.
- WPTF acknowledges CAISO's need for capacity and flexibility to reliably operate the grid and supports a market design that compensates resources for the unique attributes they provide. As a starting point to addressing these needs, it might be beneficial for the CAISO to prioritize the day-ahead imbalance product in this initiative and then move its focus to an integrated IFM/RUC.

WPTF believes enhancing the day-ahead market should be a foundation to extending the day-ahead market to EIM entities. Currently the CAISO has a resource adequacy (RA) program that compensates capacity for their must-offer obligation. The day-ahead market, and in particular Residual Unit Commitment (RUC), is set up to work in tandem with this RA program. If the day-ahead market is extended to EIM entities, the CAISO must consider how the day-ahead market should be changed to serve areas with different RA requirements and payment structures. This may include changes to the CAISO resource adequacy program. WPTF supports the CAISO, prior to moving forward option 2, transparently discussing the requirements and principals of an extended day-ahead market.

Additionally, WPTF believes an open discussion of the benefits of a day-ahead physical reliability market versus a day-ahead financial market would allow for more careful consideration of what it means to transact and price energy at large volumes between areas with different capacity constructs. WPTF believes it is premature to propose a single option to integrate IFM/RUC through an additional capability constraint without first having these discussions and establishing principals for a day-ahead market design.

Specific to option 2, WPTF notes that the idea of a day-ahead market that is reflective of a "firm capacity" value is more similar to what EIM entities and entities outside the organized markets may be used to transacting. It is not a radical idea that parties may want to transact physical day-ahead energy. However, absent extending the day-ahead market to EIM entities, WPTF believes that the CAISO would need much more clearly demonstrate the benefits of a physical reliability market outweigh the current financial market design.

Option 2 is not about better optimizing the day-ahead market; it is about replacing the CAISO's day-ahead financial energy market with a physical reliability market. The CAISO's option 2 no longer accommodates the separation between the bilateral resource adequacy (RA) market and financial day-ahead market. Instead the new integrated day-ahead market would schedule and compensate resources for their must-offer obligation regardless of their RA status. This makes both over- and under- payments for capacity a possibility. RA contracts are unlikely to allow RA capacity to offer in reliability capacity at a price. Therefore, all RA resources will offer into the day-ahead market with $0 for reliability capacity. Non-RA resources would likely want to be compensated for any resulting must-offer obligation from being awarded reliability capacity and therefore would bid-in a non-zero value for reliability capacity. Because this market is integrated, both RA and non-RA capacity would be paid the same amount for their must-offer obligation into the real-time market.

WPTF observes that some resources will be over-paid for their must-offer (both RA rents and day-ahead rents covering their must-offer obligation) and some resources will be under-paid (because they aren't getting a full RA or CPM payment, but are being relied on). Additionally, because physical energy is compensated between the reliability price and the energy price, the reliability compensation is needed to ensure mere recovery of a resource's *energy* offer. This means that, unlike RUC today, there is no way for an LSE to "claw back" the reliability payments for RA resources.

WPTF believes this fundamentally turns the day-ahead financial market into a physical market where all resources are paid for energy and capacity in the day-ahead market. WPTF has concerns about whether this design makes sense absent extension of the day-ahead market to EIM entities. Once/if the day-ahead market is extended, the CAISO has already observed that their RA program's must-offer obligation does not extend to ensure reliability outside and a change in payment structure in RUC is needed. It is unclear to WPTF whether option 2 will be able to accommodate this complexity.

Option 2 may obscure the day-ahead market locational marginal price (LMP) signal. WPTF is also concerned about how the proposal would impact the meaning of the day-ahead LMP. Under the current day-ahead market construct, the LMP represents the marginal price at a location, i.e. the offer price of the next MW in the supply curve. Under the CAISO's option 2, resources' energy schedules are compensated through both energy and reliability compensation. That is, a resource with an energy schedule of 100 MW offered in at $30/MWh, may be compensated $25/MWh as an energy award, and $5/MWh for reliability capacity – even though it does not receive an explicit capacity award.

Because of this dual compensation structure, WPTF questions whether the LMP would reflect the marginal energy offer at a location. Instead generators would be made whole for their physical energy through a *nodal* energy payment and a *zonal* capacity payment. It is important for market participants to be able to determine when looking at the prices whether the LMP (or capacity price) is reflective of market conditions related to nodal energy or zonal capacity. WPTF is concerned that under option 2 the day-ahead market would lose an important price signal of a nodal energy market.

WPTF would also like to explore other unintended consequences of Option 2. An integrated approach introduces potential adverse impacts on other market elements. WPTF asks the CAISO to carefully consider and describe the impact on the following processes, should it proceed with option 2.

- **Transmission Planning**. The CAISO uses the day-ahead LMP to assess the economic benefits of installing a transmission asset. Would this analysis still be meaningful under option 2 and should the reliability component be included in the assessment?
- **Congestion Revenue Rights**. The CAISO settles CRRs using the day-ahead LMPs. How would it need to change the CRR model to accommodate option 2 day-ahead market design and how should entities trying to hedge their costs think about the new values? Should the reliability component be included in the CRR settlement?
- **Virtual offers**. Virtual supply and demand products provide incentives for load and supply to offer into the day-ahead market and have been shown by the CAISO to be working well to converge the day-ahead and real-time markets. Under option 2, any virtual supply MW will come with associated reliability costs needed to ensure physical capacity along with the virtual supply. This breaks the fundamental usefulness of virtuals to converge the financial day-ahead market and real-time market – and calls into the question whether virtuals would (a) even clear the market, and (b) what their purpose would be. Whether virtuals

were scheduled would be explicitly tied to how much RA capacity bidding in $0 for reliability capacity was on the system. When there are significant amounts of excess RA capacity offering in $0, virtuals would look competitive to physical supply. This is confusing in the context of virtuals, as they should look more competitive to historical price divergence between physical supply and demand– not physical capacity costs.

- **Bilateral energy contracts and other financial products**. At the simplest level, many entities have signed long-term contracts that trades the LMP for a fixed price. Changing LMP formation may fundamentally alter these contracts. If there were a material change in LMP formation, it would likely impact many entities who hold these contracts including LSEs. The CAISO should fully explore pros and cons from a market and bilateral market perspective of including the reliability capacity component in the official "day-ahead LMP."

In conclusion, at this time, WPTF has questions and concerns with the specific formulation of Option 2, but supports consideration of an integrated IFM/RUC approach to the day-ahead market and a flexible ramping product in the day-ahead market. Furthermore, all evidence that WPTF has seen points to the need for a day-ahead imbalance product and for improvements to the real-time flexible ramping product rather than (absent EDAM) a need to integrate IFM/RUC. Integrating IFM and RUC may be workable next step, but WPTF urges the CAISO to make a day-ahead imbalance product a priority and continue working on an integrated IFM/RUC approach throughout the Extended Day-Ahead Market initiative.

2. Please identify any specific data analysis that your organization recommends. Indicate the data request(s), the purpose of the request(s), and how the request(s) will advise the determination of the day-ahead market formulation, or will assist with determining the procurement target for the new day-ahead product.

Comments:

WPTF supports the data requests made by Middle River Power.

3. Please offer any other feedback your organization would like to provide on presentation materials and discussion for the June 20, 2019 Day-Ahead Market Enhancements stakeholder workshop.

Comments:

Again, WPTF would just like to express its appreciation for the well-run stakeholder working group. In particular the willingness to provide additional data and analysis is extremely helpful as market participants evaluate such an important proposal.