California ISO

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.

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.

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

Option 1:	Option 2:
☒ Support ☐ Support with caveats ☐ Oppose ☐ Uncdecided	☐ Support ☒ Support with caveats ☐ Oppose ☐ Uncdecided

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:

Environmental Defense Fund contends that proper design of imbalance reserves will help achieve a least cost dispatch. While this is an admirable design, the least cost is not the ultimate state goal, the state goal should be least cost and maximize the development and integration of non-carbon generation resources. As we discussed at the August workshop, EDF suggests that there should be a clear set of metrics to evaluate the success of either Option1 or Option 2, including avoided curtailment of non-carbon based generation resouces, ability for electric energy storage to dispatch that minimizes greenhouse gas emissions, and cost. EDF believes that a consistent set of metrics evaluating the success of the day ahead market will be needed as the CAISO also develops its new policy pathways for Energy Imbalance Market and Resource Adequacy (see slide 10 from workshop).

The financial signals in number one, if properly designed, can help reduce the uncertainty in the day ahead market design. EDF notes that these clear signals of ancillary services, energy will help projects with a revenue stream that is needed for accurate optimization of design where discretion is available. While in the CAISO example there is a relatively larger comparison of imbalance reserves, we anticipate that the number will fall as resources adapt to the new financial signal.

Pros of option #1:

- Clear financial signals
- Easier integration with other existing data
- Able to compare across different product types

Cons of option #1:

- Does not include a “green dispatch” element to ensure displacement of existing fossil with either storage charged from non-carbon resources or with clean generation assets.

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:

Environmental Defense Fund believes that this option could also be viable. It appears that more complicated modeling and reconciliation of forecast data would be needed to operationalize the option, and CAISO has not yet demonstrated a significant difference in the benefit for this extra work. Simply put, the option appears to be false precision and the discussion at the August workshop did not make a compelling case as to why the system would integrate more renewables, reduce curtailment, or displace fossil more with this option. If CAISO were to conduct a green dispatch component (with appropriate metrics) position could support.

Pros of option #2:

Aprpeciate that there is scalability of the imbalance reserve requirement and therefore more straight forward.

Cons of option #2:

- The financial split between virtual and physical supply has not been fully explained enough to ensure that there will not be market manipulation with these enhancements.
- Unclear why a different price for the imbalance reserve (15 min ramp) and reliability capacity (60 min ramp) will accomplish in terms of dispatch on a day ahead basis.

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:

As noted above, EDF believes that the CAISO should analyze (and provide data for future commentary) on how the changes to the day ahead market enhancements will help integrate renewables, create proper price signals for GHG minimizing electric energy storage and displace fossil generation. EDF thinks this is important because efficient price formation allowing the market to accurately reflect the cost and value of flexible reliability

resources is critical to call forth investment in additional flexibility providers needed for reliability in a more dynamic and renewable grid.