



Stakeholder Comments Template

Day-Ahead Market Enhancements Phase 1 Initiative

This template has been created for submission of stakeholder comments on the third revised straw proposal that was published on February 28, 2019. The proposal, Stakeholder meeting presentation, and other information related to this initiative may be found 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 March 21, 2019.

Submitted by	Organization	Date Submitted
Carrie Bentley 916-306-0754	Gridwell Consulting for the Western Power Trading Forum	March 21, 2019

Please provide your organization’s comments on the following issues and questions.

1. Fifteen-Minute Granularity Design Features

Please provide your organization’s feedback on the fifteen-minute scheduling granularity features topic as described in section 2 of the proposal. Please explain your rationale and include examples if applicable.

WPTF appreciates the significant effort the policy staff made to describe the impact of moving to a 15-minute day-ahead market on the tariff and market rules. The description of the extensive changes highlighted to WPTF the need for the CAISO to move forward deliberately. As stakeholders weigh the costs and benefits of moving to a 15-minute market, there remain many outstanding questions. ***WPTF therefore asks the CAISO to provide a more in-depth analysis of the costs, benefits, and technical feasibility of moving to a 15-minute market prior to issuing a draft final proposal.***

Overall, WPTF supports the proposal, but has two main concerns:

1. Is it technically feasible to move to a 15-minute market, knowing additional computing power will be needed to implement phase 2 day-ahead enhancements and the extended day-ahead market?

2. Will the benefits exceed the costs, and what is necessary from market participants to achieve these benefits?

Concern 1: Technical feasibility

The CAISO described their technology team's work in evaluating different options for unit commitment and transitions. The presentation describes two options that have been ruled out due to computing limitations and noted the third option – hourly unit commitment and transitions – has not been proven to work, just that it was the only remaining option. WPTF asks that this option be evaluated not just in context of feasibility under current rules, but whether it is feasible to do a 15-minute market and other proposed changes such as the day-ahead flexible ramping product and any resource sufficiency tests needs for the extended day-ahead market.

WPTF supports the 15-minute market, but if the CAISO must choose between it, a day-ahead flexible ramping product, and extending the day-ahead to EIM entities; we would put the day-ahead 15-minute option at the bottom of the list.

Concern 2: Cost/Benefit Analysis

WPTF asks that the CAISO elaborate on how the following items may impact the costs and benefits of moving to a day-ahead market.

- Imports. Transmission is sold on at an hourly granularity throughout the WECC. Currently most energy being bid into the real-time FMM is using left-over transmission rights or is being offered in at a price whereby the hourly transmission price must be offered into a 15-minute price to cover the risk that they are only taken in one 15-minute interval. Is the CAISO concerned they may get similar results from interties as when they implemented 15-minute real-time intertie bidding (which resulted in a decrease in economic import offers due to the transmission issues)?
- Hydro. The CAISO has stated that one of the benefits is that Pacific NW “can provide 15-minute schedules in day-ahead, but not real-time.” It is WPTF's understanding that Pacific NW hydro manages their operational needs day-to-day and they are constrained by water management needs and not the granularity of the day-ahead market. WPTF recommends the CAISO confirm with the larger hydro suppliers that a 15-minute market will indeed fully unlock these expected intertie flexibility benefits.
- Load. Will LSE's have the capability/desire to bid-into the day-ahead market using 15-minute increments? How much lower are the benefits if load continues to schedule hourly and the CAISO shapes their 15-minute demand using four equal incremental steps?
- Prices. What is the impact on day-ahead prices from 15-minute LMPs, but hourly commitments and transitions? Will there be systematic price differences between the first interval of an hour and the following intervals? Does the CAISO/DMM have any concerns?

Please provide your organization's position on the fifteen-minute scheduling granularity features topic as described in section 2 of the proposal. (Please indicate Support, Support with caveats, Oppose, or Oppose with caveats)

Support with caveats (noted above).

2. Fifteen-Minute Granularity Impacts to the Energy Imbalance Market

Please provide your organization's feedback on the Fifteen-Minute Granularity Impacts to the Energy Imbalance Market topic as described in section 3 of the proposal. Please explain your rationale and include examples if applicable.

WPTF also asks that the CAISO continue to explore and transparently discuss the potential impact to EIM participants. As the CAISO has noted many times, the need for additional flexibility in real-time markets occurs due to variability and uncertainty.¹ The CAISO proposes that moving to a 15-minute day-ahead market will remove the variability that comes from granularity differences between the hourly day-ahead market and 15-minute real-time market.

Therefore, moving to a 15-minute market and getting additional 15-minute hydroelectric energy in the day-ahead and real-time will reduce the need for other flexible energy in the real-time market. If the proposal works as expected, moving to a 15-minute day-ahead market will reduce the volatility of real-time prices and increase reliability. WPTF believes it will reduce price volatility (the highs and lows of the real-time price) rather than reduce the average price because real-time flexibility is needed in both the up and down direction.

Theoretically the CAISO optimization will better commit long-start resources and better align energy schedules that are then self-scheduled into real-time with actual real-time demand. Better day-ahead scheduling should decrease real-time curtailment and thus increase the valley prices. Better day-ahead scheduling should also decrease large incremental real-time energy and ancillary service awards during peak hours and thus decrease peak prices.

If the resource mix available to the CAISO in the day-ahead and real-time market was the same, this proposal would likely provide more obvious benefits for all participants. However, the CAISO in real-time has additional energy via the Energy Imbalance Market available to the optimization. ***WPTF believes this proposal will likely decrease EIM benefits. While it will not reduce the real-time opportunity for substitution between EIM and CAISO resources, it will change the price at which this substitution occurs.***

Regardless of whether an EIM entity is a net exporter or importer, they are deriving benefits from both relatively high and relatively low prices across the day compared to their own costs and the bilateral market. Volatility is what allows EIM load to be paid to take energy or buy energy at a very low price, and also what allows EIM supply to sell

¹ [V]ariability may come from market granularity differences in load profile, variable energy resource supply. In addition variability may also arise due to unit startup/shut down profile, multi-stage generator transition profile, and inter-tie schedule inter-hour ramping profile. The uncertainties may include everything that has a random nature, such as load forecast error, variable energy resources' forecast error, and other uninstructed deviations." [FRP](#) page 4.

at a high price. As E3's EIM benefit studies have noted², for certain EIM entities the primary benefits from EIM comes from being able to arbitrage real-time price volatility.

Not included in any study that WPTF has seen is the CAISO proposal to allow EIM entities to provide 15-minute base schedules. While there could be some benefits to an EIM entity from being able to provide 15-minute base schedules, the magnitude of these benefits is unclear and has not been discussed extensively. The benefits of providing 15-minute base schedules may in fact be muted because the rest of WECC does day-ahead planning in much larger increments than 15-minutes. Planning at most is done hourly and frequently in much larger blocks, as illustrated by different power strips sold in the bilateral market, 5x16, 7x8, etc. This may reduce the benefits or even ability of many EIM entities to provide varying 15-minute base schedules.

Ultimately, the combined impact of 15-minute base schedules and reduced real-time price volatility on EIM entities may lower their overall benefits. This does not mean the CAISO should not move forward – the benefit to the overall market will likely be positive both economically and in terms of increasing reliability. ***WPTF continues to support the CAISO moving forward with the 15-minute market proposal.*** However, in the interest of transparency, WPTF believes it is important to discuss potential impacts of such a large market change on all participant types, including EIM entities.

Please provide your organization's position on the Fifteen-Minute Granularity Impacts to the Energy Imbalance Market topic as described in section 3 of the proposal. (Please indicate Support, Support with caveats, Oppose, or Oppose with caveats)

Support with caveats (noted above).

3. Energy Imbalance Market Governing Body Role

Please provide your organization's feedback on the EIM Governing Body Role as described in section 4 of the proposal.

Please provide your organization's position on the EIM Governing Body Role as described in section 4 of the proposal. (Please indicate Support, Support with caveats, Oppose, or Oppose with caveats)

WPTF supports the EIM Governing Body Role as described in Section 4.

Additional comments

Please offer any other feedback your organization would like to provide on the Day-Ahead Market Enhancements Phase 1 initiative third revised straw proposal.

WPTF would like to thank the CAISO for putting out such a well-written and comprehensive paper explaining all the impacts to the tariff and market of moving to a 15-minute day-ahead market.

² https://www.rtoinsider.com/wp-content/uploads/E3_SCL_EIM_Study_FinalReport_2016-05-31.pdf

Additionally, WPTF appreciates the stakeholder template questions that seek indication of support, support with caveats, etc. This is extremely helpful as it clarifies stakeholders' overall position on a topic. WPTF hopes that the CAISO adopts this as a regular feature of the comment template.