

Stakeholder Comments Template

RI Phase 2 – Day-of Market 7/6/11 Initial Straw Proposal

Submitted by	Company	Date Submitted
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This template is for submission of stakeholder comments on the topics listed below, covered in the RI Phase 2 – Day-of Market 7/6/11 Initial Straw Proposal posted on July 6, 2011, and issues discussed during the stakeholder meeting on July 11, 2011.

Powerex is pleased to have the opportunity to provide these comments.

1. Please provide any comments on the ISO’s proposed schedule, timeline, or process for this stakeholder process.

Powerex has no specific comments at this time except that Powerex would suggest that CAISO should co-ordinate with WECC to ensure no new seams issues develop as a result of this initiative.

2. Are there additional goals or operational challenges that the ISO should be addressing through this stakeholder process?

Please see comments in to (11).

3. Please indicate whether your organization agrees with the guiding principles listed in the straw proposal. If not, please indicate why not. If you would like to have other guiding principles added, please describe those additional principles.

Powerex supports the CAISO’s efforts to address the design of its Day-of Markets and generally agrees with the Statement of Purpose. While Powerex also generally supports the Guiding Principles, Powerex believes that in order to foster a “deep and liquid” market that is “durable and sustainable” the CAISO needs to recognize and appreciate that its future Day-of Market design does not create any insurmountable obstacles and/or seams issues for importers and adjacent Balancing Authority Areas, BAAs.

4. Please provide your organization’s views on any incremental ancillary services you believe are necessary to accommodate the intermittency of renewable resources.

With the increased integration of variable resources within WECC, capacity may often become scarcer, not only within CAISO but also within neighboring BAAs. Powerex believes that as part of CAISO's market design process, CAISO needs a much improved market and operational mechanism to evaluate Imports from the following perspectives:

- a) Which imports are backed up with Balancing Reserves by the Source BAA

As a larger share of imports will likely come from variable resources, it is important for CAISO to know which schedules are "energy only" and which are backstopped or balanced at the Source BAA.

Powerex believes the key differentiation for import schedules is not variable resources versus non-variable resources, but rather, is the Source BAA ensuring delivery according to CAISO dispatch or not.

- b) Which imports are available to the CAISO for durations longer than a 15-minute interval:

Powerex believes that CAISO needs a mechanism to ensure imports will be available and relied upon for increments greater than 15-minutes at a time. The CAISO is already at a disadvantage in the Day-Of markets relative to neighboring utilities who can procure energy for time frames beyond one hour in the bilateral market. Currently CAISO can only procure energy on an hour-to-hour basis in the Day-Of Market. As WECC and CAISO move to scheduling in 15-minute intervals, this could further put CAISO at a disadvantage when trying to evaluate the likelihood of imports showing up for longer than the minimum 15-minute increment, particularly in instances of scarce market conditions in Neighboring BAAs.

Powerex believes a Unit Commitment process on the interties will allow CAISO to procure firm commitments from importers that provide awarded energy for the entire hour (or longer), including from variable resources backstopped at the Source BAA. This would also allow CAISO to properly compensate importers for the capacity provided, and allow CAISO to ensure reliability is maintained in periods when limited resources are available in-state. The CAISO should procure such unit commitment through a market mechanism, which would allow the CAISO to only procure this capacity from external Source BAAs where it was more economical to do so than in-state. Under this framework, imported variable resources could be backstopped in CAISO some hours, and at the Source BAA in other hours according to a market mechanism, thus allowing the most economical choice to be made by the importer and allowing the CAISO to maintain adequate system reliability.

- c) Powerex generally supports the CAISO's ancillary service approach under Option A:

Powerex believes that once a market and operational framework is in place for determining, with certainty, the capacity being provided in the IFM and 15-minute RTD for both internal and intertie resources, the CAISO can effectively the utilize ancillary services described in the straw proposal to meet additional intra-15

minute capacity needs. A key component to this will be to attempt to achieve independence between the ancillary services market framework for energy and capacity that applies within 15-minute intervals versus the IFM and RTD market for energy and capacity (unit commitment) for 15-minute intervals and beyond.

5. Does your organization believe that Residual Unit Commitment should be performed more granularly than daily (i.e. on-demand RUC)? Is on-demand RUC needed if the 15 minute unit commitment, either in RTED (Option A) or RTPD (Option B) looks forward 8-10 hours?

RUC was originally designed as a day ahead market process that ran after the IFM to ensure sufficient capacity was available if the cleared bid-in load was lower than the day ahead load forecast. There are also various market rules that govern the bidding rules and availability of Resource Adequacy resources both in the DAM and subsequent markets.

Powerex believes the CAISO should develop the requirements for additional capacity or reliability products as part of this stakeholder process. Powerex believes that including Interties in the Unit Commitment process will allow CAISO to ensure adequate capacity from the most economical sources available.

Powerex believes that both the capacity associated with intertie awards and the additional capacity from residual unit commitment on the interties are valuable products that must be incorporated into a broader Unit Commitment process. Failure to recognize and implement this need will increasingly incent importers to send CAISO the least reliable energy (i.e. decide not to back variable resources at the source balancing authority), as there would be no compensation for the capacity component of the import. This would effectively result in a reduction in reliability and misalignment of cost causation principles as CAISO load would be paying to backstop imports that are receiving a comparable price to firm internal generation while providing a lower quality service.

In neighboring bilateral markets, participants place a premium on energy that is fully backstopped over the course of the hour versus energy that may be curtailed at the seller's discretion. Pricing the capacity embedded in specific imports would allow for a market-based solution resulting in procurement of the optimal quantity of backstopped imports on the interties. The CAISO would also have to develop strict performance criteria for these capacity backstopped imports to ensure performance.

6. Please provide your organization's views on replacing today's Hour Ahead Scheduling Process (HASP) for inter-ties with a simpler method that would not involve establishing separate hourly prices for the inter-ties and that would not include bid cost recovery. Please suggest proposals concerning what accommodations are necessary at the inter-ties to provide scheduling flexibility for western market entities.

Powerex generally supports CAISO's proposal for a two settlement system, and prefers Option A which includes an IFM and 15-minute Day-Of Market. Powerex believes that any Day-of Market design needs, as a minimum, the following elements to incent importers to participate in the CAISO markets (in no particular order):

- Non-Discriminatory Market Rules;

Powerex believes that market rules should not discriminate against similarly situated resources and should apply equally to all resources. As an example on page 25 in the Initial Straw Proposal, the CAISO proposes to allow renewable or variable energy resources the ability to unilaterally adjust their energy schedule every 15 minutes. This is effectively enabling a change to a schedule at the seller's discretion as opposed to a CAISO dispatch based on price. Powerex believes that if the CAISO allows for one type of resource to have the ability to schedule on a 15 minute basis, all similarly situated resources should have the ability to schedule on a 15 minute basis. To propose a preferential or uneven treatment would be discriminatory.

Furthermore, Powerex believes all market rules should be designed based on a cost causation principle. For example, to the extent that energy deliveries differ from their schedules or dispatches and require the CAISO to re-dispatch other suppliers to account for the difference, the CAISO should develop market rules that compensate those suppliers for both the capacity set-aside and the energy delivered/taken and to assign those costs to the parties that caused the CAISO to incur those costs.

- Bid-Cost Certainty;

If the CAISO designs a market that does not provide bid cost certainty to imports/exports, through bid cost recovery or some other mechanism, Powerex believes the liquidity on the interties would be significantly reduced. This reduction to liquidity will be greatest during conditions of scarcity in the marketplace, which is when the CAISO needs the liquidity the most.

Powerex believes that the vast majority of bilateral transactions in the WECC are likely to continue to remain in increments of one hour or longer; even with the development of intra-hour scheduling. As evidenced by activity in Eastern markets, Intra-hour transactions are likely to occur less frequently than standard one-hour blocks. Powerex believes that without bid-cost certainty, external suppliers will be more inclined to accept price-certain hourly or multi-hour bilateral transactions in neighboring areas rather than provide price-uncertain energy to the CAISO for 15 minutes– particularly during high-load periods.

- Alignment of timing with the scheduling requirements of adjacent BAAs;

Powerex believes that the CAISO needs to work within WECC to ensure that the scheduling timelines are coordinated. On page 25, the CAISO states that "(e)ven if other BAAs have not moved to 15 minute scheduling, the ISO having 15-minute scheduling and pricing would likely seem to increase the likelihood that these BAAs would move to 15-minute scheduling." Powerex believes that if the CAISO moves to 15 minute scheduling the adjacent BAAs may very well move to 15-minute scheduling but without coordination within WECC on when this scheduling change would happen, there would be a period of time, possibly years, where there would be different scheduling timelines between the CAISO and adjacent BAAs.

- Market Rules consistent with Cost Causation Principles.

7. Does your organization prefer a two settlement market or a three settlement market? Please describe why.

While Powerex believes a three settlement market should still be explored, Powerex believes a properly designed (see (6) above) two settlement market would be appropriate with certain reliability safeguards and generally supports CAISO in this goal.

8. Please provide your organization's feedback on the concept of a 1 minute Real Time Imbalance Service (RTIS).

- a. Does your organization agree that with RTIS, regulation should be changed to a bi-directional service?

Powerex supports changing regulation to an energy-neutral, bi-directional service.

- b. Is one minute the correct dispatch interval for RTIS?

Powerex supports a one minute interval.

- c. How should RTIS be bid, selected, and dispatched? Should a mileage bid be used for dispatch with a market clearing mileage price determined each minute?

Powerex believes RTIS selection should be bid-based. Powerex further believes that the bid should consist of both a capacity bid and a mileage bid.

Powerex further believes the CAISO needs the tools to determine the amount of RTIS required to backstop all energy deliveries that may differ outside the CAISO's dispatch, within a 15-minute interval, from schedules that will not change within the interval. As stated above, Powerex believes the CAISO needs to distinguish between import schedules that have full capacity or unit commitment behind them, and import schedules that may have only partial or no capacity supporting the schedule.

- d. Does your organization's opinion on RTIS differ depending on whether Option A or Option B is chosen?

9. Please comment on your organization's preference for Option A or Option B with regard to the real time market. If neither option is feasible in your view, please provide input on how the real time market should be configured.

While Powerex believes a three settlement market should continue to be explored (i.e. a full HAM market), Powerex generally supports Option A (see (6) above) and supports aligning intertie settlement with in-state settlement on a 15-

minute basis. Greater alignment of interties and internal resources should lead to a more robust market with reduced unintended outcomes.

- a. Would 15 minute real time prices enable price responsive demand or demand response?
- b. In Option A, with 15 minute RTED, what is your organization's opinion about a 10 minute ramp period?

Powerex believes ramp rates must be coordinated with WECC and neighboring BAAs to reduce seams issues.

10. How often should renewable resources be allowed to schedule?

- a. In Option A does every 15 minutes make sense?

First, Powerex interprets this question as intending to refer to variable resources, not renewable resources. As stated in (6) above, Powerex believes that market rules should be non-discriminatory. Powerex does not agree that variable resources should be allowed to schedule, or change their schedule, more often than any other type of resource, as this does not align with the general principle of Technology Agnostic or non-discriminatory market rules. If variable resources are allowed to change their schedule every 15-minutes, all resources should be allowed to change their schedule every 15-minutes. If the CAISO wishes to restrict some resources from moving every 15-minutes, or within 15-minutes for that matter, it should do so through a market mechanism. This will allow CAISO to procure unit commitment service to backstop the schedules that are not allowed to move at the seller's discretion.

It is important to recognize that the need for the seller to be able to adjust their deliveries to the CAISO unilaterally is not based simply on the characteristic of the resource (variable or non-variable), particularly for bids submitted on the interties. More specifically, the need for the seller on the intertie to be able to adjust their deliveries to the CAISO is largely an economic choice. The decision being which resources a seller chooses to deliver to meet its CAISO physical award versus deliveries to other markets. As well there is an economic choice of whether or not to pay to backstop variable resources that are delivered to the CAISO, at the source balancing authority. Such economic choice must be made in the context of an appropriate price signal from CAISO markets.

- b. In Option B should renewable generation be able to schedule every 5 minutes, 15 minutes, or some other time interval?

Powerex believes scheduling variable and non-variable resources should be consistent. Powerex believes scheduling and settling internal and intertie resources should also be consistent, to the extent possible. For this reason, Powerex supports schedule changes in 15-minute increments as this is most

likely the shortest interval that interties will be able to schedule in due to expected business practices in adjacent Balancing Authorities in the coming years.

- c. Does it make sense to limit this scheduling opportunity to only renewable resources, or should it apply more generally? Who should be able to schedule more granularly than hourly?

The CAISO cannot approve rules which discriminate against similarly situated resources. See (a) above.

Moreover, if the CAISO were to implement discriminatory rules which unduly benefit variable resources (that are not backstopped at the source balancing authority), the CAISO should expect to receive increasing volumes of non-backstopped variable resources on the interties. - including resources that are meeting the renewable or other policy objectives of other regions. In other words, the CAISO would create the incentive for participants to send their least reliable resources to CAISO, independent of whether those resources were meeting any CAISO renewable objectives, or were, in fact, renewable at all. It would also create the incentive to not provide backstop capacity at the source BAA.

- 11. Please provide any other comments your organization would like the CAISO to consider through this initiative.

Powerex believes the CAISO needs additional capacity products to be able to reliably integrate variable resources. At a minimum, Powerex believes the CAISO needs unit commitment service on the interties (both for energy imports that are not subject to unilateral schedule changes, and as a residual product whereby energy can be dispatched by CAISO when needed) to be able to distinguish between import schedules with capacity and imports without capacity.

Powerex believes this unit commitment service would have adequate capacity provided from the source BAA. This should be procured by the CAISO as an additional product “attached” to import awards in the IFM. This will create the necessary market solution for the CAISO to efficiently and effectively acquire backstop capacity at the Source BAAs. This will be available to IFM and Day-Of imports, where such capacity backstop is required and may be at lower cost than the CAISO committing additional capacity internally.