

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.

Please submit your comments below where indicated. Your comments on any aspect of this initiative are welcome. If you provide a preferred approach for a particular topic, your comments will be most useful if you provide the reasons and business case.

Please submit comments (in MS Word) to phase2ri@caiso.com no later than the close of business on July 22, 2011.

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

In general, A123 applauds the ISO for this proactive and innovative proposal. The establishment of a true energy-neutral ancillary service combined with increased scheduling flexibility will lower barriers to entry for a wide spectrum of new generation and non-generation resources. The comments submitted here address only the issues of most relevance to very fast, energy-limited resources.

2. Are there additional goals or operational challenges that the ISO should be addressing through this stakeholder process?
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.
4. Please provide your organization's views on any incremental ancillary services you believe are necessary to accommodate the intermittency of renewable resources.
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?

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

Yes, RTIS as proposed would supply any persistent energy deviations, most likely utilizing ramp limited generation. Any remaining intra-interval imbalance should tend to oscillate around a neutral energy point. Therefore, regulation would be required in equal magnitudes in both directions.

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

The straw proposal contemplates a bid for capacity in conjunction with either a mileage bid or a bid flag that indicates willingness to ramp. The bid-mileage option appears to be a more flexible option, since resources could specify a varying willingness to ramp rather than yes or no. While new fast storage devices provide orders of magnitude more speed than traditional resources, resources may have varying preferences for cycling due to technological or financial considerations. Selection and dispatch based on a resource's mileage bid would provide a market-based method of indicating a ramp preference.

The straw proposal does acknowledge that a mileage payment could introduce new market design complexities. One potential simplification is the use of a scaled capacity method. Under this method, resources submit bids to provide ramping capacity (MW) at a minimum performance

requirement (MW/min). Resources express their willingness to ramp by specifying a maximum ramp rate (MW/min). In each interval, the ISO establishes a single clearing price (\$/MW). Any resource that is moved faster than the minimum receives the capacity clearing price scaled up proportionally to the speed delivered. More details are expected to be presented to the PJM Regulation Performance Senior Task Force in the near future.

(reference: <http://www.pjm.com/committees-and-groups/task-forces/rpstf.aspx>)

The scaled capacity option is presented only as a potential solution that links the capacity clearing price to a mileage-type performance payment. The solutions already contemplated, such as an administrative or an as-bid mileage rate, also merit consideration.

- 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.
- 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?
10. How often should renewable resources be allowed to schedule?
- a. In Option A does every 15 minutes make sense?
 - b. In Option B should renewable generation be able to schedule every 5 minutes, 15 minutes, or some other time interval?
 - 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?

Any resource that has the ability to control its output with precision over sub-hourly intervals should be afforded the opportunity to schedule over the shorter intervals.

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