

Stakeholder Comments Template

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

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

The Initial Straw Proposal puts forward a significant redesign of the CAISO’s real-time markets and involves some complicated issues. Although the schedule is very aggressive, the CAISO must move quickly to assure that the essential ramping and other reliability services it requires are available to meet the significant operating challenges that lie ahead. Not only will the amount of energy contributed by renewable resources continue to increase but the CAISO’s thermal fleet faces significant challenges, and the CAISO must assure that it has defined the products that will allow the CAISO to reliably operate the system and compensate suppliers for providing these services. As will be further explained below, one important question that needs to be addressed is why a new capacity product using the existing five-minute dispatch interval cannot be adapted to meet the CAISO’s imbalance energy needs.

There are many complex issues to work through in developing the day-of market enhancements, yet the CAISO contemplates only two rounds of review before a final proposal is published. The stakeholder process to develop the day-ahead and forward market enhancements seems even more aggressive, assuming a final proposal after only a single round of review. It is also difficult to evaluate “day-of” market changes without considering what complementary forward market changes will be proposed.

The CAISO should consider adding at least one round of review to each of the day-of market and day-ahead/forward market stakeholder processes, perhaps by compressing the time between the final roadmap and the December Board presentation.

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

The CAISO has clearly explained a number of significant challenges the CAISO will face, and it is clear that new products are essential to allow suppliers to be compensated for the reliability services they provide. Other issues may become apparent as the complex questions raised by the redesign of the CAISO's imbalance energy and regulation markets are explored in this process, and after stakeholders have had the opportunity to review the CAISO's proposal for day-ahead and forward market changes.

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.

The guiding principles are reasonable high level characteristics of a well-designed product market. However, it seems that some of those principles are more essential, while other "guiding principles" are the outcome of the essential principles.

For example, a well-defined portfolio of ancillary services with transparent procurement targets, competitively determined prices and stable market rules should provide the scalable and flexible tool box of reliability services and a deep and liquid market. Transparency and stability are essential characteristics.

The CAISO should develop additional plans and criteria to verify that the proposals developed through this process are consistent with the guiding principles.

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

The CAISO's studies have clearly shown that increased flexibility services – ramping or load following and regulation – will be required. The CAISO's proposed development of a real time imbalance energy service may be a useful element of the redesigned "day-of" market design, although it is unclear why a one minute service is required, and why the significant redesign of regulation service is the best solution.

Given the unprecedented evolution in electric infrastructure contemplated by a 33% renewable portfolio standard and 12,000 MW of distributed generation, other essential reliability services, such as frequency response, voltage support and inertia, which are not presently recognized must be available to the CAISO, and the CAISO should consider defining and competitively procuring products to provide these services.

4. 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 should be used only for the purpose it was designed – to resolve any shortfall in committed resources necessary to meet the CAISO forecast of demand.

Long Start Units require 5 to 18 hours to start and are committed through the IFM and RUC. Medium Start Units require 2 to 5 hours to start and can be committed either through the IFM, RUC, or Short Term Unit Commitment, which currently has a five hour horizon. It appears that the CAISO intends to provide a mechanism to improve the intra-day commitment of resources with start times of longer than five hours through the “on-demand RUC” but more information is required.

One issue the CAISO needs to consider and verify with any intra-day commitment process is that suppliers are provided sufficient opportunity to recover all intra-day gas purchase costs.

5. 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.

While a simplified HASP process would be desirable, it is not clear how the CAISO will accomplish this outcome. The CAISO should consider how the other ISO/RTO markets accommodate intertie scheduling.

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

GenOn Energy prefers a two-settlement market. The increasing role of variable energy resources suggests a more granular scheduling interval for interties would be a desirable market feature, and while the inequities and inefficiencies of the existing HASP should be addressed in the interim, we believe that a full hour-ahead market is an unnecessary and complicating feature.

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

There are several questions that need to be answered before the proposed design of RTIS can be assessed.

First, and most importantly, the CAISO's premise is that five minute dispatch is not sufficiently granular, and regulation should be redesigned to accommodate fast ramping resources. The CAISO has not supported the need for the redesign of regulation or a one minute dispatch interval. This premise needs to be better supported with evidence of the inadequacies of the five minute dispatch interval in meeting specific imbalance energy needs.

Other questions:

- Is it correct to say that dispatchable resources not awarded RTIS (or another Ancillary Service) simply follow forward schedules? If a resource is awarded RTIS in one 15 minute interval (or 5 minute interval) but is not awarded RTIS in a subsequent interval, what is the expected energy during the intervals in an hour during which a resource is not awarded RTIS?
 - Is there any plan to dispatch energy not awarded RTIS on a sub-interval basis (15 minutes in Option A, 5 minutes in Option B)?
 - The Straw Proposal states that Operating Reserve not required to meet requirements will be included in the real time energy market. Does this mean that RTIS will dispatch excess Operating Reserve?
 - In the event of a contingency for which the CAISO intends to dispatch Operating Reserve, with that capacity simply be released for dispatch in RTIS? If not, how will Operating Reserve be dispatched?
- a. Does your organization agree that with RTIS, regulation should be changed to a bi-directional service?

Regulation should be a zero net energy service, but the CAISO has historically relied on Regulation to supplement the available imbalance energy supply, causing significant deviations from scheduled energy by resources supplying regulation service. If RTIS is successfully designed to provide the intended balancing on a one minute basis, then it might be reasonable to expect that Regulation can be a symmetric bi-directional service for which the expected net energy deviation is zero.

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

As noted, the CAISO has not clearly explained why a one-minute dispatch interval is superior to a five-minute interval. In any event, GenOn believes that manual dispatch is incompatible with a one minute interval, making some form of automatic control essential. It would seem that the CAISO would then need two Automated

Generation Control systems in its Energy Management System – one to control resources providing Regulation, and the other to control resources providing RTIS.

Additionally, the ISO should aim to keep the linkage between dispatch intervals and settlement intervals as consistent and simple as reasonably possible.

- 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 CAISO's proposed RTIS is a ramping service and should have capacity and energy components. The CAISO should provide more information on why it believes a mileage rate is necessary. Fast ramping resources like storage have ramp rates that allow them to make multiple trips across their entire operating range in a given one minute or five minute interval, and the premise is that there is some value in such capability, leading to the concept of a mileage rate, which the CAISO is proposing for its redesigned regulation service. If selecting among multiple resources with fast-ramping capability and assuming there is value in this service, then a mileage rate is a useful characteristic to competitively procure and price. However, it is not yet clear that a mileage component would allow a useful means of distinguishing capacity eligible to provide RTIS service, or that reliability benefits are provided by fast-ramping capability.

The CAISO also proposes an accuracy adjustment, which raises the question of how accuracy will be assessed. One important issue is the number of changes in direction that a resource providing RTIS would be required to make. There are technical constraints on the rate of change in a unit's ramp rate – generating units cannot instantly stop ramping in one direction and immediately begin ramping in the opposite direction. The CAISO should explore what maneuverability and acceleration from resources supplying RTIS is expected and whether those characteristics can be reasonably provided by those resources, and design any accuracy adjustment with those considerations in mind.

The CAISO also introduced the concept of a contingency flag for RTIS. It might be worth considering whether such a flag should be designed to allow a generating unit to identify limits on the frequency of changes in direction.

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

See #9 below.

8. 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.

Under Option A, it would appear that 15 one-minute RTIS dispatch intervals would need to be averaged (if ex post) or forecast (if ex ante) in the published 15 minute energy price. Option B seems to mitigate the obfuscation of energy prices in Option A, but adds the apparent complexity of clearing energy and ancillary service markets every five minutes.

Under the current market structure, the five-minute dispatch interval aligns with the five-minute pricing interval. The CAISO should provide more information on why a ramping / flexible capacity product and a five minute dispatch / energy pricing interval would be ineffective or inefficient.

- a. Would 15 minute real time prices enable price responsive demand or demand response?

It would seem that 5-minute prices provide all Market Participants with better information on the value of energy than would 15-minute prices.

- b. In Option A, with 15 minute RTED, what is your organization's opinion about a 10 minute ramp period?

Assuming that resources not providing RTIS are redispached every 15 minutes, a 10 minute ramp period would suggest that a unit will be expected to ramp for 10 minutes, have a static operating level for five minutes, and then enter another 10 minute ramp period. As one detail among many, this seems a reasonable approach.

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

This question seems to violate the principle of technology agnosticism, and rests on an assumption that different rules should apply indefinitely to the bidding and scheduling of renewable resources. Renewable resources and other supply and demand should be able to bid, or accept the market price, with the same frequency and over the same intervals.

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

As noted elsewhere, this seems like a long duration over which to average real-time energy prices.

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

Whatever "scheduling" frequency and interval applies to all supply and demand resources in the real time market should apply.

- 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?

See responses above.

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

It will be important to consider the day-ahead and forward market changes together with the day-of changes, and assure that the optimization considers opportunities to increase efficiency by committing longer start units.

Thank you for the opportunity to provide comments.