

SCE Comments on Straw Proposal on Day Ahead Market Enhancements

Submitted by	Company	Date Submitted
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Southern California Edison (SCE) provides the following comments on the California Independent System Operator (CAISO) Straw Proposal on Day Ahead Market Enhancements (DAME)¹. SCE is encouraged by the direction toward increasing market efficiency in the face of ramping needs created by the increasing penetration of intermittent generation.

Several details need to be provided

The Straw paper and the March 7th stakeholder meeting leave many details unaddressed. SCE requests that the CAISO provide these in the next iteration of the Straw proposal. A non-exhaustive list of questions follows²:

1. What is the empirical system impact, system MW and system dollar cost, of moving from hourly to fifteen minute Day Ahead (with a combined IFM & RUC, or at the least the impact just from hourly → fifteen-minute)³?
 - a. How often is the forecast accurate enough to benefit from the additional granularity?
2. What is the incremental empirical system impact, system MW and system dollar cost, of implementing the imbalance reserve product (IRP) in addition to the hourly → fifteen-minute change?
 - a. What are the details proposed for procuring the IRP? Specifically, what is the defined uncertainty that needs to be mitigated?

¹ <http://www.caiso.com/Documents/IssuePaper-StrawProposal-DayAheadMarketEnhancements.pdf>

² The following questions may not completely address every detail necessary to properly understand the mechanics of the proposal but they are meant to serve as a starting point.

³ Along the lines of empirical analysis on Figures 8 and 9 of the Straw. Figures 8 and 9 show capacity differences due to the status quo but do not show (a) the portion of those differences that would be addressed by changing from hourly to fifteen minutes and (b) the cost impact from addressing those differences.

- b. What is the range (specific upper target and specific lower target) of MW to be met, the percent of uncertainty to be met, and the sample of days to be used to determine the need? The CAISO should illustrate using both forecast load and bid-in load.
 - i. Physicals:
 - 1. How does the range move over time (different days)? Does the range stay constant or does it vary?
 - 2. If there is no bid-in load but only a load forecast, what energy schedules come from the market?
 - ii. Physicals and Virtuals:
 - 1. How do Virtuals Bids play into securing baseline generation?
 - 2. How do Virtual Bids affect the IRP procurement range?
 - 3. What are the details of cooptimizing in DAM with Virtuals given that the existing IFM+RUC process does so sequentially?
- c. Will the IRP be solely procured in the DAM with none of it procured in the RTM?
- d. Locational vs Zonal:
 - i. Will IRP be procured locationally? How does this interact with Corrective Capacity? With a more granular locational procurement, would it not be able to substitute for Corrective Capacity?
 - ii. Will Corrective Capacity change AS procurement to nodal, rather than zonal? If so, will FRP procurement also become nodal?
- 3. What is the reduction in RT price volatility, frequency, MW, and dollar cost, from each incremental change, first from the forecast error minimization (hourly → fifteen-minute) and then from uncertainty minimization (IRP)⁴?
 - a. What is the expected impact on DA energy prices, especially on high load/peak days?
- 4. Consider the hypothetical scenarios, where the CAISO has a:
 - a. 100% gas resource fleet.
 - b. Substantial amount of storage resources in the fleet.
 - c. Fleet of non-conventional resources that are dispatchable.

Does the CAISO need the IRP in any of the above scenarios? How is the procurement range a function of fleet capability?
- 5. How does the DAM optimization procure IRP and co-optimize with Energy, AS, and Corrective Capacity?

⁴ Can the CAISO quantify or, at the least, directionally address (what is the specific intent of the IRP?) this question?

- a. Does the DAM optimization only consider capacity bids of IRP and ignore the energy costs of the IRP resource? Will the system end up with a lot of high cost energy bids in the RTM?
 - b. Can a resource bid the same portion of its capacity for energy, AS, and IRP?
 - c. Does BCR apply to an entire day's procurement of IRP from a resource?
 - d. Is the bid cap for IRP proposed at \$247? If not, then what is the cap?
 - e. What is the specific penalty price proposed for IRP?
6. How does the CAISO account for double-payment for RA capacity by allowing RA resources to bid above \$0 for IRP? Are there not existing rules to prevent EIM entities from leaning on RA?
7. How does IRP interact with Contingency Reserves, Corrective Capacity, AS, and FRP in Real Time?
 - a. The DAM optimizes to minimize the cost of energy, AS, corrective capacity, and IRP. The RTM continues to minimize the cost of energy, AS, FRP. Therefore, DAM and RTM are not clearing against same categories of bids. How will the CAISO address the structural differences between the DAM and RTM?
 - b. Can IRP substitute for every RTM product?
 - c. How are prices set by IRP when it substitutes for RTM products?
 - d. The CAISO proposal would eliminate the RAAIM provisions in RT. It appears that this may be based on the CAISO's ability to either dispatch as energy or imbalance reserves. What will the CAISO expect from a resource that is an RA resource but was not picked up by either the DA energy or imbalance reserve optimization? Will such a resource still have a must offer obligation to the CAISO in RT pursuant to the current RA tariff? If so, what will be the consequences of failing to perform that must offer if RAAIM is not applied in RT?
 - e. FRP is procured based on a demand curve, thus, will the RTM may forego an overall cheaper FRP resource since the DAM has already procured a lower capacity-cost IRP resource?
 - f. Does IRP face buyback penalties if a resource cannot perform? How is the non-performing resource replaced? Who gets the bill for the cost of replacement?
 8. Is hourly bidding available for interties? If the resource is in the money for some intervals but out of the money in others, how will the CAISO deal with this? How would BCR work?
 9. How do the details of cost allocation and settlement work?
 - a. How is the imbalance reserve deviation price/rate (for Tier 1) calculated?
 - b. What are the details of cost allocation to Virtual Bids?
 10. Will the CAISO provide a process walkthrough from procurement through cost allocation settlement using simulated DAM bids and RTM bids?

11. What resource types are eligible to provide IRP? Can wind and solar resources provide IRP?
12. How will the upper economic limit (UEL) work for bid-in demand? Will setting a UEL prevent additional demand to be purchased for a given interval by capping the bid curve? If so, that would seem to effectively neutralize the bid curve above the UEL.
13. How will unit decommitment work? Will the unit decommitment process consider both peaks and DA awards during its decommitment decisions?
14. Will the 15-minute granularity change for bidding be required (i.e. no hourly block option for internal resources)? If optional, for how long until required?
15. How will STUC work with this change? Is there any thought to changing the time horizon for STUC?