

SCE Comments on 6/19/2018 and 7/2/2018 meetings 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) meetings on Day Ahead Market Enhancements (DAME)¹.

SCE believes that while the 15 minute DAM component of the proposal may be feasible, the DAFRP component is still nascent and requires further work, especially in areas of price formation and implications to RT. Thus, SCE recommends that the CAISO split this initiative into two phases, with only the 15 minute DAM component in Phase 1 and proceed along the current timeline.

SCE does not support the CAISO proposal for DAFRP as currently formulated

SCE supports the CAISO exploring some form of a ramping reserve product to meet its needs. However, SCE does not support the compromising of the LMP framework with the existing CAISO proposal of altering the energy price formulation with a capacity dimension.

SCE understands and appreciates the goal of setting up the DA market results to better serve expected ramping needs. However, the currently proposed methodology results in a number of price formation questions which leads to further questions of how the market will bid and operate given the uncertainty of the meaning of prices in the CAISO proposed formulation. Among these concerns is how the LMP can be formulated in a manner that contains the capacity reservation price which in itself should be the expected opportunity cost of the energy market itself. This sort of circular price formation along with the uplift issues and market power

¹ <http://www.caiso.com/Documents/Agenda-Presentation-Day-AheadMarketEnhancements-Jun19-2018-Updated.pdf>

concerns must be more completely considered before making a significant change to the market that will impact both dispatch and price formation.

For these reasons, SCE suggests that the CAISO continue to work with stakeholders to further evaluate the current proposal as well as alternatives such as development of an ancillary service like product to secure flexible capacity for use in real-time to address anticipated ramping needs. The CAISO currently simultaneously optimizes energy and AS. If that is the objective, a method that has been utilized previously and successfully should be examined alongside the current proposal to better understand the trade-offs.

The CAISO should use the minutely net load forecast data to demonstrate the benefit of moving to 15 DAM granularity, even if it does not have 15 min bid-in load data

The CAISO's current approach assumes a functional form for bid-in load and interpolates 15 minute from hourly. SCE does not believe the fixed functional form is an appropriate assumption. To avoid biasing results from this approach, SCE recommends using just the reliable data, which is the forecast data.

As SCE understands, the CAISO stated during the June 19 meeting, that it has minutely granularity net load forecast data but no energy schedules. The CAISO demonstrated in slides 68 and 69, that the forecast and bid-in load are strongly correlated. Given that, the CAISO can present just the forecast data, à la slides 68 and 69, and omit any bid-in load data. Such data will be more accurate in measuring benefits than the current approach of interpolated hourly data.

Proposals on DAFRP requirement determination need detailing

While SCE appreciates the CAISO presentation on the DAFRP requirement proposals of the histogram vs regression methods, insufficient details have been provided. SCE recommends that the CAISO provide, at minimum, a write-up on the process used to construct the presented graphs.

The Excel solver analysis needs further clarification

During the June 19 meeting, SCE noted that the results showed the LMP declining even though the load forecast (based on which DAFRP is procured) is increasing. The CAISO recommended relieving the ramping constraint by increasing all resource ramp rates to 10. However, upon

doing so and rerunning solver, SCE still notes the same observation. SCE is concerned that the formulation of the two DAFRP procurement constraints may be driving such sketchy results.

California ISO	LOL (MW)	UOL (MW)	Ramp Rate (MW/min)	Energy Bid (\$/MWh)	IRU Bid (\$/MW)	IRD Bid (\$/MW)	Energy Schedule (MW)				
							0	1	2	3	4
Interval							0	1	2	3	4
G1	0	100	10	\$10	\$1	\$1	50	100	100	100	100
G2	0	100	10	\$25	\$2	\$2	50	100	100	100	100
G3	0	200	10	\$40	\$4	\$4	100	50	50	50	50
VG5	0	50		\$30				50	50	50	50
L1	0	140		\$60				140	140	140	140
L2	0	160		\$50				160	160	160	160
VL3	0	50		\$25				0	0	0	0
Demand Forecast							211	254	300	362	
IRU Requirement											
IRD Requirement											
							Constraints				
Objective Function								-\$9,400	-\$9,400	-\$9,400	-\$9,400
Power Balance								0	0	0	0
IRU Procurement											
IRD Procurement											
							Shadow Prices				
Power Balance								\$41	\$37	\$36	\$36