Comments of Calpine Corporation

Flexible Ramping Products
Supplemental: Foundational Approach

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Submitted by	Company	Date Submitted
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Summary

Calpine continues to support the implementation of the Flexible Ramping Product ("FRP"), but does not support the demand-curve approach to procurement relaxation. We also address other narrow issues.

Requirement Relaxation (aka Demand Curve)

In earlier comments, Calpine observed that the inclusion of a demand curve in FRP procurement seems to imply that FRP is as much a price management tool as a reliability tool. If the price of FRP exceed that which the ISO considers "too high", it will simply not buy FRP and take the risk of a power balance violation ("PBV"). While presumptively illustrative, the CAISO Supplement indicates that it will not buy more than 300 MW of FRP if the price is greater than 50 cents per Mwh (again, we presume this would be both bid cost and opportunity cost.)

Further, the proposed calculation demands heroic assumptions. In the Supplement, the CAISO states that "[T]his method only relies on the following inputs:

- the distribution of power balance violations
- the penalties of power balance violations"

What the proposal does not say is that the selection of the "distribution" and the "penalties" are completely unknown and entirely subjective. First, what frequency will be used to establish the distribution of PBVs? Will it be annual? Seasonal? Hourly? Will the frequency be different for "up" and "down" FRP? Next, will the distribution be evenly spread across the MW range selected, or will the CAISO create many ranges with different probabilistic distributions? Will the CAISO look solely in the rear-view mirror (at historical distributions) or will it try to predict PBV distributions in the near future based on increasing penetrations of renewables (one might say, the key driver of FRP).

In terms of the penalties, the CAISO offers an increasing penalty factor based on the amount of FRP procured (Table 10). What is the logical connection between the amount of FRP and the level of penalty price? Would not the cost of lost load be common and a reasonable proxy for all amounts of FRP procurement?

All in all, Calpine has substantial reservations regarding justness and reasonableness of the demand curve approach. As we said in other comments, if FRP is a reliability tool, we do not see a need for relaxation until and unless the cost of FRP approaches the cost of lost load.

Other issues

As far as we understand it, Calpine supports the cost allocation change which uses "movement" as opposed to deviations. Movement, it appears, is intended to capture the change in deviations from one interval to the next. This change is more causally linked to compensating FRP dispatches. That is, a unit that over-generates by 5 MW continuously for 6 intervals presumptively required only one FRP ramp dispatch by the CAISO – the first time the deviation occurred. But a unit that fluctuates between 5 MW high and 5 MW low for each of 6 intervals would require a higher level of FRP capacity.

As stated in previous comments, real time measurements of deviations (or even "movement") will not reflect the nature of the procurement decisions made in the Day-Ahead timeframe. Uncertain wind forecasts, possible cloud cover and marine-layer movement will create a significant probabilistic need for ramping capability. The impact of those forward uncertainties should be included in the allocation of the costs of procurement. Since those uncertainties are completely resolved in the 15 minute time-frame (i.e. the marine layer will have advanced inland or receded) the true cost driver (forward uncertainty) will not be represented by real-time "movement".

Calpine supports the changes to create a tolerance band of 3 percent for the supply category. However, the proposal to take 3 percent of instructed energy seems insignificant. As with UDP, Calpine would support a threshold that represents to physical tolerances of the machines and meters which would be related to Pmax.

Calpine also supports the proposal for monthly re-settlement.

Finally, an independent forecast of wind and solar seems a much better reference than one developed by owners.

Calpine takes no position on "real" vs "unexpected" need.

Thank You