

NRG Energy, Inc. Comments on Flexible Ramping Product Cost Allocation Straw Proposal
March 29, 2012

Submitted By	Company	Date
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NRG submits the following comments on the CAISO's March 15, 2012 *Flexible Ramping Product Cost Allocation Straw Proposal* ("Straw Proposal").

The CAISO's efforts to "think outside the box" with respect to applying cost allocation principles to the Flexible Ramping Product ("FRP") are commendable. Nevertheless, NRG remains concerned about using actual deviations to allocate FRP costs.

Allocating costs to deviations. To completely align with the principle of cost causation, the costs of FRP should be allocated in proportion to those things that inform the decision as to how much FRP to procure. As the Straw Proposal notes at 4, "The total[] system variability and uncertainty between RTPD and RTD is the driver of the procurement target." The driver of FRP procurement is the expected uncertainty, not the realized amount of deviations.

The CAISO proposes to allocate the costs of FRP in two time frames. First, the CAISO will allocate FRP costs on a daily basis in proportion to the amount of deviation (measured across a ten-minute interval) from a two-hour profile submitted by a market participant. Second, at the end of each month, the CAISO proposes to reverse all of the daily deviation charges and settle FRP costs based on the total monthly cost of procuring FRP and the monthly sum of deviations from the ten-minute settlement intervals.

The CAISO's proposal would allocate FRP costs based on a market participant's ability to accurately predict, thirty-seven and half minutes in advance, a ten-minute energy value (determined from 15-minute profiles) that represents a resource's integrated production or consumption over that ten-minute interval. NRG does not yet understand how deviations from a predicted energy value over a ten-minute period affect the CAISO's procurement of FRP. Unless those deviations affect procurement decisions, allocating FRP costs to deviations would not align with either the cost causation or synchronization cost allocation principles.

Assuming, *arguendo*, that allocating FRP costs to deviations is the right approach, it is not clear whether a single ten-minute value provide the proper reference for correlating procurement to deviations. It would seem that the amount of deviation realized over the course of that ten minute interval would affect the need for FRP. For a somewhat absurd example: if a resource started its output at 0 MW at time T=0, increased its output to 100 MW in five minutes, then reduced its output back to zero in five minutes, that resource would produce 8.333 MWh of energy – an average of 50 MW per minute - across the 10-minute period. Now assume that the resource's owner projected that resource to produce exactly 8.333 MWh in the ten-minute period. It does not seem intuitive that even though that resource's actual deviation relative to its projected value

across the ten minute period was zero, the actual operating trajectory of the resource would not, under the CAISO's proposal, warrant allocating that resource some FRP costs for that interval. While NRG remains skeptical about using any *ex post* deviation measurement as an allocator for FRP costs, the total integrated deviation across a ten-minute period may not be the best indicator of the need for FRP. Another indicator, like the maximum deviation across a measurement period, might better correlate to the factors used to inform the CAISO's procurement of FRP. Again, NRG is not convinced that allocating FRP costs to actual deviations is the right approach, but is simply observing that measuring deviations on an integrated ten-minute basis may not correlate to the factors on which the CAISO bases its FRP procurement.

Physical Granularity. While the CAISO proposal is intended to try to put load, generation and intertie resources on more equal footing (at least with respect to the time granularity of measurement of deviations), it does not put load and generation on equal footing with respect to the *physical* granularity of measurements. As NRG understands the CAISO's proposal, each separate generating resource's individual deviations would be measured. While the CAISO's proposal is not explicit about the physical granularity on which load deviations would be measured, given that Section 3.1.1 of the Straw Proposal discusses measuring "system demand", NRG assumes that the load deviations likely would be measured on no more a granular basis than a per-LSE basis. The different physical granularity of measurement between load and generation put generation much more at risk. If, within a scheduling coordinator's portfolio, one resource deviates by X MW above its reference level, and another generator deviates X MW below its reference level, both resources will be assessed FRP charges, even though the deviations net to zero. If the CAISO intends to allocate FRP charges based on deviations, it should allow deviations to net within a scheduling coordinator's portfolio.

Allocation based on deviations across a month. As noted above, the CAISO is proposing, following the end of a month, to reverse all daily FRP charges and re-settle the deviations based on a monthly deviations rate. "Since the flexible ramping products are procured based upon forecasted variability and uncertainties, when a resource deviates in a specific settlement interval, it cannot be concluded that the resource's actual deviation caused the flexible ramping product to be procured for that settlement interval." (Straw Proposal at 9). This resettlement of FRP based on actual deviations, even smoothed over a month, still does not seem to align with the basis for procuring FRP, namely, the RTPD to RTD variability. NRG agrees that, in the short-term, the CAISO's procurement of FRP is not and cannot be influenced by the actual deviations incurred. With respect to the cost allocation principle of synchronization, however, it is not clear how actual deviations in one month will affect procurement of FRP in subsequent months. Moreover, to use a hypothetical situation, it seems unlikely that the CAISO's procurement of FRP would be reduced to zero in Month 2 even if every resource and load exactly matched its submitted profile in Month 1.

Submitting profiles. The CAISO's proposal requires submitting two-hour energy profiles every fifteen minutes thirty-seven and a half minutes in advance of the relevant

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interval, even though only the first fifteen-minute period is used for allocating FRP costs. It is not clear to NRG why the CAISO proposes a two-hour forecast period be submitted, given that only the first fifteen minute period is binding. If the two-hour period is intended to provide a “look-ahead” to optimize forward dispatch, it’s not clear why the resource owner’s two-hour look-ahead would be superior to the CAISO’s two-hour look-ahead.

Moreover, while NRG has not identified in detail what systems would be required to submit these individual resource profiles, the burden involved in setting up, operating and maintaining these systems would likely be substantial.

In sum, NRG appreciates the CAISO’s creative attempts to deal with FRP cost allocation especially its ideas regarding putting different kinds of resources on similar footing. However, NRG remains skeptical of using simple *ex post* deviations, even smoothed over a month, to allocate FRP costs.