

# Flexible Ramping Products

## *Revised Draft Final Proposal*

Dated: August 9, 2012

Comments Submitted: August 24, 2012

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### **Summary:**

Calpine continues to support the development of a bid-based, co-optimized flexible ramping product. However, the Revised Draft Final Proposal (RDFP) has, and continues to evolve in substantive and unfortunately increasingly complex ways.

Our comments focus on compensation and cost allocation in four areas: conditional support for economic buybacks, support for the use of unawarded Regulation bids for FRP, renewing our opposition to the structure and use of a demand curve, and seeking clarity regarding allocations for “fixed ramps”.

### **COMPENSATION ISSUES**

#### **Economic buyback**

The economic buyback proposal offers a two settlement system with the ISO re-optimizing FRP procurement in real-time. The proposal and the presentation for the August 16 teleconference conclude that after the RT settlement, generators should be left in a position of being no worse off compared to their DA position. If this is the case in all circumstances, Calpine would support the proposal.

Based on our understanding, units with positive opportunity costs in real-time will either (1) retain or expand their DA FRP award<sup>1</sup> or (2) be released for dispatch and be allowed to collect energy margins<sup>2</sup>. In either of these cases, they would be no worse off. Nonetheless, we believe that this proposal might benefit through example and encourage the CAISO to prepare illustrative cases which demonstrate the “no worse off” conclusion and any exceptions to that conclusion. In addition, these illustrations could be used to demonstrate the efficacy of the

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<sup>1</sup> Unit capacity would be held in the binding interval for FRP if their individual opportunity cost is less than or equal to the FRP clearing price.

<sup>2</sup> Units would be released for dispatch if their opportunity costs were above the FRP clearing price

“zero-bid” proposal suggested on the teleconference as a mechanism to protect DA awards.

### **Using Regulation Bids for FRP**

In section 2.2 of the RDFP the CAISO proposes that unawarded Regulation bids can be used for FRP. While the proposal is not explicit, Calpine assumes the only place this would happen is in the sequential markets of real-time<sup>3</sup>.

Regulation bids that are not awarded in the 15-minute RTPD run would be made available to the subsequent 5-minute RTD evaluations of FRP. If selected in FRP, the bidder would be paid the FRP shadow price and the capacity would be held for the binding interval. Under these assumptions, Calpine supports this proposal as it increases the liquidity of FRP bids.

### **Demand Curve**

Calpine appreciates the CAISO’s continued refinement of the policies that would drive FRP procurement. We continue to believe that the primary purpose of FRP, as portrayed by the CAISO, is the reliability goal of securing the grid. While it is reasonable to contemplate cost-tradeoffs to meeting reliability goals, we continue to believe the construction of the demand curve is problematic.

Our concerns with the construction, as mentioned in previous responses, revolve around the derivation of the slope, or steps in the curve. The steps, as constructed depend on (1) probabilistic estimates of power balance violations (“PBV”), and (2) costs associated with those violations.

As discussed on the teleconference, analysis of PBVs demands a counterfactual scenario – a portrayal of the grid without FRP. While we do have empirical data prior to the creation of the FlexiRamp constraint, the data has limited usefulness in going-forward decisions. The rather dramatic increases anticipated in RPS eligible generation make historic data less meaningful. Extensive simulations could be used to estimate the probability of PBVs in the 5-minute RTD horizon, but only with controversial assumptions about expected variability.

The second required factor is the cost of a violation. The RDFP uses penalty (parameter) prices to estimate the cost of a violation. Others have suggested that the CAISO use the marginal price of energy<sup>4</sup>. Both fail to recognize that the reliability goal of the CAISO is to avoid an imbalance large enough to cause a loss of load.

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<sup>3</sup> All economic tradeoffs between Regulation and FRP will be performed simultaneously in the DA IFM co-optimization.

<sup>4</sup> This proposal seems misplaced. If the CAISO could simply dispatch marginal energy, there would be no need for FRP. In contrast, FRP is required because the CAISO experiences conditions wherein all units are ramp-constrained and there simply is no marginal energy to be dispatched.

In addition to these two concerns, and as raised in earlier comments, there are many important details to the demand curve that are not resolved, such as whether it is an hourly, daily, seasonal or annual mechanism and whether there would be different constructions for FR up and FR down.

Given the reliability basis for FRP and the concerns identified above, Calpine continues to support a vertical demand curve at a penalty price that represents a reasonable estimate of the value of lost load.

## **COST ALLOCATION**

As a threshold matter, Calpine observes that “movement” is used as a cost allocation determinant throughout the RDFP, but its use in implementation is conditioned upon further study by the CAISO. Apparently, significant administrative concerns were voiced over the creation of this statistic, both at the CAISO and within settlements systems of market participants. In this regard, we hope that the upcoming Second Revised Draft Final Proposal clarifies whether the CAISO can support movement metrics or not.

The CAISO proposes to use netted “movement” allocators to initially split the total cost between Supply, Load and Fixed Ramp. Presumably, aggregate and netted movement is a viable and easily accessible allocator. However, once the initial allocation is complete, the CAISO uses different rate determinants within each bucket.

### Fixed Ramp and Supply Allocators May Need Modification

Based on our understanding, both in initial allocations and rate design within the Fixed Ramp “bucket”, movement will be defined as changes in RT self-schedules from hour to hour. Units responding to CAISO dispatch will be put in the “Supply” bucket and “movement” will be determined using uninstructed deviations.

However, as indicated on the teleconference, in RT it is common for a unit to have both – a self-schedule for only a portion of its output (e.g., to cover a physical delivery obligation) and economic bids for the balance of its generation. In this case, the proposal does not specify which “bucket” is appropriate.

At the margin, the resource described above may be following ISO dispatch and UIE may be an appropriate rate determinant. However, while the presence of an infra-marginal self-schedule in real time does not bind the CAISO dispatch, it may create some forward expectation of the need for compensating ramping. As such, the CAISO should consider alternatives which might include:

1. Modifying the buckets to reflect the fact that many or most units have both self-schedules and dispatchable zones; or

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2. Placing the unit in one bucket or the other depending on whether RT dispatch is bound by (prohibited) the presence of a self-schedule.

Thanks