

## California Department of Water Resources State Water Project Comments on Flexible Ramping Product Technical Workshop September 18, 2012

September 24, 2012

On September 18, 2012, the CAISO held a Flexible Ramping Product (FRP) Technical Workshop. The reason for this workshop was to present and review FRP modeling and settlement examples, along with cost allocation examples. Design changes in response to stakeholder comments were also presented by the ISO team.

### Comments:

DWR supports the ISO's efforts in designing the flexible ramping product. The long term goal to replace the existing flexible ramping constraint (FRC) with the market-based FRP is sound and just. It is, in theory, an important and needed product for the stability of the energy market. However, putting the FRP design into practice, sorting out the details, and having a consensus among stakeholders has been a long, complex, and fluid process. To continue moving forward with the FRP initiative, DWR supports implementing a "basic" FRP into the ISO market. Once the product is working and stable for several critical months, other options can be reviewed, discussed, and added.

The following "basic" flexible ramping product design should be implemented first:

- Upward (FRU) and downward (FRD) products with their own bid price
- FRP single bid segment with bid cap not to exceed real-time regulation price and bid floor equal to \$0/MWh
- Explicit FRP self-scheduling not allowed
- A resource that provides an economic energy bid, automatically gets entered to bid FRP
  - Implicit FRP self-scheduling happens when a resource provides an economic energy bid but fails to provide a FRP bid or bids zero
- FRP will be co-optimized with real-time energy and ancillary services
- PIRP Decremental bidding allowed
  - If a resource is dispatched or awarded FRD, the 10 minute settlement interval is not included in monthly netting
- Initial FRP costs allocated to the following three (3) categories:
  - Loads (metered hourly) – allocated to all load serving entities (LSEs); allocation based on delta 10-min observed load
  - Supply (metered every 10-minutes) – allocated to all VERs, Internal/External Generation, Internal self-schedules, and 10-min metered loads; allocation based on delta 10-min UIE

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- Fixed (not metered) – allocated to static interties; allocation based on 10-min to 10-min change in MWh deemed delivered
- Further allocation within each category to be based on gross deviation from a baseline.
- No pay will be applicable for undispatchable, undelivered, unavailable or unsynchronized FRP
- Unused real-time regulation services can be used as FRP
- The ISO will publish procurement target, prices, and other data similar to what is currently provided for other ancillary services products

The following FRP “options” could be implemented in the future:

- Procure FRP in the day-ahead market
- FRP bid curve
- Co-optimize the IFM and RUC processes
- FRP real-time economic buy-back to charge resource the real-time FRP price for undelivered FRP due to resource constraint