



Real Time Load Reduction Bidding in SMD 2.0

Price Responsive Load
Working Group

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RTS/SMD2 - Background

- Real-time Load Reduction Bidding would be a new feature in addition to the existing demand response programs.
- The RTS Scheduling and dispatch architecture is designed to accommodate real-time load reduction bidding using the generator model.
- Design of real-time load reduction bidding cannot deviate from the RTS specification if it is to be considered for initial SMD operation.
- Today's purpose is to review the design and confirm approach for metering.

RTS/SMD2 - Eligible Markets

- Energy
- 10 and/or 30 minute reserve
- ICAP Special Case Resources (SCRs)

RTS/SMD2 - Modeling

- Modeled as a generator using the same bidding forms as is currently done for DADRP providers in SCUC.
- Same parameters - Startup Cost, Min Gen \$, Incremental Energy, Startup Time, Min Run, Min Down, Max. # of Stops, etc...
- A complete review is still needed to confirm appropriate use of various bid parameters.

RTS/SMD2 - Bidding

- A scheduled DADRP resource cannot also bid as real-time load reduction in the same hours in which they have a day-ahead schedule.
- Real-time load reduction bidders are eligible to participate in EDRP, but cannot participate in both programs during the same hours.
- \$50/Mwhr bid floor would be implemented consistent with DADRP.

RTS/SMD2 - Bidding

- Must bid as on-dispatch.
- Like all suppliers:
 - No availability bids for reserves. Reserve prices are set by the shadow cost of solving the reserve constraints.
 - Quantity of reserve MWs inferred from stated response rates.

RTS/SMD2 - Payments

- Real-time load reduction bidder would collect the market clearing price in each interval that it was scheduled for reserves.
- When the reserve is dispatched the load is no longer charged for energy and does not receive a real-time energy payment.
- The energy “payment” is the avoided energy purchase by not consuming.
- Like a generator, the load could potentially set the clearing price for energy when scheduled.

RTS/SMD2 - Metering

- Real-time load reduction bidding requires real-time metering and communications with the ISO via the TO.
- Options regarding aggregated loads would be a future consideration.
- Tele-metered load will be used to establish the load reduction's "supply" in real-time.

RTS/SMD2 - Metering

- Baseline calculated by taking a snap-shot of their load just prior to activation.
- Output would be monitored in real time as the difference between the baseline MW minus actual load as they respond to the dispatch instruction.

Example:

Normal Mode:

RTDschr = 0 then Gen MW output in the EMS = 0

When Reserve is activated:

RTDschr > 0 then last 6 second metered MW value is stored

Gen MW output displayed in the EMS = Baseline MW Value – Current Actual Metered MW Value

RTS/SMD2 - Summary

- SCADA/EMS development will need to handle the transformation of the tele-metered load's response into a MW output.
- Billing code revisions will need to address energy payment exception for dispatched loads.
- Loads participating in real-time load reduction bidding will need to coordinate with their TO and the ISO to establish the required metering.