

Issue Discussion: Post-Release 1 MRTU Functionality for Demand Response

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Prospects for Enhanced Participating Load

- **Original MD02 conceptual design included comprehensive Participating Load model**
 - Voluntary 3-part bids similar to generators' start-up/ minimum-load cost/ multi-segment energy bid, RUC participation, load aggregation, multiple markets (DA & RT), non-spin eligibility, run-time constraints, etc.
 - Original design included option for scheduling at local or aggregated levels, but overall MRTU design changed to scheduling Load at highly aggregated level.
 - Dispatch is needed at physical location.
 - Participating Load model could not be adapted in time for Release 1.
- **Participating Load model was partially developed, and can be restored as a market enhancement**
 - Timing = TBD

A full Dispatchable Demand Resources model can consist of:

- **Three-part bid: Load curtailment cost, Minimum load reduction cost, Energy bid**
- **Load curtailment time (time to begin curtailing load)**
- **Minimum load reduction time (minimum operating time after load curtailment)**
- **Minimum base load time (minimum time in normal operation after load restoration)**
- **Maximum number of daily load curtailments**
- **Load drop rate**
- **Load pickup rate**
- **Non-spinning reserve capacity (load reduction within 10 minutes)**

Comparability to Generation

Dispatchable Demand Resource	Generator Resource
Load Schedule	Base Load
Minimum load reduction	Minimum generator output
Minimum load	Maximum generator output
Load curtailment time	Start-up time
Minimum load reduction time	Minimum up time
Minimum base load time	Minimum down time
Maximum number of daily curtailments	Maximum daily start-ups
Load drop rate	Ramp up rate
Load pickup rate	Ramp down rate
Load curtailment cost	Start-up cost
Minimum load reduction cost	Minimum load cost

Today's Post-Release 1 Issue:

- Should the CAISO proceed to plan the implementation of the full Participating Load functionality (in the context of the evolved MRTU market design),

or
- Do the original design concepts for full participating load need further refinement and reconsideration?

Proceeding to implement the Participating Load functionality as originally outlined does not preclude further enhancement and improvement in the future.