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# **Formulation of Draft Straw Proposal: Post-Release 1 MRTU Functionality for Demand Response**

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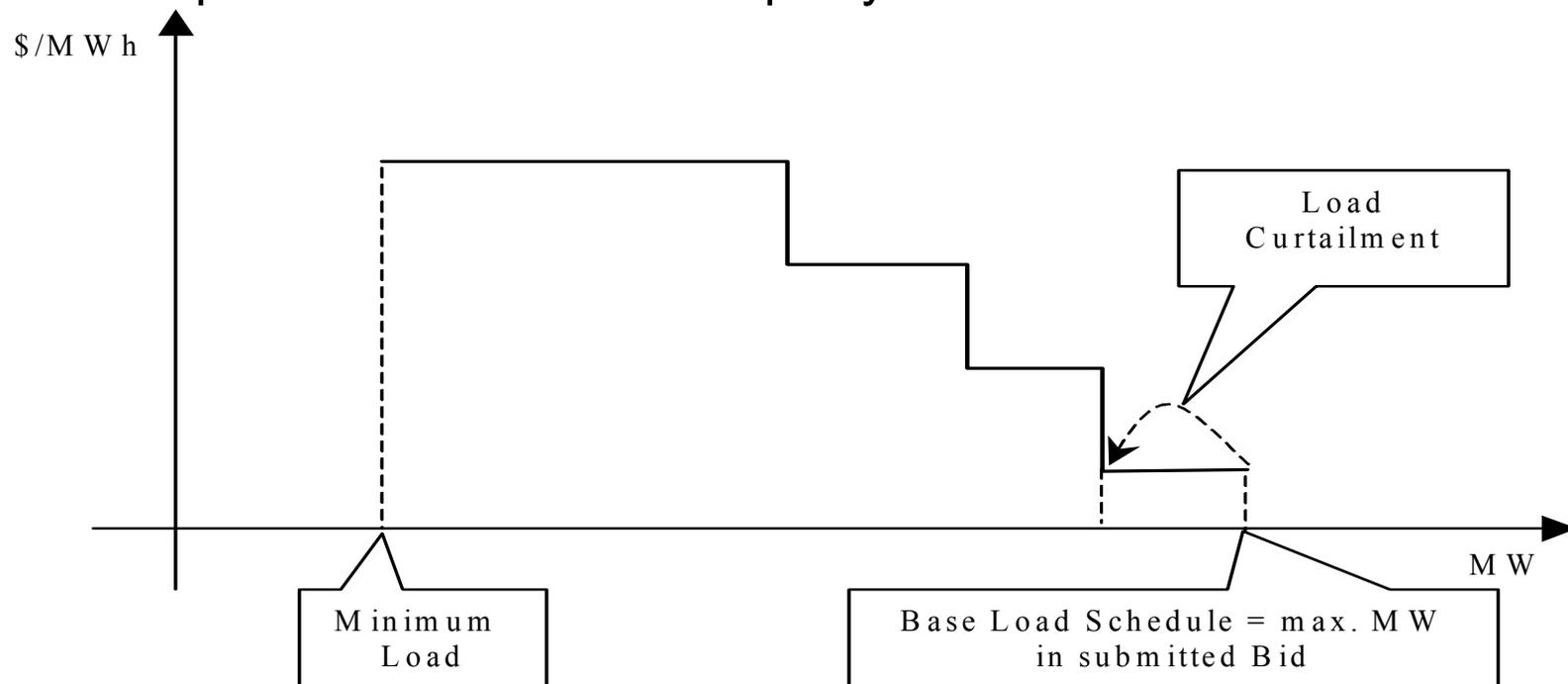


## Review of 6/26/07 Working Group Discussion: Prospects for Enhanced Participating Load

- **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**
  - CAISO Straw Proposal for Market Initiatives Roadmap proposes Dispatchable Demand Response for MRTU Release 1A

## A full Dispatchable Demand Resources model provides flexibility:

- **Minimum bidding requirement: Energy Bid**
  - Up to 10 segments
  - Residual Unit Commitment (RUC) Availability Bid may be required for Resource Adequacy Resources





## **Participating Load Model includes Non-Spinning Reserve & RUC Participation**

- **Eligibility for Non-Spinning Reserve capacity: load reduction within 10 minutes**
  - Requires certification, per technical standards
- **Ancillary Services can be simultaneously self-provided for part of the resource's capacity, and bid for remaining capacity.**
- **RUC Availability Bid indicates quantity and price of capacity to meet CAISO's RUC Requirement**
  - RUC Award does not alter Day-Ahead Schedule, but obligates bidder to offer the RUC capacity for Real-Time Dispatch.

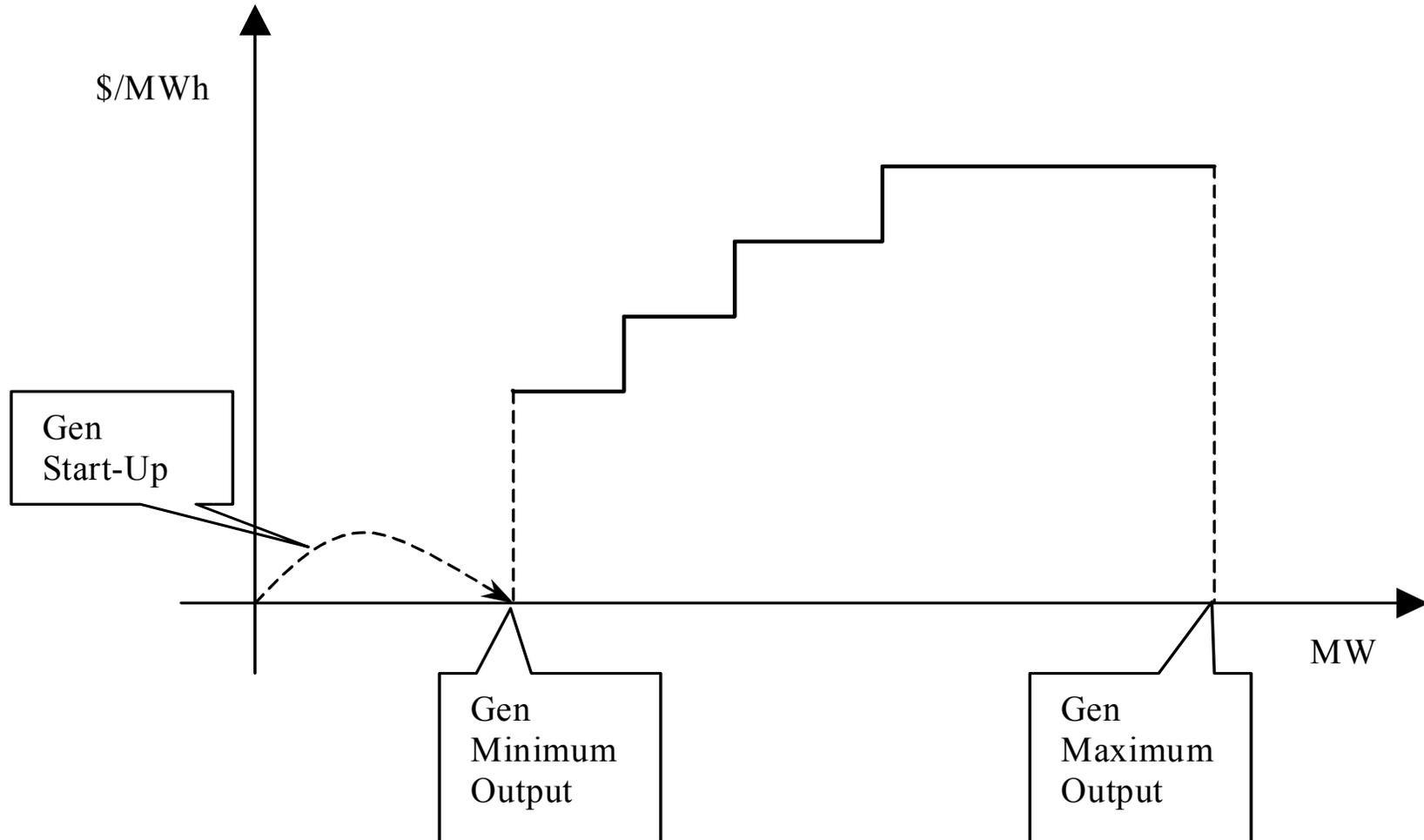


## Comparability to Generation: Additional, Optional Bid Components

<b>Dispatchable Demand Resource</b>	<b>Generator Resource</b>
Base Load Schedule	Base Load
Minimum Load Reduction	Minimum generator output
Minimum Load	Maximum generator output
Load Reduction Initiation Time	Start-up time
Minimum Load Reduction Time	Minimum up time
Maximum Load Reduction Time	Maximum daily energy limit
Minimum & Maximum Daily Energy Limit	Maximum daily energy limit
Load Drop Rate	Ramp up rate
Load Pickup Rate	Ramp down rate
Load Reduction Initiation Cost	Start-up cost
Minimum Load Reduction Cost	Minimum load cost

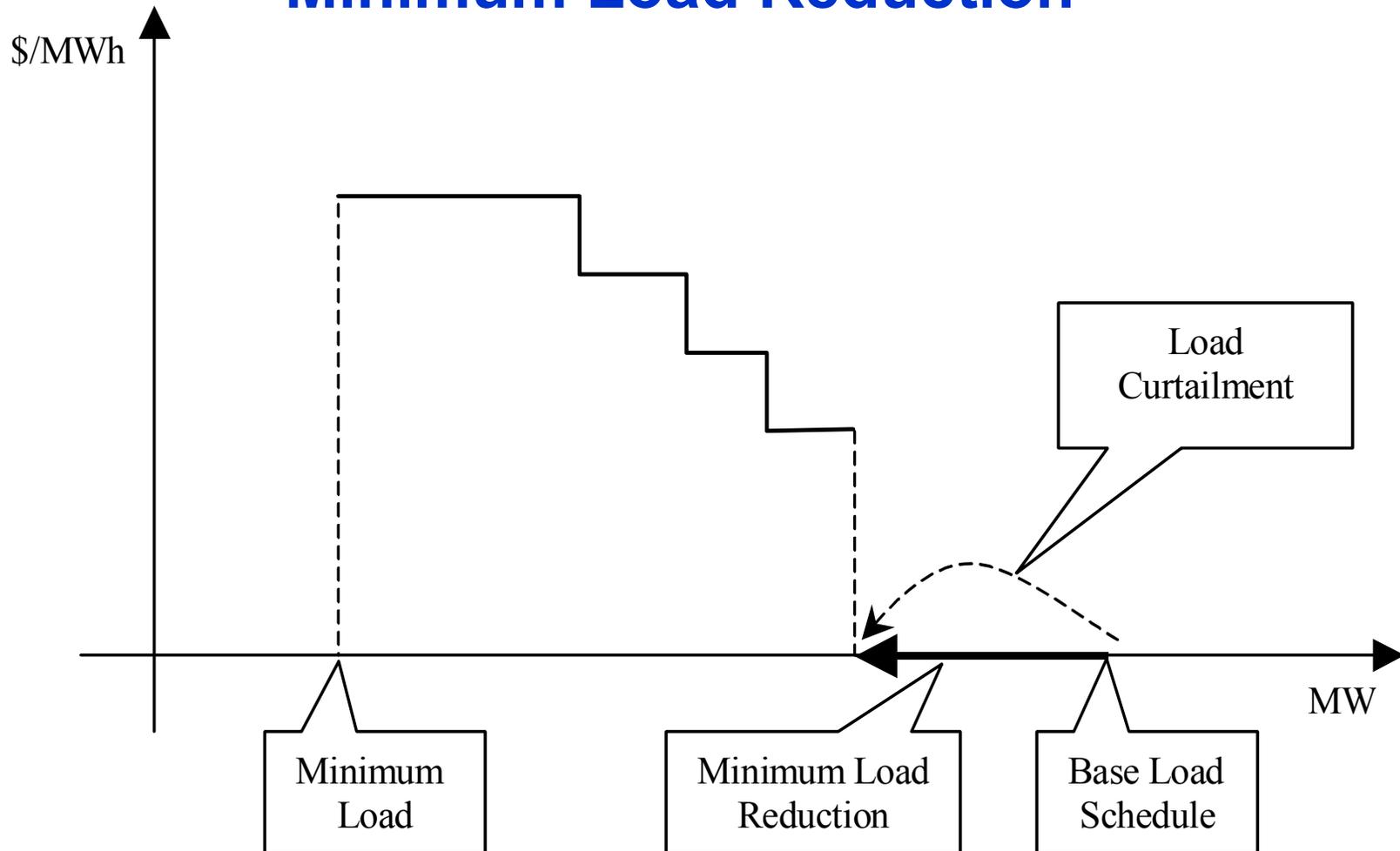
*Base Load Schedule, Minimum Load Reduction, Load Reduction Initiation Time, Minimum & Maximum Load Reduction Time, Minimum & Maximum Daily Energy Limit, Load Reduction Initiation Cost, and Minimum Load Reduction Cost become meaningful when Minimum Load Reduction > 0*

## Generator Bid





## Participating Load Bid with Minimum Load Reduction





## Are additional Bid components needed for MRTU Release 1A?

- **The CAISO's current Draft Straw Proposal limits the optional Bid components to the vendor's previous design, but CAISO has previously discussed other options:**
  - Minimum Base Load Time (minimum time after load restoration, before the next Load reduction)
  - Maximum number of daily load curtailments
- **CAISO can still consider these, but would need compelling reasons.**
- **Are other Bid components needed for Release 1A?**



## Future Enhancements

- **After initial functionality is in place, additional functionality can be considered:**
  - Real-Time market clearing price may understate the value of ramping capacity, and demand resources are among the sources of ramping capacity.
  - Current Ancillary Service products (10-minute availability) may not be the best match for local supply scarcity (requires availability in 20- to 30-minutes, or more).
  - Participating Load provision of Spinning Reserve or Regulation
  - These or other initiatives would need prioritization in CAISO's Market Initiatives Roadmap.
- **Should other concepts be considered?**

## Next Steps

- **CAISO issues Draft Straw Proposal: 9/17/07**
- **Working Group comments requested by: 10/1/07**
- **Working Group meeting (coordinated with Release 1 working group): 10/16/07**
- **CAISO revises Draft Straw Proposal: 10/23/07**
- **Working Group comments requested by: 10/30/07**
- **CAISO issues Straw Proposal to stakeholders: 11/6/07**
- **Stakeholder meeting/conference call: Mid-November**
- **Working Group input on Business Practice Manual and User Guide begins: December 2007**