

## ***RTS Ancillary Services Market Rules***

***MSWG***

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## ***Organization***

- Suppliers of Ancillary Services
- Reserve
  - Bidding, Scheduling and Settlement
- Reserve During RTD-CAM
- Reserve Demand Curves
- Regulation
  - Bidding, Scheduling and Settlement
- Regulation Demand Curve
- Real Time Demand Response

# RTS Market Rules

## Suppliers of Ancillary Services

- Internal generating units and qualified demand-side resources supply ancillary services as indicated in the table below.
- For the purposes of providing reserves, demand-side resources shall be treated as off-line until changes in reliability rules are made such that they may provide synchronous services.

Status	Start-Up	10-Spin	10-NS	30-Spin	30-NS	Regulation
On-Dispatch	10-minute	✓		✓		✓
	30-minute	✓		✓		✓
Self-Scheduled Flexible	10-minute	✓		✓		✓
	30-minute	✓		✓		✓
Self-Scheduled Fixed	10-minute					
	30-minute					
Off-line	10-minute		✓			
	30-minute				✓	

## ***Operating Reserves***

- **Bidding & Scheduling**
  - Suppliers must be on-dispatch or self-scheduled flexible to provide reserves.
  - Suppliers that submit offers for energy, by default will also be considered for reserve scheduling.
  - Reserve quantities are defined by the ramp rate and may be limited by the Emergency or Normal UOL.
  - No availability bids are permitted in RT for all categories of reserve.
  - Availability bids are permitted for reserves day-ahead, however if no offer is entered then a \$0 offer is assumed.

## ***Operating Reserves***

- Pricing and Settlement
  - Full two-settlement for reserves (SCUC & RTD).
  - Reserve market clearing prices will be set based on the shadow prices (SCUC & RTD)
  - Marginal LOC are incorporated into the clearing price (SCUC & RTD).
  - Reserve services will be scheduled and settled, nominally on a 5-minute basis (RTD).
  - Locationally Priced – East & West (*no change*).
  - Long Island pricing rules continued (*no change*).

## ***Operating Reserves***

- Reserves during a reserve pickup
  - Continue to solve for reserve requirements.
  - Continue to price reserves.
  - Reserve demand curves remain active.
  - Regulation requirement is suspended.
  - Two modes of Reserve Pickup
    - Large Event
      - Does not allow any unit to be backed down
    - Small Event
      - May back down units as part of the reserve pickup

## ***Operating Reserves***

- Reserves during reserve pickup
  - Day ahead balanced against real time schedules.
  - Suppliers with net real time reserve schedules will be settled at real time prices.
  - Reserve MWs converted to energy would be paid the RT LBMP price based on actual output.
  - LBMP energy prices and the payments associated with providing energy during a reserve pickup provide a supplier with the incentive to perform during a reserve pickup.

## ***Operating Reserves***

- Reserves during reserve pickup
  - Units dispatched by RTD-CAM have the ability to set the LBMP price.
  - All units paid for overgeneration at LBMP during a reserve pickup (*No Change*).
  - Units responding to the reserve pickup will not incur performance penalties for overgeneration for 3 RTD intervals following the termination of the reserve pickup (*No Change*).
  - Like all other dispatches, persistent undergeneration penalties will be assessed at the Regulation MCP (*No Change*).



## ***Operating Reserves***

- **Changes to Penalties**
  - Remove explicit reduction in availability payment based on daily performance index for reserve pickups.
  - Remove requirement to purchase replacement energy at LBMP for failure to perform during a reserve pickup.
  - Remove 30-minute reserve penalties.

## ***Operating Reserves***

- Demand curve
  - Conceptually
    - Implies that if cost of additional RT reserves exceeds the perceived value, as defined by the demand curve, then the reserves will not be scheduled and the clearing price will be set consistent with the point on the demand curve that was reached.
  - Definition of curves must consider:
    - Reliability role of NYISO
    - Cascading of reserve categories and prices
    - Potential price impacts
  - Consistent demand curves will be applied in SCUC, RTC and RTD

## Operating Reserves

- Demand Curve
  - Applied for all categories and locations of reserve and will remain in place throughout all modes of operation.
  - Reserve demand curves will be applied for each of the reserve and regulation constraints including:

<ul style="list-style-type: none"><li>• NYCA 10-minute spinning reserve</li><li>• NYCA 10-minute total reserve</li><li>• NYCA 30-minute total reserve</li></ul>	<ul style="list-style-type: none"><li>• Eastern 10-minute spinning reserve</li><li>• Eastern 10-minute total reserve</li><li>• Eastern 30-minute total reserve</li></ul>	<ul style="list-style-type: none"><li>• LI 10-minute spinning reserve</li><li>• LI 10-minute total reserve</li><li>• LI 30-minute total reserve</li></ul>
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## ***Regulation***

- Bidding and Scheduling
  - Suppliers must be on-dispatch or self-scheduled flexible to provide regulation.
  - Regulation suppliers must specify both the maximum amount of regulation offered (MW) and an availability offer (\$/MW).

## ***Regulation***

- Pricing and Settlement
  - Full two-settlement for regulation.
  - Regulation market clearing prices will be set based on the shadow prices (SCUC & RTD)
  - Marginal LOC are incorporated into the clearing price (SCUC & RTD).
  - Regulation service will be scheduled and settled, nominally on a 5-minute basis (RTD).
  - Single, Statewide Price (*No Change*).

## ***Regulation***

- **Pricing and Settlement**
  - If in RT, a supplier committed in the DAM, is converted to energy or another ancillary service, they will settle their DAM obligations at real time prices.
  - A performance index (PI) will be calculated for those units being paid for regulation. The PI is calculated for units providing regulation service in real time and is used to prorate payments based on their real time performance. (*No Change*).

## ***Regulation***

- Demand Curve
  - The software will be capable of employing a regulation demand curve throughout all modes of operation in which regulation is scheduled (i.e., the NYCA regulation requirement).

## ***Real-Time Demand Response***

- Design supports participation in all ancillary markets.
- Initially, will be allowed to bid only in 10 or 30 minute non-synch reserve markets due to current reliability rules.
- Providers must bid as on-dispatch.
- Must provide an energy bid in addition to 10-min and/or 30-min reserve bids which are established based on response rates.
- Must be able to follow 5 minute basepoints for energy or reserves when started.



## ***Real-Time Demand Response***

- Paid the appropriate ancillary market clearing price for the scheduled service.
- There is no LBMP-based energy payment to loads scheduled for energy in RT.
- Can participate in current DADRP and RT.
- Can participate in EDRP or SCR and RT markets, but not in the same hours.

## ***Real-Time Demand Response***

- Must have metering and communication with the NYISO via their host TO.
- Must meet same requirements and performance criteria as other suppliers.
- CSPs may aggregate real-time demand response at either a bus or zonal level.
- Aggregation candidates will need to be evaluated by the NYISO on a case-by-case basis for approval of the busses to be aggregated.