Reserve Price Formation Order

High Level Impacts for Demand Response
Reserve Products

- **30-minute Reserves**
  - Met with:
    - Secondary Reserve
    - Non-Synchronized Reserve
    - Synchronized Reserve

- **Primary Reserves**
  - Met with:
    - Non-Synchronized Reserves
    - Synchronized Reserves

- **Synchronized Reserves**
  - Met with:
    - Synchronized Reserves

- **30-minute Reserve**: reserve capability of resources that can be converted fully into energy within 30 mins.
- **Primary Reserve**: reserve capability of resources that can be fully converted into energy within 10 mins (can be Synch or Non-Synch).
- **Secondary Reserve**: reserve capability of resources that can be fully converted into energy within 30 mins less Primary Reserve capability.
What is changing from today

• Tier 1 and Tier 2 Synchronized Reserve to be collapsed into one market
  – Both Day Ahead and Real Time offers/clearing for Synchronized Reserve
  – 10 minute Synch Reserves adder will change from $7.50 to the expected value of the penalty (estimated to be $0.02)
  – Penalty structure similar to current Tier 2 structure

• Change from Day Ahead Scheduling Reserve to Day Ahead Secondary Reserve and addition of Real Time Secondary Reserve market to align with Day Ahead
  – Offer price will no longer be submitted
  – Day Ahead Secondary Reserve assignment is balanced out with Real Time Secondary Reserve assignment in Settlements

• Cap on the percentage of the Minimum Reserve Requirement (MRR) that can be met by demand resources is removed
Secondary Reserve Eligibility Criteria

- Secondary Reserves for Demand Resources are the amount of MW that can be reduced within 30 minutes minus the amount of MW that can be reduced in 10 minutes
  - Reduce load up to Economic Min within 30 minutes
- Must have a Confirmed economic DR Registration/Dispatch Group
- Need to have one minute meter data available for measurement & verification
- Must be available for Real Time energy in order to be eligible for Secondary Reserves in Real Time
  - In order to provide Secondary Reserves, a valid Real Time energy offer must be submitted for the same MW amount
  - Cannot clear total reduction capability in DA energy market
- Must have a lead time less than or equal to 30 minutes
- Energy min downtime must be less than or equal to 2 hours
  - This ensures that resources can be dispatched for energy in Real Time if needed
## Secondary Reserve Offer Structure

<table>
<thead>
<tr>
<th>Availability</th>
<th>Offer MW</th>
<th>Offer Price</th>
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| • Must be available for energy in order to be eligible to clear for Secondary Reserves  
• Reflect availability for Secondary Reserves in Secondary Reserve Offer MW value | • Consistent with treatment for Synchronized Reserves, Demand Resources will have the ability to specify an offer MW  
• Secondary reserves offer MW must be equal to the energy offer MW  
• Cannot be greater than the total load reduction capability  
• Offer MW = 0 indicates that resource is unavailable for Secondary Reserves  
• No must offer requirement | • Secondary Reserve is a cost-based market  
• No offer margin allowed  
• Each resource’s cost to provide Secondary Reserves is based solely on lost opportunity cost, which for Demand Resources is zero |