

Balancing Operating Reserves Status Quo

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Operating Reserves

- Accounting for Operating Reserve is performed daily
- Pool-scheduled resource is eligible to receive credits for providing Operating Reserve in day-ahead market and, provided that resource is available for entire time specified in its offer data, in balancing market
- Total resource offer amount for generation, including startup and no-load costs as applicable, is compared to its **Total Energy Market Value** for specified operating period segments during day
 - If Energy Market Value < Offer Amount, difference is credited to PJM Member

**Total
Energy
Market
Value**

- *Any amounts credited for ...*
 - Day-ahead scheduling reserve in excess of day-ahead scheduling reserve offer plus opportunity cost
 - Synchronized reserve in excess of synchronized reserve offer plus opportunity cost
 - Non-synchronized reserve in excess of opportunity cost
 - Resources providing reactive services

Balancing Operating Reserve (BOR) Segmented Make-Whole Credit

- BOR credits are calculated by operating segment within Operating Day
- Resource is made-whole for up to two segments for each synchronized start
 - Segment 1: Greater of Day-Ahead commitment and Min Run time at time of commitment
 - Segment 2: 5-minute intervals in excess of Segment 1
- With 5-minute settlements, segments can start/stop during intervals within hour
- Segment does not “carry over” to next day
- Startup costs are included in segment represented by longer of day-ahead schedule and minimum run time specified at time of commitment

Ramp-Limited Desired MW Calculation for Deviations

- Create greater incentive for generators to follow PJM real-time dispatch instruction rather than day-ahead schedule
- Determination of generation deviations made using following criteria:
 - Ramp-Limited Desired MW
 - % Off Dispatch
 - MW Off Dispatch
- Once generator is deemed “deviating,” charges are based on operational characteristics of generator and ...
 - Real Time MWh – Ramp Limited Desired MWh **OR**
 - Real Time MWh – UDS LMP Desired MWh **OR**
 - Real Time MWh – Day-Ahead MWh

Lost Opportunity Cost (LOC) Credit

- Generators whose output is reduced or suspended for reliability may be eligible for Lost Opportunity Cost (LOC) credit
- Flexible Resources are also eligible for LOC credit if committed Day-Ahead but not operating in Real-Time per PJM dispatch instructions
- Flexible Resources are defined as having ...
 - Combined startup and notification time less than or equal to 2 hours
 - Min Run time less than or equal to 2 hours
- Flexible Resources are not eligible for LOC if Real-Time Offer is greater than Day-Ahead Committed Offer
- If unit is decreased to provide Reactive Services, same calculations apply
- Pool scheduled resources are compensated using the *higher* of: Committed Offer & Final Offer