Real Time 30 Minute Reserves

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Assignment to Operating Committee

- Energy Price Formation Sr. Task Force (EPFSTF)
  - Issue Charge approved at 3/22/18 Markets and Reliability Committee (MRC)
    - Stakeholder Group Assignment
      - “This work will be assigned to a new senior task force reporting to the Markets and Reliability Committee (MRC), provided that the reliability-related aspects of real-time secondary reserves product will be assigned to the Operating Committee (OC).”
  - Key Work Activities
    - Item 1. Provide education on topics including, but not limited to:
      g. The interdependencies between primary reserves and secondary reserves, and the reliability basis for real-time reserves.
    - Item 9. Develop a real-time secondary reserve product that addresses the real-time primary and secondary reserve requirements, taking into account the impact of operational variability.

OC Timeline

MRC (3/22/18)
EPFSTF
Issue Charge

PJM (4/3 – 5/1)
Research Analysis

PJM (5/1 – 6/5)
Follow-up Analysis

OC (7/10/18)
RT Reserve Requirement
Endorsement

OC (4/3/18)
Education Feedback

OC (5/1/18)
Review Analysis Proposal

OC (6/5/18)
Baseline RT Reserve Requirement

Transition to EPFSTF (7/17/18)
Real-Time Reserves

- **Day-Ahead Scheduling Reserve**
  (Time $\leq$ 30 min.)

- **Real-Time 30-Minute Reserve**

- **Contingency (Primary) Reserve**
  (Time $\leq$ 10 min.)

- **Secondary Reserves**
  (10 min. $\leq$ Time $\leq$ 30 min.)

- **Synch Reserves**
  (Synchronized)

- **Non-Synch Reserves**
  (Offline)
- **Real Time 30 Minute Reserve Objective** of 3784 MW
  - 200% of largest unit which is approximately 1500 MW
  - 3 year average of seasonal, 1 hour-ahead value of:
    - Load Forecast Error (MW), Wind Forecast Error (MW), Solar Forecast Error (MW)
  - Reviewed and updated annually
- **Methodology for adjusting** requirement based on:
  - Management Gas Pipeline Contingencies
    - 30 Minute Reserve Requirement would become the **greater of 3784 MW or MW** value of units affected by gas contingency
  - Conservative Operations
    - In accordance with Manual 13, Emergency Operations, Section 3.2
    - Adjustments generally consistent with those made in Day-Ahead
Next Steps

- Operational need now defined - Operating Committee action now completed
- Real-Time 30-Minute Reserve to be added to future EPFSTF agenda, and will include:
  - Additional education on reserves
  - Discussion on pricing and optimization with other ancillary services
  - Eligible resources
  - Dispatch in real time