Regulation/Synchronized Reserve Overview

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Agenda

- Overview of Regulation and its purpose
- Overview of Synchronized Reserve and its purpose
- Operator usage of these reserve products

Regulation

- Regulation:
  - Requirements:
    - 525MWs (0000-0459hrs)
    - 700MWs (0500-2359hrs)
  - Purpose:
    - To control small mismatches between load and generation (ACE).
      - NOTE: Corrects for both high and low ACE deviations
    - Reg signals automatically sent to Reg. committed resources to immediately begin correcting ACE deviations.
      - Manual intervention to ‘peg’ the signal is available

Synchronized Reserve

- Synchronized Reserve
  - Requirement
    - Greater than or equal to the Largest Unit (1300-1450MWs depending upon unit loading)
  - Purpose
    - To recover ACE following the loss of a large generator
      - NOTE: Can only correct for low ACE (i.e. generation deficiencies).
    - Manually dispatched via the All-Call/ICCP points in either MAD or the RTO

NOTE: MWs assigned to Regulation and MWs estimated/assigned to Synchronized Reserve are NOT the same MWs. These are distinct reserve products.

Operator control

- The automatic Regulation response is understood and considered by the operator when correcting for the smaller ACE deviations that occur between SCED case approvals.
- The manual deployment of Synchronized Reserves is initiated to recover from large ACE deviations typically caused by the loss of a large unit.

Manual M-12: 4.1.2 Loading Reserves

- "During disturbance conditions (i.e., loss of generation and/or transmission resources), synchronized reserve and, to the extent necessary, Non-Synchronized Reserves are used to recover the ACE so that tie line schedules are maintained. Depending on system conditions, the manual methods may be used to accomplish this recovery. Based on system conditions and the ability of regulation to recover, PJM operators will evaluate the need to implement its Contingency Reserve upon the contingent loss of generation equal to 80% or more of its most severe single contingency."