BAL-003-1 Frequency Response & Generator Performance

PFRSTF
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Operation Analysis & Compliance
• PJM 2018 Frequency Response Performance
• PJM Historic Performance
• Generator Performance
Performance is measured as the median of all NERC selected events; frequency response measured include generator governor response & load response.

Below Obligation

Above Obligation

Events

-258.2 MW/.01 Hz
Historic PJM BAL-003-1 Performance

BAL-003-1 Selected Event Frequency Response

Frequency Response (MW/0.1Hz)


Events: 31, 24, 25, 29, 30, 28, 29, 13

422, 350, 410, 429, 411, 498, 343, 258
• Individual Generator Performance evaluation on-going
  – BAL-003 events and expected BAL-003 events

• No measureable change in generator PFR since FERC Order 841
  – Measuring ~50% of expected MW, on average
  – Working through identifying units providing PFR and units increasing output (not from governor controls) during events

• Working to identify a high frequency event to evaluate Max output units
Appendix
Primary frequency response is the first stage of frequency control and is the response of generator governors and loads to arrest locally detected changes in frequency.

Primary frequency response is automatic, is not driven by any centralized system, and begins within seconds after the frequency changes, rather than minutes.
Primary frequency is essential for reliability of the Interconnection and is

- the first line of defense
- critical for system restoration
- needed for accurate modelling and event analysis
- necessary for compliance to BAL-003-1