Operating Reserves Rules
Operating Parameters

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Market Monitoring Unit

Market Power Issues: Operating Reserves Goals

- Goal is competitive outcome
- Ensure that units are paid operating reserves only if they provide flexibility
  - Require flexible operating parameters
  - Require operating parameters consistent with unit capabilities

- Market power may be exercised via
  - Inflexible operating parameters compared to unit capabilities
    - Long minimum run times
    - Small number of starts per day/week
    - Long minimum down times
    - Set economic minimum equal to economic maximum

- Operating parameters proposal:
  - Limit operating reserve payments consistent with operating parameters based on the market data for actual PJM market offers by unit class, where relevant.
  - Limit operating reserve payments consistent with operating parameters based on physical parameters for specific units, where relevant.
  - Limit operating reserve payments consistent with economic minimum and economic maximum points set consistent with unit capabilities

•Minimum Down Time — The minimum number of hours between starts, calculated as the difference between when the unit shuts-down and the next time the unit is put online, as measured by telemetry available to PJM.

•Minimum Run Time — The minimum number of hours a unit must run, from the time the unit is put online to the time the unit is shut down (as measured by PJM's state estimator).

•Maximum Daily Starts — The maximum number of times that a unit can be started in a day under normal operating conditions.

•Maximum Weekly Starts — The maximum number of times that a unit can be started in a week under normal operating conditions.

Definitions of Operating Parameters

•Cold Start Lead Time — The time interval, measured in hours, from the time of PJM notification to the actual unit start sequence to the unit breaker closing for a generating unit in its cold temperature state.

•Hot Start Lead Time — The time interval, measured in hours, from the time of PJM notification to the actual unit start sequence to the unit breaker closing for a generating unit in its hot temperature state.

•Warm Start Lead Time — The time interval, measured in hours, from the time of PJM notification to the actual unit start sequence to the unit breaker closing for a generating unit in its warm temperature state.

eMKT User Guide - http://www.pjm.com/etools/downloads/emkt/ts-userguide.pdf

Proposed Parameters

- Proposed parameter levels based on actual unit characteristics in PJM