



Stability Limits in Markets and Operations

Problem / Opportunity Statement

From time to time, transmission owners perform maintenance on transmission facilities near generating stations. When this maintenance occurs, the output of nearby generating station(s) may need to be curtailed to prevent transient or dynamic instability events on the system. In preparation for operation of the system during the transmission facility maintenance, PJM's reliability engineers perform the requisite studies to determine the amount of any curtailment to the output of nearby generating stations during the transmission maintenance to keep the system stable in the event of a contingency. If PJM's reliability engineers determine that generation curtailments are necessary, PJM calls the affected PJM Generation Owner and notifies them of the unit restriction. Pursuant to Manual 3, Section 3.9.1, PJM is required to create and implement a thermal surrogate to reflect the stability constraint. At the May Operating Committee meeting, PJM proposed changes to Manual 3 and Manual 10 to clarify the Market Participant's actions during such events. PJM's preferred approach is for stability limited generators to reflect the stability limit by reducing the units' economic maximum and entering a maintenance outage ticket within eDart. PJM's preferred approach to modeling stability limitations has transparency considerations. Here is a summary of those considerations:

- PJM's approach to use outage tickets provides information about transmission limitations only to those market participants whose facilities may have a stability limitation and does not result in an OASIS posting
- PJM's approach to use outage tickets may distort the day-ahead and real-time LMPs around the generator(s) affected by the stability limit
- PJM's approach to use outage tickets may distort the settlement prices for FTRs around the generator(s) affected by the stability limit