Cold Weather Generator Testing

Problem / Opportunity Statement

During the January 2014 “Polar Vortex,” PJM experienced extreme cold temperatures in its region that required the use of emergency procedures on multiple days to maintain adequate supply to meet the demand and reserve needs of the system. Coincident with the cold weather and high demand, generator forced outages and failures to start were significantly higher than expected; as high as 21% (~40,000 MW) during the January 6 – 8, 2014 operating days. PJM’s Emergency Operations Manual M13, Section 3.3 includes a chart of potential generation unavailability due to cold weather based on historical performance; however the forced outage rates in January 2014 exceeded these estimates by greater than 200%. As documented in the FERC/NERC Report on Outages and Curtailments During the Southwest Cold Weather Event of February 1-5, 2011 (http://www.nerc.com/files/SW_Cold_Weather_Event_Final_Report.pdf), similar problems led to shedding of firm load and “rolling blackouts” in the ERCOT area.

PJM believes that some level of winter capability testing should be reinstated and some additional operational testing should be implemented.

Issue Source

January 2014 “Polar Vortex”

Stakeholder Group Assignment

This issue will be addressed by the Operating Committee

Key Work Activities

1. Review prior requirements for winter capability testing and associated exemption programs.

2. Develop additional operational test requirements to ensure that generators that operate infrequently and/or have alternate fuel capability are prepared to operate during extreme cold weather conditions such as CT testing during Cold Weather Alerts.

3. Draft required Manual changes and, if needed, Tariff, Operating Agreement, and RAA changes to implement new generator test requirements.

4. Coordinate any proposed changes with PJM Markets to ensure an equitable transition to the new generator testing requirements.

Expected Deliverables

Manual changes and potential Tariff/OA/RAA changes that establish cold weather testing procedures for all PJM generators.
Expected Overall Duration of Work

The goal is to have the cold weather generator testing requirements implemented prior to October 1, 2014.