Winter Peak Study

PJM Planning Committee
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Winter Peak Study Summary

• “Winter Peak Period”
  – December 1st – February 28th
  – Hours Ending 06:00 – 09:00 and 17:00-20:00

• Winter Peak Base Case
  – Dispatch reflects observed winter conditions.
  – See the detail in the appendix to this presentation.

• Winter Peak Analytical Studies
  – Includes thermal and voltage evaluations.
  – See the detail in the appendix to this presentation.
• Update
  – All technical evaluation results of anticipated 2020 Winter conditions were reviewed at the 9/10/2015 TEAC meeting

• Anticipated Application of Winter Criteria
  – Analysis not including gas contingencies
    • Violations constitute a reliability violation and solutions will be developed through the PJM TEAC
  – Gas contingencies
    • Where simulations indicate a potential for cascading, an additional evaluation of potential solutions will be performed
• Implementation Dates

– The criteria is proposed to be effective to the baseline studies upon the effective date of 1/1/2016

– For interconnection queue studies, the criterion will be effective for queue requests received after the effective date of the Manual 14B language.
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Winter Peak Reliability Criteria Timeline

• Development and Review of Winter Reliability Criteria with the PJM PC
  – June 2015 – September 2015

• MRC First Read
  – October 1, 2015

• Request PC Endorsement
  – Today - October 8, 2015

• Request MRC Endorsement
  – October 22, 2015
Appendix
• **Base case dispatch**
  
  – Pumped storage will be in generating mode
  – Generator fuel type will be considered in the initial base case dispatch
  – Queue generation and MTX projects with FSA are modeled along with their associated network upgrades
  – Average Capacity Factors (CF) by fuel type during the winter peak hours are used for the base case generating levels as described in the Manual 14B language (initial generator output = AVG CF* ICAP)
  – Maintain target PJM RTO area interchange that reflects all yearly long term firm (LTF) transmission service
1. Winter Generator Deliverability/Common Mode Outage test
   - The ramping limit for generators of all fuel types will be 100% including wind
     - Consider a lower ramping limit for solar
   - Contingencies: NERC Category A, B, C (except N-1-1) or P0, P1, P2, P4, P5 and P7 (for the new TPL-001-4)
   - Annual DR

2. Winter Load Deliverability test
   - Winter CETO
   - Annual DR
   - 27 LDAs
   - Contingencies: NERC Category A, B

3. N-1 thermal, voltage
   - Contingencies: NERC Category A, B, C (except N-1-1) or P0, P1, P2, P4, P5 and P7 (for the new TPL-001-4)

4. N-1-1 thermal and voltage
   - Contingencies - (NERC TPL-001-4 P3 and P6)

• Overall Assumptions
  - Monitor all PJM BES and lower voltage BES and market monitored facilities
  - Currently, 30 Gas contingencies (TPL-001-4 Extreme Event) that results in 1000MW or more of generation loss including pipeline outage or temperature threshold contingencies will be evaluated in the tests above