Winter Peak Study

PJM Planning Committee
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Winter Peak Study Summary

• “Winter Peak Period”
  – December 1st – February 30th, Hours Ending 06:00 – 09:00 and 17:00-20:00

• Winter Peak Case
  – Ratings: TO applicable winter daytime ratings (Otherwise default to 50F)
  – Topology- reflects the current system plus any future upgrades prior to the winter of the year under study
  – External world model reflects the same year MWWG winter model
  – Load: Winter load profile in each TO zone is provided by the respective TOs, PJM Winter 50/50 load forecast applied
• **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 shown in the following table (initial generator output = AVG CF* ICAP)
  – Maintain target PJM RTO area interchange that reflects all yearly long term firm (LTF) transmission service
    • Set MAAC to historical averages
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 CET0
   - 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
• Implementation Dates
  – The criteria is proposed to be effective to the baseline studies upon the effective date of the Manual 14B language that is anticipated to be endorsed by the PC and MRC in the 4Q 2015.
  • In practice, due to the timing of the approval, PJM will incorporate this study as part of the 2016 RTEP.
  – For interconnection queue studies, the criterion will be effective for queue requests received after the effective date of the Manual 14B language.
• Target: approve a PJM Winter Reliability Criteria by the end of 2015
• Initial Generator deliverability study results – End of June
• Initial N-1 thermal and voltage results – July (see the July TEAC – Reliability Analysis Update)
• Initial Load Deliverability results – September (see the September TEAC – Reliability Analysis Update)
• N-1-1 results – September (see the September TEAC – Reliability Analysis Update)
• Post all final potential issues - End of the September
• Final review of the draft winter study procedure (Manual 14B) for stakeholder
• MRC First Read – September
• Request PC Endorsement – October
• Request MRC Endorsement – October
Questions: RTEP@pjm.com