Removal of Conemaugh #2 Stability Trip SPS

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Existing Conemaugh #2 SPS

• For the current system configuration, transient Instability conditions have been identified during outages at Conemaugh and Hunterstown requiring limitations for total plant output at both substations. Outage scenarios and generation limitations can be found in PJM Manual M-03.

• The current M03 limitations specify that during an outage involving the Conemaugh – Juniata 5005, 500kv line there are two options for mitigating Transient Instability.
  – Total plant reductions at Conemaugh and Hunterstown
  – Enabling of the Conemaugh #2 SPS
    • In order for the SPS scheme to operate as designed, the Conemaugh #4 & #5 500kv CBs must be open and isolated.

• Enabling the SPS allows for full plant output at Conemaugh.
• The SPS will trip Conemaugh #2, when enabled during 5005 (Conemaugh – Juniata) line outages, upon the loss of the Keystone – Conemaugh 5003, 500kv line.

• SPS details can be found in PJM Manual M-03, Section 5, pages 266 & 267.

• The SPS is not used often – it has not been enabled since 2011.
The new Conemaugh 500/230kv transformer and Conemaugh – Seward 230kv line was placed in service in early March.

The new line and transformer provide an additional outlet for Conemaugh and Hunterstown generation.
PJM and First Energy Planning groups studied the new configuration and outage scenarios.

Studies show no Transient Stability Issues during the critical outage of the 5005 (Conemaugh – Juniata) line.

Once the SPS removal is approved, PJM will revise M-03 to reflect changes.
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• Stability concerns have been alleviated with the additional outlet at Conemaugh (Conemaugh – Seward).

• The Conemaugh plant operator, Keystone-Conemaugh Projects (KCPO) requested retirement/removal of the SPS.

• PJM agrees with the recommendation to remove this SPS
Next Steps

• Submitted to Reliability First (RF) for assessment and approval.

• Review SPS removal with PJM Committees (SOS, OC, PC, MIC, and MRC).

• PJM will post SPS removal on OASIS.

• Removal date set for September 1, 2014 to allow for 90 day review.
Questions?