#S19 Pine Grove 28 MW

Generator Interconnection

This analysis was completed to assess the reliability impact for a new generator interconnecting to the PJM System as a Capacity Resource.

Network Impacts

The Queue S19 project was studied as a 28 MW increase (5.6 MW of capacity) to the existing O40 project in the PPL territory. The project was evaluated for compliance with reliability criteria for summer peak conditions in 2012. Potential network impacts were as follows:

NETWORK IMPACTS

Generator Deliverability
(Single or N-1 contingencies for the Capacity portion only of the interconnection)

No Problems were identified

Multiple Facility Contingency
(Double Circuit Tower Line contingencies only for the full energy output. Stuck breaker and bus fault contingencies will be performed for the Impact Study)

No problems were identified.

Short Circuit Analysis

To be completed during the Queue S19 Impact Study.

Stability Analysis

Not required because of generator size.

Contribution to Previously Identified Overloads
(This project contributes to the following contingency overloads, i.e. "Network Impacts", identified for earlier generation or transmission interconnection projects in the PJM Queue)

No problems were identified

NETWORK UPGRADE REQUIREMENTS

New System Reinforcements
(Upgrades required to mitigate reliability criteria violations, i.e. "Network Impacts", initially caused by the addition of this project generation)

None identified.

Contribution to Previously Identified System Reinforcements

(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project. This project may have a % allocation cost responsibility which will be calculated and reported for the Impact Study)

None identified.

Advancement of PPL EU Planned Upgrades if Necessary to Meet S19 In-Service Date

PPL's Eldred – Pine Grove 69 kV line rebuild project from 3/0 CU with SN/SE ratings of 34/51 MVA to 556 KCM ACSR with SN/SE ratings of 97/124 MVA will be required for O40 and S19 generation interconnection to operate at full output. Part 2 of this project is not required to be in-service until May 2012. The developer may request the line rebuild to be advanced in order for O40 and S19 to operate at full output.

Per O40 studies, the cost estimate for advancement of Part 2 of this project to 2009 is **$690,000**.

OTHER ISSUES

Delivery of Energy Portion of Interconnection Request

PJM also studied the delivery of the energy portion of this interconnection request. Any problems identified below may result in operational restrictions to the project under study. **These are not required upgrades for Queue S19**. The developer may decide to proceed with network upgrades to eliminate the potential operational restriction at their discretion by submitting a Merchant Transmission Interconnection request.

As a result of the aggregate energy resources in the area, the following violations were identified:

1. Contribution of 10 MW further overloads the Frackville – Siegfried 230 kV from 107% to 109% of its emergency rating (616 MVA) for the outage of Sunbury – Juniata 500 kV line (Cont Id. PJM69).