

#T51 Hay Road 13 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***

Queue T51 was studied as a 13 MW Capacity increase (552 MW to 565 MW) at Edgemoor 230 kV (Unit #4), 138 kV (Units #1 & 3) and 69 kV (Unit #2) stations. Project T51 was evaluated for compliance with reliability criteria for summer peak conditions in 2012. Network impacts were as follows:

Generator Deliverability

No problems were identified

Multiple Facility Contingency

No problems were identified

Short Circuit

Not applicable, there is no change to generator and transformer impedance.

Stability Analysis

Not required, there are no changes to generator characteristics

Power Factor Analysis

**Preliminary results indicate that T61 can meet the PJM Tariff 0.90 lag power (at the generator terminals) factor requirement based on manufacturer's design data and test data.**

Queue T51 generator interconnection design must be capable of either;

- 1) A power factor of 0.95 lead to 0.90 lag (at the generator terminals) at the new MW value, or
- 2) A MVAR capability equal to the original MVAR capability (grandfathered lead and lag MVAR capability before the MW increase, or 0.95 lead to 0.90 lag for the original MWs whichever is less) plus a power factor of 1.0 to 0.90 lag for T51 MW increase, all measured at the generator terminals.

T51 design capability ("D" curves or other documentation) information was not provided by the Interconnection Customer in sufficient time to include a Power Factor analysis in this Feasibility Study. **Power Factor requirements will be further evaluated for the Impact Study.**

**Contribution to Previously Identified Overloads**

No problems were identified

**New System Reinforcements**

None

**Contribution to Previously Identified System Reinforcements**

None identified.