#T49 Steel City 42 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 T49 was studied as a 42 MW Capacity injection into the Steel City 500 kV and 230 kV busses. Project T49 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 T49 can meet the PJM Tariff 0.90 lag power (at the generator terminals) factor requirement based on manufacturer's design data.

Queue T49 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 T49 MW increase, all measured at the generator terminals.

T49 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.

