Generation Interconnection

This analysis was completed to assess the reliability impact for a new generator interconnecting to the PJM system as an capacity resource.

Network Impacts -1060 MW Injection into the TMI-Peach Bottom 500kV transmission line (H14)

Network Impacts

The **#H14 project was studied as 1060MW capacity** injection into the TMI – Peach Bottom 500kV substation. Project # H14 was evaluated for compliance with reliability criteria for summer peak conditions in 2006. Potential network impacts were as follows:

Generator Deliverability

1. The TMI 500/230 kV transformer is contingency overloaded at 105% of the emergency rating (911 MVA) for outage of the Peach Bottom – H14 500 kV circuit. The H14 project contributes approximately 261 MW to the loading on this circuit.

Multiple Facility Contingency – Tower Line Outages (MAAC Criteria IIC)

No identified problems.

Short Circuit

Contributes to the overdutied condition of eleven (11) 500kV circuit breakers at Peach Bottom 500kV substation.

New System Reinforcements

The overload of the TMI 500/230kV transformer can be alleviated by the installation of a second 500/230kV transformer at the substation.

The estimated cost to add the transformer and a 500kV and 230kV circuit breaker for termination of the transformer into the busses is estimated to cost $13.0 million and take 2 years to complete.

Contribution to Previously Identified System Reinforcements

The H14 project will contribute to the cost of the following previously identified network reinforcements:

1. Install a new 500 kV circuit breaker at Conastone substation. The project contributes approximately **136** MW. The total cost is estimated at $1.4 and it is expected to take 2 years to complete.
2. Replace or upgrade eleven (11) 500kV circuit breakers at Peach Bottom 500kV substation. The total cost for replacement is $7.8 million

Cost allocation percentages are not provided as part of the Feasibility Study analysis, however, cost allocation will be provided during the Impact Study evaluations.