#N02_Peach Bottom 550 MW

Generation 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 - 550 MW Capacity Injection

The system, as planned, was evaluated for compliance with reliability criteria. **The #N02 Peach Bottom project was studied as an 550 MW Capacity injection into the Peach Bottom 500 kV bus.** The results are summarized below.

Generator Deliverability

No problems were identified

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

No problems were identified

Short Circuit

The addition of project N02 causes the short circuit interrupting requirement of Peach Bottom 500 kV breaker #215 to exceed its rating of 40kA.

			Before N02			After N02		
Bus	Breaker	Rating	3ph	1ph	% duty	3ph	1ph	% duty
Peach Bottom 500 KV	215	40,000 A	38,782	35,783	96.96%	41,832	39,814	104.58%

New System Reinforcements

Project N02 is 100% responsible for upgrading breaker #215 at the Peach Bottom 500 KV bus with a cost of $50,000.

Contribution to Previously Identified Overloads

The N02 project will contribute to the costs associated with the network reinforcements for the following facilities:

1. Reconductor of the Graceton – N01 230 kV circuit is estimated to cost $1,615,000 and is expected to take approximately 3 years to complete. The N02 project contributes approximately 39 MW to the contingency overloaded facility.

2. Reconductor of the Graceton – Raphael 230 kV circuit is estimated to cost $12,700,000 and is expected to take approximately 3 years to complete. The N02 project contributes approximately 25 MW to the contingency overloaded facility.

3. Reconductor of the Northwest – Conastone (#2322) 230 kV circuit is estimated to cost $7,700,000 and is expected to take 3 years to complete. The N02 project contributes approximately 38 MW to the contingency overloaded facility.

4. The N02 project will contribute to the costs associated with the installation of a new 500 kV circuit breaker at Conastone estimated at $1,550,000.

Contribution to Previously Identified circuit breaker upgrade requirements

1. Queue N02 also has more than 3% fault duty contribution to the Peach Bottom 500 KV bus. As a result it will also contribute to the costs of replacing some Peach Bottom 500 kV breakers previously replaced for other projects. Queue N02's cost contribution will be determined during the Impact Study.