

Generation Interconnection

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

The Woodbourne #G13 project was studied as a 600 MW capacity injection into the Woodbourne 230kV substation. Project #G13 was evaluated for compliance with reliability criteria for summer peak conditions in 2005. Potential network impacts were as follows:

Generator Deliverability

- 1) The Croydon – Burlington 230kV circuit is overloaded at 103 % of the emergency rating (558MVA) for the outage of the Croydon – Eddington - Emilie 230kV circuit. The G13 Project contributes approximately 48 MW to the loading on this circuit.

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

No identified overloads

Short Circuit

- 2) The G13 project causes Plymouth Meeting circuit breakers 115 and 645 to become overstressed.

New System Reinforcements

- 1) The overload on the Croydon – Burlington 230kV circuit can be relieved by upgrading the circuit. Rebuild the Croydon – Burlington 230kV circuit at a cost of \$4.0 million.
- 2) Replace Plymouth Meeting circuit breakers 115 and 645 at Plymouth Meeting at a cost of \$0.5 million.

Contribution to Previously Identified System Reinforcements

The G13 project may be allocated a percentage of the costs for the following previously identified network reinforcements:

- Replacing the existing Byberry - Bluegrass 138 kV circuit with 795 kcmil ACSR conductor. The upgrade of the line is estimated to cost \$3.2 million and take 18 months to complete. The G13 project contributes approximately 50 MW toward the need for this reinforcement.

Cost allocation percentages are not provided as part of the Feasibility Study analysis, however, cost allocation will be provided at the conclusion of the Queue D, E, F & G Impact Study evaluations.