

#S61 - Tosco 230kV
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

The Queue S61 project was studied as a 20 MW (Capacity) injection into the Tosco 230 kV substation in PSEG territory. The project was evaluated for compliance with reliability criteria for summer peak conditions in 2012. Potential network impacts were as follows:

Generator Deliverability

(Single or N-1 contingencies for the Capacity portion only of the interconnection)

1. The Aldene – Spring Road 138 kV line is overloaded from 99.7% to 101% of its normal rating (228 MVA). This project contributes approximately 2 MW to cause the thermal violation.

Multiple Facility Contingency

(Double Circuit Tower Line contingencies only for the full energy output. Stuck breaker and bus fault contingencies will be performed for the Impact Study)

No problems were identified

Short Circuit

Since there is no change to the generator characteristics, a short circuit evaluation is not required.

Contribution to Previously Identified Overloads

(This project contributes to the following contingency overloads, i.e. “Network Impacts”, identified for earlier generation or transmission interconnection projects in the PJM Queue)

No problems were identified

New System Reinforcements

(Upgrades required to mitigate reliability criteria violations, i.e. “Network Impacts”, initially caused by the addition of this project generation)

- 1) To alleviate the overload on the Aldene-Springfield Rd underground cable the circuit will need to be reconductored, since the limiting element is the rating of the conductor. The estimated cost of the reconductoring is **\$10-12 million** with an estimated time to complete of 2 years.

Contribution to Previously Identified System Reinforcements

(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project. This project may have a % allocation cost responsibility which will be calculated and reported for the Impact Study)

None.