

Queue #Q51 - Quad Cities 345kV 140 MW Generator Interconnection

Network Impacts

The #Q51 project was studied as a total increase in capacity of 140 MW (70 MW per unit) to the #1 and #2 units at the Quad Cities 345 kV generating facility in ComEd. Project #Q51 was evaluated for compliance with PJM reliability criteria for summer peak conditions in 2011. Potential network impacts were as follows:

Generator Deliverability

No problems were identified.

Multiple Facility Contingency

No problems were identified.

Contribution to Previously Identified Overloads

1. Contribution of 6 MW increases the loading on the Bus Tie 2-3 Circuit Breaker at TSS 113 Waterman from 159% to 161% of its load-dump rating (247 MVA) for the tower outage of 345 kV lines 18402 & 16703. The violation was first caused by queue position #P14.
2. There is a potential overload on the Byron to Wempletown 345 kV circuit (#0624), for which project #Q51 contributes 19 MW to the loading on the facility. PJM and ComEd are continuing to review the cause of and solution to the overload. The Impact Study for this project will define the cost allocation, if any, for this generation project. Rough estimates to eliminate the overload are around \$20 million.

New System Reinforcements

None.

Contribution to Previously Identified System Reinforcements

To be determined at the SIS phase.

Short Circuit

There were no overdutied circuit breakers due to #Q51 identified at this time.

Potential Issues

Impacts on the MISO member transmission systems are not included in this analysis, but they will be included in the Impact Study, which may reveal upgrades needed in the MISO system not identified in this Feasibility Study.

A transient stability study for #Q51 will be conducted as part of the Impact Study, which may reveal upgrades not identified in this Feasibility Study.