

Queue R79

Tazewell – Kendall 345kV

Feasibility Study Report

Network Impacts

The #R79 project was studied as a 300 MW (60 MW of capacity) injection into the Tazewell to Kendall 345 kV line #93505 in the ComEd territory. Project #R79 was evaluated for compliance with reliability criteria for summer peak conditions in 2011. Potential network impacts were as follows:

Generator Deliverability

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

No problems were identified.

Multiple Facility Contingency

(Double Circuit Tower Line contingencies only were studied for the full energy output. The contingencies of Line with Failed Breaker and Bus Fault will be performed for the System Impact Study)

No problems were identified.

Short Circuit

(Summary of impacted circuit breakers)

To be completed in the System Impact Study.

Contribution to Previously Identified Overloads

(#R79 contributes to the following contingency overloads, i.e. “Network Impacts”, identified for earlier generation or transmission interconnection projects in the PJM Queue)

1. Contribution of 71 MW further overloads the #O22 to Dresden 345kV line #1202 from 104% to 108% of its applicable load dump rating (1718 MVA) for the #O22 to Goodings Groove and #O27 to Goodings Grove 345 kV tower line outage (#19601 & #97503). This overload was caused by projects prior to the R-queue with an additional contribution from project #R29. The System Impact Study for this project will define the cost allocation, if any, for this generation project. Rough estimates to eliminate the overload are around \$0.5 million.

Steady-State Voltage Requirements

(Summary of VAR requirements based upon the results of the steady-state voltage studies)

To be determined in the System Impact Study

Stability and Reactive Power Requirements for Low Voltage Ride Through

(Summary of VAR requirements based upon the results of the dynamic studies.)

To be determined in the System Impact Study

New System Reinforcements

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

None

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 System Impact Study)

To be determined in the System Impact Study

Potential Issues

The #R79 project may impact stability at Powerton and/or Kendall County stations due to the interconnection into the existing Tazewell to Kendall County 345kV line #93505. Stability studies will be performed during the System Impact Study.

During certain maintenance outages the #R79 project will be required to be taken off-line. For example, during a maintenance outage on the 345kV line between Tazewell and #R79, a single contingency of 345kV line 10805 from Kendall Co. to Lockport would island generation at Kendall Co. and #R79 into each other. Similar issues may occur for other combinations of maintenance outages involving these and other elements. The typical duration of a maintenance outage on the ComEd system is one week.

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

Delivery of Energy Portion of Interconnection Request

PJM also studied the delivery of the energy portion of this interconnection request. Any problems identified below are likely to result in operational restrictions to the project under study. The developer can proceed with network upgrades to eliminate the

operational restriction at their discretion by submitting a Merchant Transmission Interconnection request.

As a result of the aggregate energy resources in the area, no violations were identified.