

#T74 – Elgin 138kV Generation Interconnection

Network Impacts

The #T74 project was studied as a 55MWE and 55MWC injection at the TSS 960 Elgin Energy Center 138 kV substation in the ComEd area. Project #T74 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. Contribution of approximately 10.5MW overloads the Hanover Township TDC Tap to Tollway portion of the Spaulding to Tollway Red 138kV line #7903 from 97.9% to 100.7% of its emergency rating (372MVA) for the outage of the Wayne to Silver Lake 345kV line 14401.

Multiple Facility Contingency

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

No problems were identified.

Short Circuit

(Summary of impacted circuit breakers)

To be determined in the System Impact Study

Contribution to Previously Identified Overloads

(#T74 contributes to the following contingency overloads, i.e. "Network Impacts", identified for earlier generation or transmission interconnection projects in the PJM Queue)

None

Stability Analysis and Reactive Power Requirements

(Summary of 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)

1. The overload of the ComEd-owned Hanover Township TDC Tap to Tollway portion of the Spaulding to Tollway Red 138 kV line #7903 can be relieved by replacing the 138 kV circuit switcher (C/S #0303) located just North of the Hanover Township TDC Tap. This has been roughly estimated to cost \$ 300,000.

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

Potential Issues

System Planning Operating Guide (SPOG: 1-3-J) provides for the automatic tripping of Elgin Energy Center units to prevent instability. It also limits the number of units to no more than three on either 138 kV lines 96001 or 96002 with an interlock scheme. The additional generation at this site may result in changes to this SPOG and further restrictions on the operation of these units.

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.