#Q39 – Kewanee

Generation 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 #Q39 project was studied as a total injection of 147 MW (29.4 MW of Capacity) into the Kewanee 138 kV facility in the ComEd territory. Project #Q39 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 18 MW further overloads the Oglesby tap-Crescent Ridge portion of 138 kV line 7713 from 146% to 161% of its load-dump rating (116 MVA) for the tower outage of lines 12511 and 7408. The constraint was first identified for queue P11.

New System Reinforcements

To be determined in the System Impact Study.

Contribution to Previously Identified System Reinforcements

To be determined in the System Impact Study.

Short Circuit

There were no overdutied circuit breakers due to #Q39 identified at this time. The short circuit study for #Q39 considers overdutied breakers to be upgraded for projects ahead of #Q39 in the PJM queue. If projects ahead of #Q39 drop out, the short-circuit analysis will be repeated and #Q39 may ultimately be responsible for breaker upgrades.

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.

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.

1. Contribution of 37 MW further overloads the Rock Falls-#O09 138 kV line 13311 from 281% to 301% of its emergency rating (184 MVA) for the outage of 138kV line 15508. The violation was first caused by the #O29 project.
2. Contribution of 37 MW further overloads the Rock Falls-Nelson 138 kV line 15509 from 261% to 282% of its emergency rating (184 MVA) for the outage of 138kV line 15508. The violation was first caused by the #O29 project.
3. Contribution of 36 MW further overloads the Nelson-#O29 138 kV line 15508 from 194% to 208% of its emergency rating (265 MVA) for the outage of 138kV line 13311, which was originally caused by the #O29 project.
4. Contribution of 22 MW further overloads the Normandy-#O09 138 kV line 12511 (formerly 7411) from 105% to 115% of its normal rating (209 MVA). This violation was first caused by the #P37 project.
5. Contribution of 36 MW further overloads the Kewanee station equipment in series with the circuit breaker that ties the ComEd-owned portion of Kewanee to the Ameren/Illinois Power portion from 122% to 141% of its normal rating (189 MVA). The overload was first identified for the P11 project.