W3-014 Fostoria Central-Galion 345kV

Generation Interconnection

Network Impacts

Queue project W3-014 was studied as a(n) 300.0 MW (39.0 MW of which was Capacity) injection into AEP's system at the 50.0% tap between South Berwick and Galion345.0 kV line. Project W3-014 was evaluated for compliance with reliability criteria for summer peak conditions in 2014.

Generator Deliverability

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

No problems identified

Multiple Facility Contingency

(Double Circuit Tower Line, Line with Failed Breaker and Bus Fault contingencies for the full energy output)

a. The West Millersburg - Wooster 138 kV line (from bus 243151 to bus 243158 ckt 1) rated 185 MVA loads from 98.7% to 100.6% with an impact of 1.94% for tower contingency '474' outage of Beverly (Washington DENA IPP) 345kV – Tidd 345 and Kammer - Muskingum River 345kV
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b. The Clear Brook – Roanoke 2 138 kV line (from bus 242601 to bus 242774 ckt 1) rated 245 MVA loads from 98.9% to 100.2% with an impact of 1.34% for contingency category C2 '6178_C2_05CL', loss of the Cloverdale-Jacksons Ferry 765 kV circuit, Cloverdale- Joshua Falls 765kV circuit, Cloverdale #10 765/345/34.5 transforer and Cloverdale- Matt Funk 345kV circuit for the Cloverdale "P" 345kV stuck breaker condition.

Short Circuit

(Summary form of Cost allocation for breakers will be inserted here if any)

No problems identified

System Reinforcements

a. The conductor is the limiting element for the West Millersburg – Wooster 138 kV line. A Sag study has to be performed for the 15.19 miles of line at a cost of $4000 per mile. Total estimated cost for the Sag Study is **$60,800.** If the Sag Study identifies any additional network upgrades, that additional cost will be allocated to the W3-014 project.

b. The conductor is the limiting element for the Clear Brook – Roanoke 2 138 kV line. 2.81 miles of the conductor will need repair at a cost of $1.0 million per mile. The total estimated cost is **$2,810,000.**

Energy Portion of Interconnection Request

(PJM also studied the delivery of the energy portion of the surrounding generation. Any potential 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 Transmission Interconnection request.
Note: Only the most severely overloaded conditions are listed. There is no guarantee of full delivery of energy for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed which analyzes all overload conditions associated with the overloaded element(s) identified. As a result of the aggregate energy resources in the area, the following violations were identified.)

No problems identified.