W2-001 Fostoria Central 138kV

Generation Interconnection

AEP Local Network Impacts

The impact of the proposed generating facility on the AEP System was assessed for adherence with applicable reliability criteria. AEP planning criteria require that the transmission system meet contingency performance criteria in accordance with the AEP FERC Form 715. Therefore, this set of criteria was used to assess the impact of the proposed facility on the AEP System.

Normal System (2014 Summer Conditions)

- No problems identified

Single Contingency (2014 Summer Conditions)

- No problems identified

Multiple Contingency (2013 Summer Conditions)

Short Circuit Analysis

- No problems identified

Network Upgrades

None

Additional Limitations of Concern

None

Network Impacts

Queue project W2-001 was studied as a(n) 66.6MW (8.6MW of which was Capacity) injection into AEP's system at the Fostoria Central 138kV substation. Project W2-001 was evaluated for compliance with reliability criteria for summer peak conditions in 2014. Potential network impacts were as follows:

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)

No problems identified.

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

No problems identified.

Contribution to Previously Identified Overloads

(*Overloads initially caused by prior Queue positions with additional contribution to overloading by this project. This project may have % allocation of cost responsibility which will be calculated and reported for the Impact Study.)*

None

System Reinforcements

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

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

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.)

1. The Melmore-V1-010 TAP 138 kV line (from b 243039 to bus 292059 ckt 1) loads from 123.99% to 124.44% (DC power flow) of its emergency rating (179 MVA) for the single line contingency ('5243_B2_TOR4783C_MOAB'). This project contributes approximately 5.04 MW to cause the thermal violation.

2. The V1-010 TAP-Howard 138 kV line (from bus 292059 to bus 243024 ckt 2) loads from 140.2% to 140.71% (DC power flow) of its emergency rating (179 MVA) for the single line contingency ('5147_B2_TOR707_V1-010B'). This project contributes approximately 5.56 MW to cause the thermal violation.