#V1-009 Gilbert 46kV

Generation Interconnection

This analysis was completed to assess the reliability impact for the new generation interconnecting to the PJM system as a capacity resource.

Local AEP Impacts

Option #1 at Gilbert Station & Option #2 north of Gilbert Station

Network results are the same for both options.

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 single 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. This project was studied as a 12 MW net energy injection consistent with the interconnection application. The interconnection project was studied at full capacity. The results are summarized below.

Normal System (2012 Summer Conditions)

- No problems identified.

Single Contingency (2012 Summer Conditions)

- No problems identified.

Double Contingency (2012 Summer Conditions)

- No problems identified.

Short Circuit Analysis

- No problems identified.

Local Network Upgrades

- No Local Network Upgrades are needed.

Stability Analysis

- Stability Studies were not required by AEP for this project.

Option #2 north of Gilbert Station

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 single 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. This project was studied as a 12 MW net energy injection consistent with the interconnection application. The interconnection project was studied at full capacity. The results are summarized below.

Normal System (2012 Summer Conditions)

- No problems identified.

Single Contingency (2012 Summer Conditions)

- No problems identified.

Double Contingency (2012 Summer Conditions)

- No problems identified.

Short Circuit Analysis

- No problems identified.

Local Network Upgrades

- No Local Network Upgrades are needed

Stability Analysis

- Stability Studies were not required by AEP for this project.

Network Impacts

The queue V1-009 project was studied as a 12MW injection (11MW of which was capacity) at the Hump Creek 138kV substation. Project V1-009 was evaluated for compliance with reliability criteria for summer peak conditions in 2013. 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

No problems identified.

Contribution to Previously Identified Overloads

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

No problems identified.

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 Impact Study)
(Summary form of Cost allocation for transmission lines and transformers will be inserted here if any)

None