

#V3-055 Engle 69kV
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

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. The ecoPower 50MW biomass fuel generator project was studied as a 50 MW net energy injection consistent with the interconnection application. The results are summarized below.

Normal System (2013 Winter Conditions)

- No problems identified

Single Contingency (2013 Winter Conditions)

- No problems identified

Multiple Contingency (2013 Winter Conditions)

- No problems identified

Short Circuit Analysis

- No problems identified.

Stability Analysis

- Stability analysis was not performed as part of this Feasibility Study. The stability assessments are part of the System Impact Study. Based upon the results of this System Impact Study, the extent of system upgrades could change and the associated costs could be significantly different.

Network Upgrades

- Not Applicable for this study

Network Impacts

The queue V3-055 project was studied as a 50MW capacity injection into AEP's system at the Engle 69kV substation. Project V3-055 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

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

None

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