#S26 – Bluff Point-Jay 138kV

Generation Interconnection

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

Local and 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 single contingency performance criteria in accordance with the AEP FERC Form 715. Therefore, this criterion was used to assess the impact of the proposed facility on the AEP System. The project was studied as a 75 MW net capacity consistent with the interconnection application. The results are summarized below.

Normal System (2009 Summer Conditions)

- No problems identified.

Single Contingency (2009 Summer Conditions)

- No problems identified.

Short Circuit Analysis

- No problems identified.

Stability Analysis

- Stability studies were not performed as part of this Feasibility Study and are not normally performed as part of a Facility Study effort. The stability assessments are part of the System Impact Study. Based upon the results of this future System Impact Study, the extent of system upgrades could change and the associated costs could be significantly different.

Reactive Requirements

PJM requires a power factor correction to 95% lead/lag at the point of interconnection for wind generating facilities. It is expected that the Interconnection Customer will adhere to this standard.

Network Impacts

The Queue S26 project was studied as a 75 MW (15 MW of capacity) injection into the Jay-Bluff Point 138 kV line in the AEP territory. Project S26 was evaluated for compliance with

reliability criteria for summer peak conditions in 2012. Potential network impacts were as follows: The results are valid for both Option #1 and #2.

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

No Problems were identified.

Multiple Facility Contingency
(Double Circuit Tower Line contingencies only for the full energy output. Stuck breaker and bus fault contingencies will be performed for the Impact Study)

No Problems were identified

Short Circuit
No problems identified on the transmission system.

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 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)

None

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.

No problems were identified