Generation Interconnection

Queue Project AE1-105

North Longview 500 KV

Feasibility Study Report

Capacity : 1235 MW / Energy : 1270 MW

January, 2019

General

Interconnection Customer has proposed a new 2 x 1 combined cycle natural gas generating facility located in Greene County, Pennsylvania. The installed facilities will have a total capability of 1270 MW with 1235 MW of this output being recognized by PJM as Capacity. The proposed in-service date for this project is June 1, 2022. **This study does not imply a Monongahela Power Company (Transmission Owner or MonPower) commitment to this in-service date.**

Point of Interconnection

The AE1-105 facility will interconnect with the MonPower transmission system by direct injection into the North Longview substation, 500 kV bus.

Network Impacts

The Queue Project AE1-105 was evaluated as a 1235 MW (Capacity 1270 MW) injection at North View 500 KV substation in the APS zone (FirstEnergy, MonPower area). Project AE1-105 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AE1-105 was studied with a commercial probability of 53%. Potential network impacts were as follows:

Summer Peak Analysis – 2022

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

None

Multiple Facility Contingency
(Double Circuit Tower Line, Fault with a Stuck Breaker, and Bus Fault contingencies for the full energy output)

None

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

Short Circuit

Short circuit study showed eight (8) overduty breakers at the Fort Martin substation are affected.

Please refer to Appendix 3 for more details.

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.

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 will study all overload conditions associated with the overloaded element(s) identified.

None

System Reinforcements:

Short Circuit

Replace eight overduty breakers at the Fort Martin substation. Please refer to Appendix 3 for more details. Costs are shown in the Non-Direct Connection Cost Estimate section of this report.

Stability and Reactive Power Requirement

Will be determined at a later study stages.

Summer Peak Load Flow Analysis Reinforcements

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.