

#Z1-035 – Lake Erie 69kV Generation Interconnection

General

The Interconnection Customer is proposing an 18MW (2.34MW Capacity) wind facility to be interconnected to the ATSI transmission system and near Cleveland, OH. ATSI is a FirstEnergy (FE) company. The proposed in-service date for this project is September 30, 2017.

This Generation Interconnection Feasibility Study provides analysis results to aid the Interconnection Customer in assessing the practicality and cost of incorporating the facility into the PJM system.

Revenue Metering and SCADA Requirements

For PJM: The Interconnection Customer will install equipment necessary to provide Revenue Metering (KWH, KVARH) and real time data (KW, KVAR) for Interconnection Customer's generating Resource. See PJM Manuals M-01 and M-14D, and PJM Tariff Section 24.1 to 24.2.

Network Impacts

The Z1-035 project was studied as an 18.0MW (2.34MW Capacity) injection at Lake Road 69kV substation into the ATSI area. Project Z1-035 was evaluated for compliance with reliability criteria for summer peak conditions in 2017.

Potential network impacts were as follows:

Generator Deliverability

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

No violations were found.

Multiple Facility Contingency

(Double Circuit Tower Line contingencies were studied for the full energy output. The contingencies of Line with Failed Breaker and Bus Fault will be performed for the Impact Study.)

No violations were found.

Short Circuit

(Summary of impacted circuit breakers)

PJM:

PJM has completed the short circuit analysis of the Z1-035 queue project **Lake Erie Wind 69 kV**. One option was considered during this study: the option was a direct connection to Lake Erie 69 kV substation. Our analysis found **no new breakers** to be over-duty in the ATSI transmission area.

CPP:

CPP will complete a short circuit study as a part of the System Impact Study.

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 violations were found.

New System Reinforcements

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

None.

Contribution to Previously Identified System Reinforcements

(Overloads initially caused by prior Queue positions with additional contributions 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.

Note: Only the most severely overloaded conditions are listed below. 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 shall study all overload conditions associated with the overloaded element(s) identified.

As a result of the aggregate energy resources in the area, no violations were identified.