

Generation Interconnection Feasibility Study Report

Queue Position AD1-083

General

“Interconnection Customer” has proposed a new solar generation facility located approximately 1.2 miles from Page substation in Page County, Virginia. GPS coordinates are 38.6800000, -78.4500000. The installed facilities will have capability of 100 MW with 60.1 MW of this output being recognized by PJM as capacity. The proposed in-service date is December 31, 2019. This study does not imply a **Potomac Edison (“Transmission Owner”) commitment to this in-service date.**

Point of Interconnection (POI)

This project will interconnect with the Potomac Edison transmission system as described in the following two options:

Option #1 POI or Primary Point of Interconnection:

Tapping the Page – Riverton 138 kV line by building a new three breaker ring bus station located approximately 1.2 miles from Page substation. The Point of Interconnection will be located at the new substation’s exist side to solar plant.

The Primary POI connection costs are detailed in the Cost Summary section of this report.

Option #2 POI or Secondary Point of Interconnection:

Direct injection into Page substation; The Secondary POI connection costs are not provided in this report.

Please refer to Appendix 2 for one-line diagram of system configuration.

Network Impacts

The Queue Project AD1-083 was evaluated as a 100.0 MW (Capacity 60.1 MW) injection tapping Page to Bethel 138kV line in the APS area. Project AD1-083 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AD1-083 was studied with a commercial probability of 53%. Potential network impacts were as follows:

Summer Peak Analysis - 2021

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

Steady-State Voltage Requirements

To be determined during later study phase

Short Circuit

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. 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

Light Load Analysis - 2021

Light Load Studies to be conducted during later study phases (as required by PJM Manual 14B).

System Reinforcements

Short Circuit

None

Stability and Reactive Power Requirement

To be determined during later study phases

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

Light Load 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