Generation Interconnection
Feasibility Study Report
Queue Position W1-090

The Interconnection Customer (IC) has proposed an 18 MWE (6.8 MWC) solar powered generating facility consisting of ground mounted fixed panel solar arrays to be located in Berlin,Gloucester County, New Jersey. PJM studied W1-090 as an 18 MW injection into the Atlantic City Electric (ACE) system at two (2) Points of Interconnection. The project was evaluated for compliance with reliability criteria for summer peak conditions in 2014. The planned in-service date, as stated in the Attachment N, is April 25, 2011.

Point(s) of Interconnection

W1-090 will connect to the Atlantic City Electric transmission system as either a tap of the Tansboro-Atco 69kV circuit (Primary option), or as a direct connection into the Tansboro 69kV substation, (Secondary option).

Primary Option

Direct Connection Requirements

Transmission Owner Scope of Direct Connection Work

The scope of work and estimated costs for the direct connection facilities is as follows:

1. Construct a tap structure and install three (3) 69kV switches on the Atco-Tansboro 69kV circuit on property provided by the Interconnection Customer at no expense to Atlantic City Electric.

The estimated cost to perform this work is **$500,000** and will take an estimated **24 – 36 months** to complete after receipt of a fully executed Interconnection Service Agreement (ISA) and Interconnection Construction Service Agreement (CSA).

Note: the above cost does not include the Contribution in Aid of Construction (CIAC) tax.

Interconnection Customer Scope of Direct Connection Work

The IC is responsible for all design and construction related activities on their side of the Point of Interconnection. IC will interconnect W1-090 with the ACE system by constructing a customer owned 69kV circuit from their facility to the tap structure on the Atco-Tansboro 69kV circuit. The above cost estimates do not include construction of that line or bus work. Route selection, line design, right-of-way acquisition, and construction of such lines will be entirely the responsibility of the Interconnection Customer.

The IC will be required to install metering and telemetry equipment to provide revenue metering and real-time telemetry data to PJM. The requirements for this equipment are listed in Appendix 2, Section 8 of Attachment O to the PJM Tariff, as well as PJM Manuals 01 and 14D. Protective

relaying and metering design and installation must comply with Atlantic City Electric's Applicable Standards.

Transmission Network Impacts

Potential transmission network impacts are as follows:

Generator Deliverability

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

None

Multiple Facility Contingency

*(Double Circuit Tower Line contingencies at **Full** energy output. Stuck Breaker and Bus Fault contingencies will be applied during the System Impact Study.*

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

Not required.

Stability Analysis

Not required due to project size.

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 contribution to overloading by this project.

None

Potential Congestion due to Local Energy Deliverability

(PJM also studied the delivery of the energy portion of the surrounding generation. Any potential 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 Transmission Interconnection Request. Note: Only the most severely overloaded conditions are listed below. There is no guarantee of full deliverability for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed which analyzes all overload conditions associated with the identified overloaded element(s). As a result of the aggregate energy resources in the area, the following violations were identified:

These are not required reliability upgrades.

None

Option 2

Transmission Network Impacts

Potential transmission network impacts are as follows:

Generator Deliverability

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

None

Multiple Facility Contingency

*(Double Circuit Tower Line contingencies at **Full** energy output. Stuck Breaker and Bus Fault contingencies will be applied during the System Impact Study.*

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

Potential Congestion due to Local Energy Deliverability

(PJM also studied the delivery of the energy portion of the surrounding generation. Any potential 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 Transmission Interconnection Request. Note: Only the most severely overloaded conditions are listed below. There is no guarantee of full deliverability for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed which analyzes all overload conditions associated with the identified overloaded element(s). As a result of the aggregate energy resources in the area, the following violations were identified:

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None