

# *Generation Interconnection Feasibility Study Report Queue Position V4-036*

## **General**

The Interconnection Customer (IC) has proposed a 20 MWE (7.6 MWC) solar powered generating facility consisting of ground mounted fixed panel solar arrays to be located in Millville, Cumberland County, New Jersey. PJM studied V4-036 as a 20 MW injection into the Atlantic City Electric's system between the US Silica Tap and the South Millville substations. 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 August 1, 2010.

## **Point of Interconnection**

V4-036 will interconnect with the Atlantic City Electric transmission system as a tap of the Newport-South Millville 69kV circuit.

## **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:

Atlantic City Electric (ACE) will construct a new 69 kV tap (including three (3) switches) of the Newport-South Millville 69kV circuit to interconnect the V4-036 generation. 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 Interconnection Customer (IC) assumes full responsibility for design and construction of all facilities associated with the V4-036 generating station and the 69kV direct connection line on the IC's side of the Point of Interconnection. Site preparation including grading and an access road, as necessary, is assumed to be by the IC. Route selection, line design, right-of-way acquisition and construction of lines will be entirely the responsibility of the IC.

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 Applicable Standards.

## **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, Line with Failed 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**

None

### **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:*

None