

***PJM Generator Interconnection Request  
Queue #W1-100  
Minue St. 13kV  
Feasibility/Impact Study Report***

**July 2010  
#604305**

# W1-100 Minue St. 13kV Feasibility/Impact Study

## General

Public Service Electric and Gas Company has proposed installing a 1.741 MW AC solar project on the roof of the 1500 Rahway-Avenel building at 1500 Rahway Avenue, Avenel, New Jersey. The commercial operation date is January 1, 2011 or before.

## Direct Connection

There will be a separate service for the solar panels. The solar project will be connected to the Minue St. 8023 13kV circuit. The point of interconnection and metering will be on the low side of the 13kV/480V transformer. The connection to the transmission system is at Minue St. 230kV.

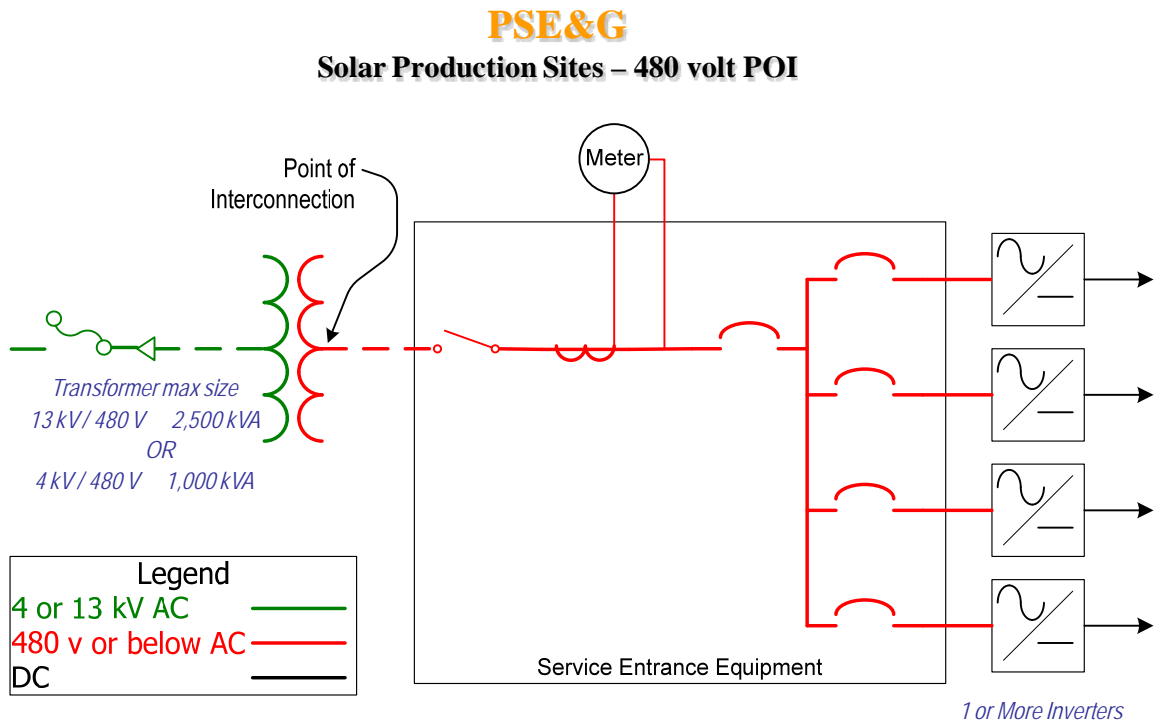
### *Preliminary Estimates*

| <u>Project Item</u>        | <u>Option<br/>A<br/>13-Kv<br/>Single Line</u> |
|----------------------------|---|
| <b>Inside Plant</b>        |   |
| Line Position/Feeder Row   | -   |
| Relay Protection           | -   |
| Manholes/Conduit           | -   |
| Other/Misc.                | -   |
| Sub Total                  | \$0   |
| <b>Outside Plant</b>       |   |
| Overhead Line              | \$55,630                                      |
| Underground Line           | -   |
| Manholes/Conduit           | -   |
| Other/Misc.                | -   |
| Sub Total                  | \$55,630                                      |
| <b>Metering/Monitoring</b> |   |
| Revenue Metering           | \$26,000                                      |
| Telemetering/SCADA         | \$42,000                                      |
| Feeder Metering            | \$75,000                                      |
| Other/Misc.                | -   |
| Sub Total                  | \$143,000                                     |
| <b>Total Cost</b>          | <b>\$198,630</b>                              |

The cost in the Interconnection Agreement is exclusive of work required to be performed by the developer as specified in PSE&G's Information & Requirements for Electric Service Handbook. This work includes, but may not be limited to, the following:

- Developer is responsible for purchase and installation of all low voltage (277/480v) or high voltage (13-kV) service equipment as required for each site
- Developer will adhere to specifications detailed in the PSE&G Information and Requirements for electric service handbook
- Developer is responsible for all trenching and the installation of conduits and manholes as normally required and specified by PSE&G
- Developer must obtain all permits and easements required to install the interconnection facilities
- Developer must provide access for the installation, maintenance and operation of all service equipment

**Figure #1**



## **Network Impacts**

Queue project W1-100 was studied as a(n) 1.741MW ( 0.662MW of which was Capacity) injection into PSEG's system at the Minue St. 13kV substation. Project W1-099 was evaluated for compliance with reliability criteria for summer peak conditions in 2014. Potential network impacts were as follows:

### **Generator Deliverability**

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

No problems identified

### **Multiple Facility Contingency**

*(Double Circuit Tower Line, Line with Failed Breaker and Bus Fault contingencies for the full energy output)*

No problems identified

### **Short Circuit**

*(Summary form of Cost allocation for breakers will be inserted here if any)*

No problems identified

### **Stability**

Not required because the project is less than 30 MW.

### **System Reinforcements**

None.

### **Energy Portion of Interconnection Request**

*(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. 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 analyzes all overload conditions associated with the overloaded element(s) identified. As a result of the aggregate energy resources in the area, the following violations were identified.)*

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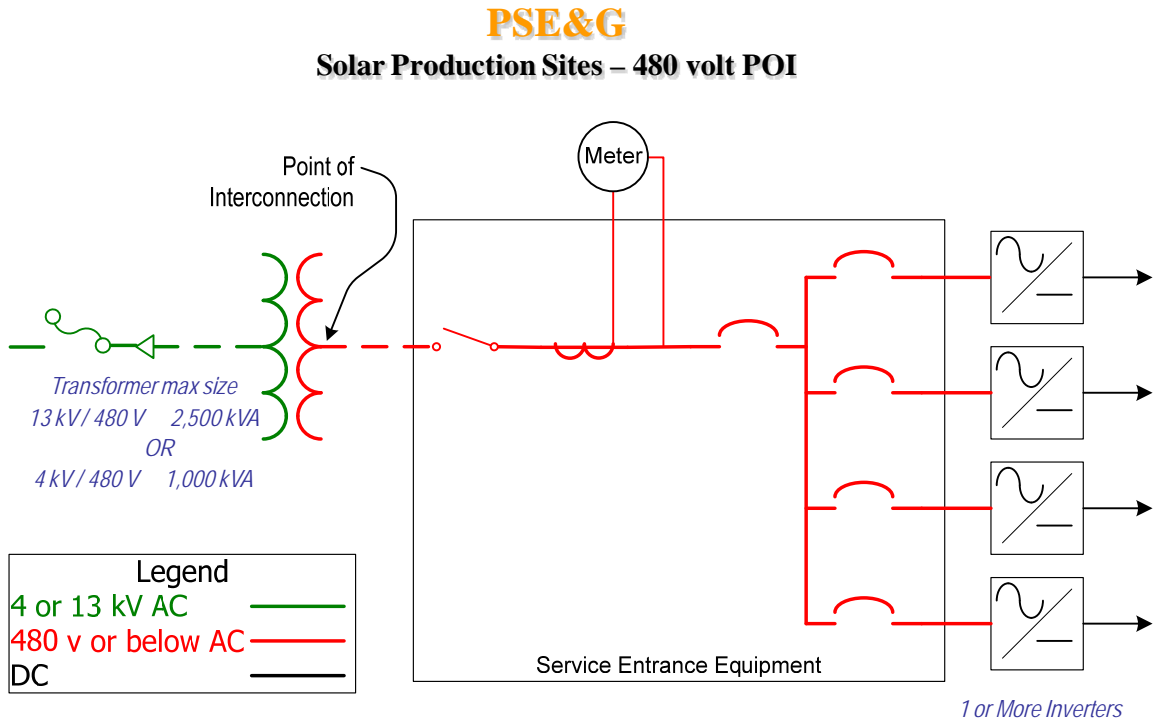
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