PJM Generator Interconnection Request
Queue X4-004
Woodbury (Johnson Matthey) 26kV
Feasibility/Impact Study Report

April 2012
#697322

X4-004 Woodbury (Johnson Matthey) 26kV Impact Study

General

There are presently two 3.1 MW Catapillar Gas Turbines and a 4 MW solar installation at the Johnson Matthey site at 2001 Nolte Drive, West Deptford, Gloucester County, New Jersey. Johnson Matthey has requested that they be able to sell back up to 5.0 MW of the total generation output into the PJM system. Johnson Matthey is not rquesting any Capacity Interconnection Rights.

The present installation does not permit backfeed to the system from the two gas turbine generators because a reverse power relay is installed on the interconnection that trips the 52B1 circuit breaker. Tripping the 52B1 circuit breaker results in tripping the PV circuit breaker that connects to the solar project.

There will be no net metering at the plant when this installation is complete. The meter on the solar installation will be used to determine Energy Revenue Credits.

The project will be connected to both the Y-181 and Q-121 26.4 kV circuits. There is remote transfer trip that has been installed at Woodbury, Market Street and Johnson Maffey that is still under test. This will need to be functional before backfeed into PSE&G's system can be permitted.

There are presently two sets of meters installed, one for the solar installation and one for the rest of the facility. These meters are already summed.

PSE&G will submit revenue data for the project to PJM.

In-service:

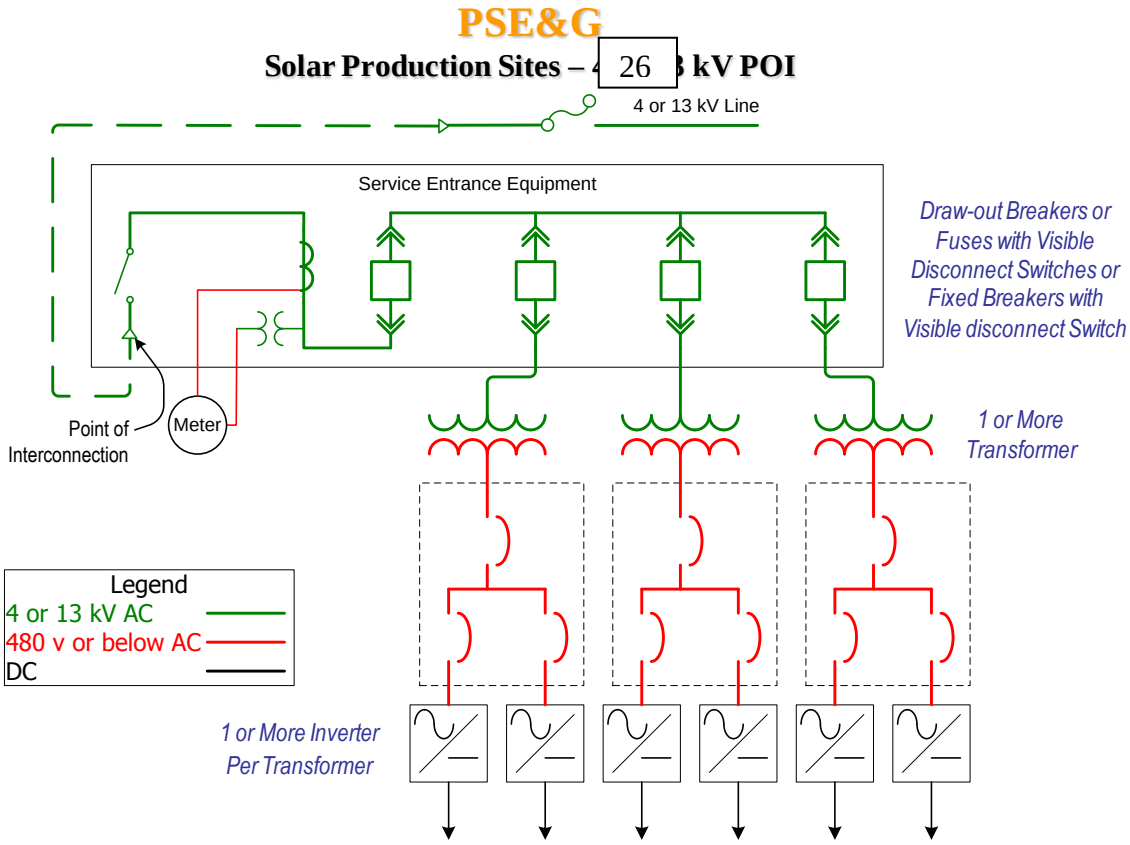
The plant has a shutdown scheduled for June 30 to July 8, 2012. A complete electrical shutdown is scheduled for June 30, 2012. It would be best to do any electrical changes for the generation that day.

The intent of the Impact Study is to determine system reinforcements and associated costs and construction time estimates required to facilitate the addition of the new generating plant to the transmission system. The reinforcements include the direct connection of the generator to the system and any network upgrades necessary to maintain the reliability of the transmission system.

Direct Connection

There is no additional work to be done to connect this project to the PSE&G system.

Figure #1



Network Impacts

The Queue Project #X4-004 was studied as a(n) 5.0MW(Capacity 0.0MW) injection at Gloucester 230Kv substation in the PSEG area. Project #X4-004 was evaluated for compliance with reliability criteria for summer peak conditions in 2015. 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.)

None