

***PJM Generator Interconnection Request
Queue W4-058
Lawrence (Rider University) 13kV
Feasibility/Impact Study Report***

**April 2011
#643080**

W4-058 Lawrence (Rider University) 13kV Feasibility/Impact Study

General

PSE&G has proposed a .702 MW AC ground mount solar project to be installed on property at Rider University located at 2083 Lawrenceville Road, Lawrenceville Township, Mercer County, New Jersey. The name for the project is “Rider University”. The proposed in-service date for the project is July 31, 2011.

The intent of the Feasibility/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

The interconnection will consist of a single 13-kV line connection to the LCE 8010 distribution circuit from Lawrence Switching Station. The total interconnection cost of **\$153,860** is based on the most efficient possible route to the existing line, 13-kV infrastructure and is detailed as follows:

<u>Project Item</u>	<u>13-kV Single Line</u>
Inside Plant	
Line Position/Feeder Row	-
Relay Protection	-
Manholes/Conduit	-
Other/Misc.	-
Sub Total	\$0
Outside Plant	
Overhead Line	\$88,860
Underground Line	-
Manholes/Conduit	-
Other/Misc.	-
Sub Total	\$88,860
Metering/Monitoring	
Revenue Metering/Telemetering/SCADA	\$65,000
Feeder Metering	\$0
Other/Misc.	-
Sub Total	\$65,000
Total Cost	\$153,860
Acceptable Generation Level	Up to 0.772 MW

The cost 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 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

It is anticipated that material procurement and construction will require 5-6 months from the date of project approval and authorization.

Project Schedule

May 1, 2011

ISA and CSA are fully executed and authorization is received to proceed with construction
Long lead time construction material is placed on order

May 7, 2011

Developer submits preliminary site plan, 277/480 Volt switchgear one-line diagram and equipment specifications for approval

May 15, 2011

PSE&G provides comments on project lay-out and design

June 1, 2011

Developer submits final site plan, 277/480 Volt switchgear one-line diagram and equipment specifications for approval

June 15, 2011

PSE&G commences line construction

June 20, 2011

PSE&G provides final comments and approval of 277/480 Volt switchgear lay-out and design
Developer begins construction based on approved design

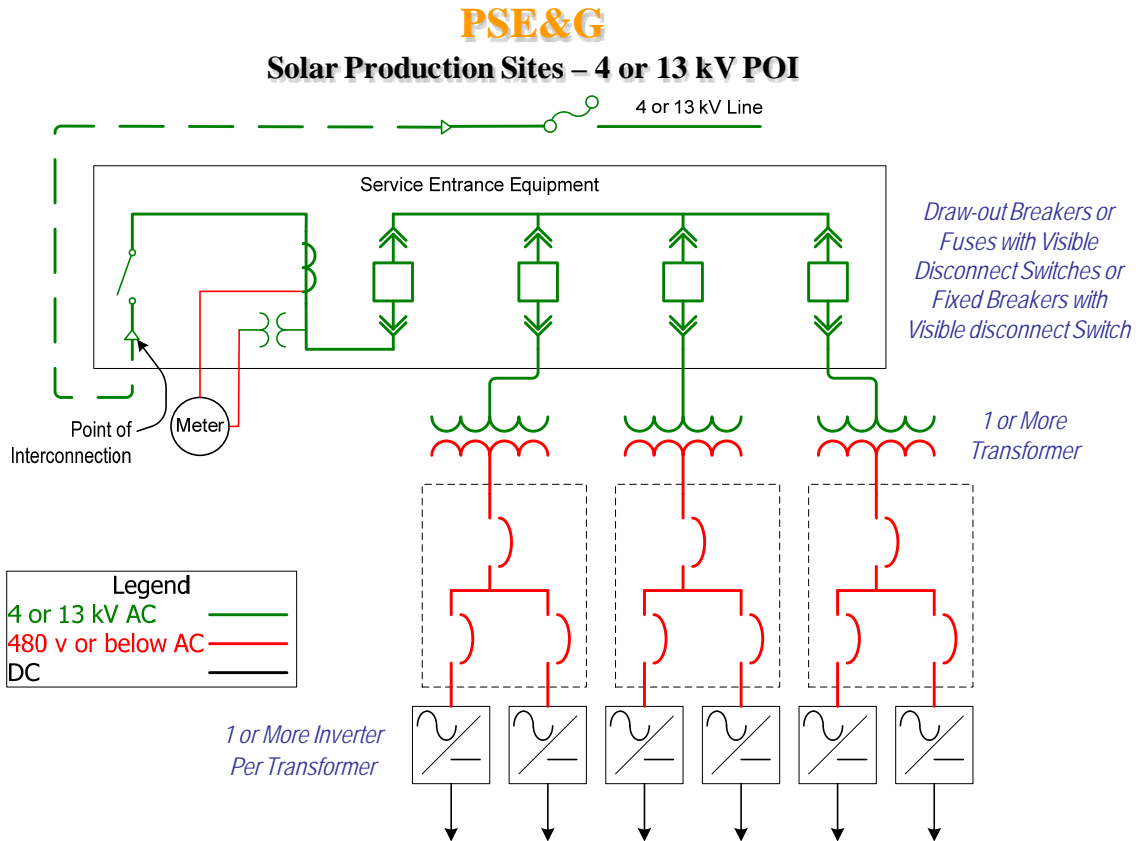
July 1, 2011

Switchgear inspection and approval by PSE&G

July 31, 2011

Completion of interconnection work and service cut-in

Figure #1



Network Impacts

Quebec project W4-058 was studied as a(n) 0.702 MW (0.267 MW of which was Capacity) injection into PSEG's system at the Lawrence 13.0 kV substation. The project was studied on a combined feasibility-impact basis which utilizes an AC analysis, and incorporates all contingency types. Project W4-058 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.)

No problems identified.