PJM Generator Interconnection Request
Queue W2-020 & W2-021
Deptford 13kV
Feasibility/Impact Study Report

October 2010
#614048

W2-020 & W2-021 Deptford 13kV Feasibility/Impact Study

General

Bellmawr Waterfront Development, LLC has proposed installing two 5 MW AC solar projects each connected to a different 13kV distribution circuit on a 150 acre remediation site just south of 204 Harding Ave Bellmawr, Camden County, New Jersey. The commercial operation date is May 1, 2011.

Direct Connection

For up to 10 MW (W2-020 and W2-021), the project will be connected to two independent 13-kV distribution circuits, one supplied from Deptford 230-13-kV Substation and the other supplied from Beaver Brook 230-13-kV Substation. The total interconnection cost of **$944,650** is based on the most efficient possible routes to the existing 13-kV Distribution infrastructure and is detailed as follows:

For up to 5 MW (W2-020 or W2-021), the interconnection will consist of a single 13-kV primary service supplied from Deptford 230-13-kV Substation. The total interconnection cost of **$263,100** is based on the most efficient possible route to the existing 13-kV Distribution infrastructure and is detailed as follows:

Feasibility Study Estimates

Project Item		W2-020 or W2-021 13-kV Single Service	W2-020 and W2-021 13-kV Double Service
Inside Plant			
Line Position/Feeder Row		-	-
Relay Protection		-	-
Manholes/Conduit		-	-
Other/Misc.		-	-
	Sub Total	$0	$0
Outside Plant			
Overhead Line		$135,400	$732,550
Underground Line		-	-
Manholes/Conduit		-	-
Other/Misc.		-	-
	Sub Total	$135,400	$732,550
Metering/Monitoring			
Revenue Metering/Telemetering/SCADA		$52,700	$105,400
Feeder Metering		$75,000	$106,700
Other/Misc.		-	-
	Sub Total	$127,700	$212,100
Total Cost		**$263,100**	**$944,650**

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

Below is the schedule of work PSE&G has proposed for the project:

November 1, 2010

ISA and CSA are fully executed and authorization is received to proceed with construction

Long lead time construction material is placed on order

December 15, 2010

Developer submits preliminary site plan, 13-kV switchgear one-line diagram and equipment specifications for approval

January 1, 2011

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

February 1, 2011

Developer submits final site plan, 13-kV switchgear one-line diagram and equipment specifications for approval

February 15, 2011

PSE&G provides final comments and approval of 13-kV switchgear lay-out and design

Developer begins construction based on approved design

March 1, 2011

PSE&G commences line construction

April 15, 2011

Switchgear inspection and approval by PSE&G

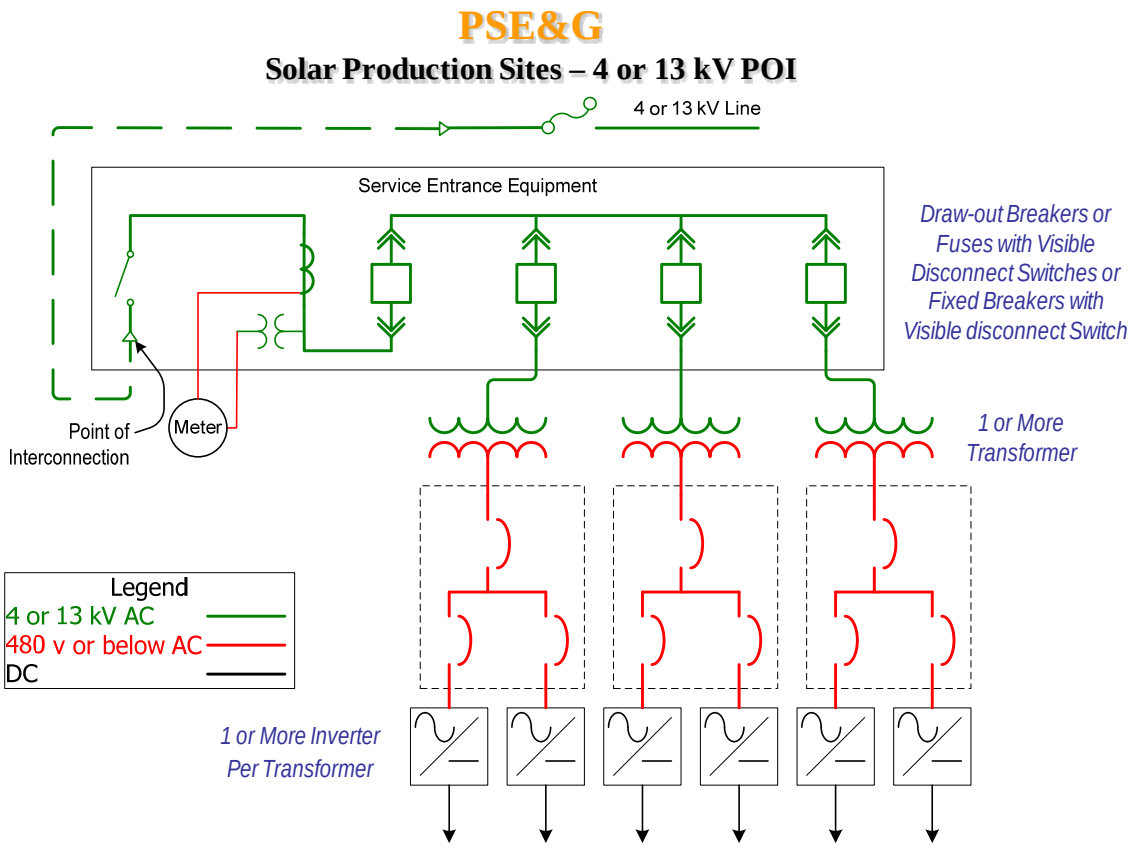
May 1, 2011

Completion of interconnection work and service cut-in

Notes:

1) Customer will abide by PSE&G Information and Requirements for electric service hand book
2) Customer is responsible to provide trench, conduit and manholes were applicable
3) Customer is responsible to provide access and easements
4) Customer is responsible to provide permits and associated costs.
5) Electric service route was based on most efficient route
6) Material procurement will be six months from project approval/authorization

Figure #1



Network Impacts

Queue project W2-020 was studied as a(n) 5.0MW (1.9MW of which was Capacity) injection into PSEG's system at the Deptford 13kV substation. Project W2-020 was evaluated for compliance with reliability criteria for summer peak conditions in 2014. Potential network impacts were as follows:

Queue project W2-021 was studied as a(n) 5.0MW (1.9MW of which was Capacity) injection into PSEG's system at the Beaver Brook 13kV substation. Project W2-021 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.