PJM Generator Interconnection Request Queue W4-074 Cox's Corner (Medford CleanLight) 13kV Feasibility/Impact Study Report

April 2011
#643365

W4-074 Cox's Corner (Medford CleanLight) 13kV Feasibility/Impact Study

General

CleanLight Energy has proposed a 5 MW solar project to be located at 22 Medford-Evesboro Road, Medford, Burlington County, New Jersey. The name of the project is "Medford CleanLight". The project will consist of approximately 24,500 Trina 230 watt panels. The proposed in-service date for the project is December 1, 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 of 5.0 MW of solar generation at Medford Clean Light Solar Project in Medford, New Jersey will consist of a single 13-kV Line connection to CXC8024 circuit from Coxs Corner. The total interconnection cost of **$555,142** is based on the most efficient possible route to the existing line, 13-kV infrastructure and is detailed as follows:

Project Item		13-kV Single Line Service
Inside Plant		
Line Position/Feeder Row		-
Relay Protection		-
Manholes/Conduit		-
Other/Misc.		-
	Sub Total	$0
Outside Plant		
Overhead Line		$395,642
Underground Line		-
Manholes/Conduit		-
Other/Misc.		-
	Sub Total	$395,642
Metering/Monitoring		
Revenue Metering/Telemetering/SCADA		$69,500
Feeder Metering		$90,000
Other/Misc.		-
	Sub Total	$159,500
Total Cost		**$555,142**
Acceptable Generation level		**Up to 5 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

June 1, 2011
Interconnection Agreement with PSE&G is fully executed and authorization is received to proceed with construction
Long lead time construction material is placed on order

July 15, 2011
Developer submits preliminary site plan, 13-kV switchgear one-line diagram and equipment specifications for approval

August 1, 2011
PSE&G provides comments on project lay-out and design

September 1, 2011
Developer submits final site plan, 13-kV switchgear one-line diagram and equipment specifications for approval

September 15, 2011
PSE&G provides final comments and approval of 13-kV switchgear lay-out and design
Developer begins construction based on approved design

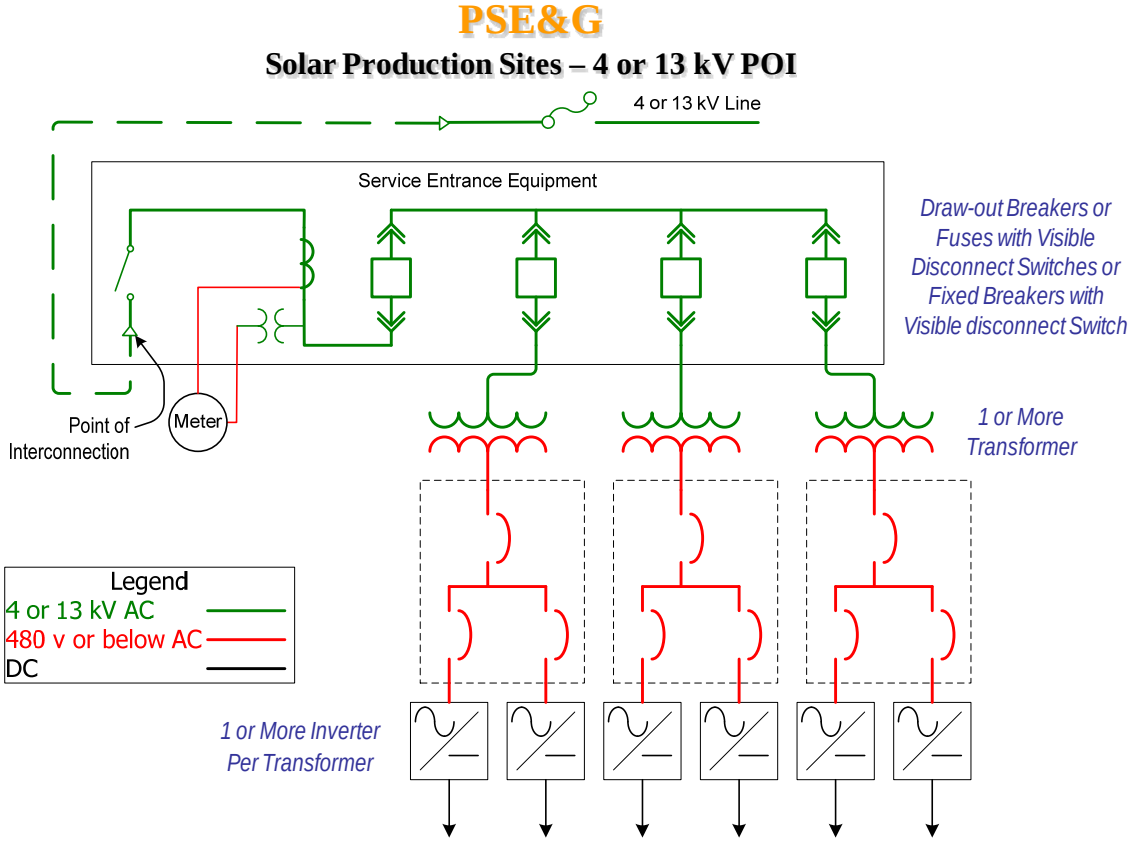
October 1, 2011
PSE&G commences line construction

November 15, 2011
Switchgear inspection and approval by PSE&G

December 1, 2011

Completion of interconnection work and service cut-in

Figure #1



Network Impacts

Queue project W4-074 was studied as a(n) 5.0 MW (1.9 MW of which was Capacity) injection into PSEG's system at the Medford 69.0 kV substation. The project was studied on a combined feasibility-impact basis which utilizes an AC analysis, and incorporates all contingency types. Project W4-074 was evaluated for compliance with reliability criteria for summer peak conditions in 2014.

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.