PJM Generator Interconnection Request
Queue Y1-075
Reeve's Station South (Medford 13 kV)
Feasibility/Impact Study Report

September 2012
#713729v3

Y1-075 Medford (Reeve's Station Solar South) 13kV Feasibility/Impact Study

General

Earl F Stahl Jr. has proposed installing a 0.40 MW solar project on properties at 7 through 11 reeve's Station Road, Medford, NJ. The capacity evaluation is based upon 0.15 MW. The commercial operation date is December 31, 2013. This project is adjacent W4-029 Project which is being developed concurrently. Both the W4-029 and Y1-075 are connecting to the same distribution circuit.

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 following is an estimate (including risk and contingencies) for the interconnection of 0.40 MW of solar generation, Reeve's Station South Project, in Medford, New Jersey. The interconnection will consist of a single 13-kV line connection to Medford 8012, 13 kV circuit (MDF 8012).

Both the Y1-075 , and W4-029 Generation Interconnection requests are connecting to the Medford 8012 Distribution Circuit. The Transmission Owner (TO) has approved a total 3.40 MW of energy on this circuit for both connections. It is the developer's intent to re-allocate the energy between the two projects through the associated Wholesale Market Participation Agreements (WMPAs). The total energy would remain 3.40 MW with the new allocation as:

2.40 MW – Reeve's Station North
1.00 MW – Reeve's Station South

The projects will need to adhere to the Interconnection Agreement with the TO as well as have separate switch gear and metering.

Project Item		Single Line MEDFORD 8012
Inside Plant		-
Line Position/Feeder Row		-
Relay Protection		-
Manholes/Conduit		-
Other/Misc.		-
	Sub Total	$0
Outside Plant		
Overhead Line		$183,998
Underground Line		-
Manholes/Conduit		-
Other/Misc.		-
	Sub Total	$183,998
Metering/Monitoring		
Revenue Metering/Telemetering/SCADA		$69,500
Feeder Metering		$30,000
Other/Misc.		-
	Sub Total	$99,500
Total Cost		**$283,498**
Acceptable Generation Level		**Up to 0.40 MW**

This 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

August 15, 2013

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

September 1, 2013

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

September 15, 2013

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

October 1, 2013

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

October 15, 2013

PSE&G commences line construction

November 1, 2013

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

Developer begins construction based on approved design

November 15, 2013

Switchgear inspection and approval by PSE&G

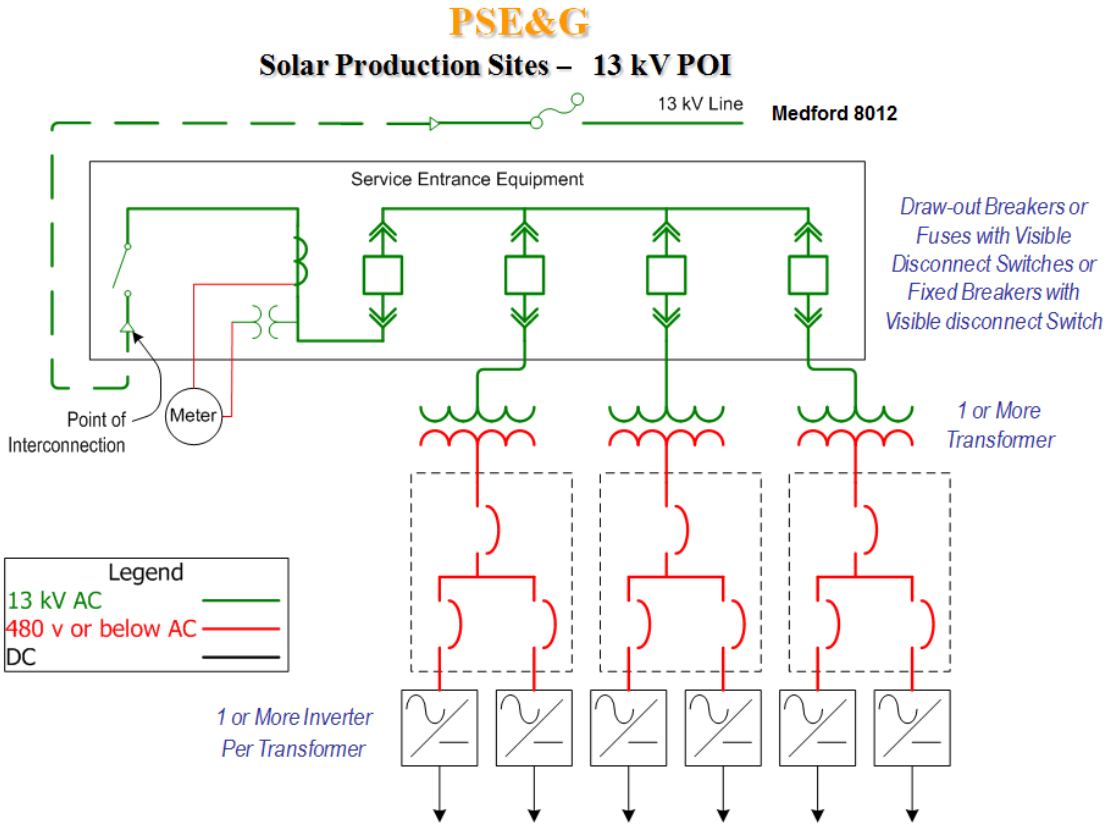
December 1, 2013

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 Y1-075was studied as a 1.00 MW injection, (0.38 MW of which was Capacity) into PSEG's system at the MEDFORD 69.0 kV Substation. Project Y1-075 was evaluated for compliance with reliability criteria for summer peak conditions in 2015.

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.