

***PJM Generator Interconnection Request  
Queue W2-027  
Beaver Brook (Kinsley Landfill Solar)  
13kV  
Feasibility/Impact Study Report***

**October 2010  
#617116**

# **W2-027 Beaver Brook (Kinsley Landfill Solar) 13kV Feasibility/Impact Study**

## **General**

Kinsley's Landfill Inc. has proposed installing a 5 MW solar project on property east of 2925 Delsea Drive, Sewell, Gloucester County, New Jersey. The commercial operation date is March 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 of the 5 MW solar facility to be installed at Kinsley's Landfill will consist of a 13-kV primary service connected to a 13-kV distribution circuit supplied from Beaver Brook 230-13-kV Substation. The total interconnection cost of \$277,200 is based on the most efficient possible route to the existing 13-kV Distribution infrastructure and is detailed as follows:



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

January 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

February 15, 2011

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

March 1, 2011

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

April 1, 2011

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

April 15, 2011

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

May 1, 2011

PSE&G commences line construction

June 15, 2011

Switchgear inspection and approval by PSE&G

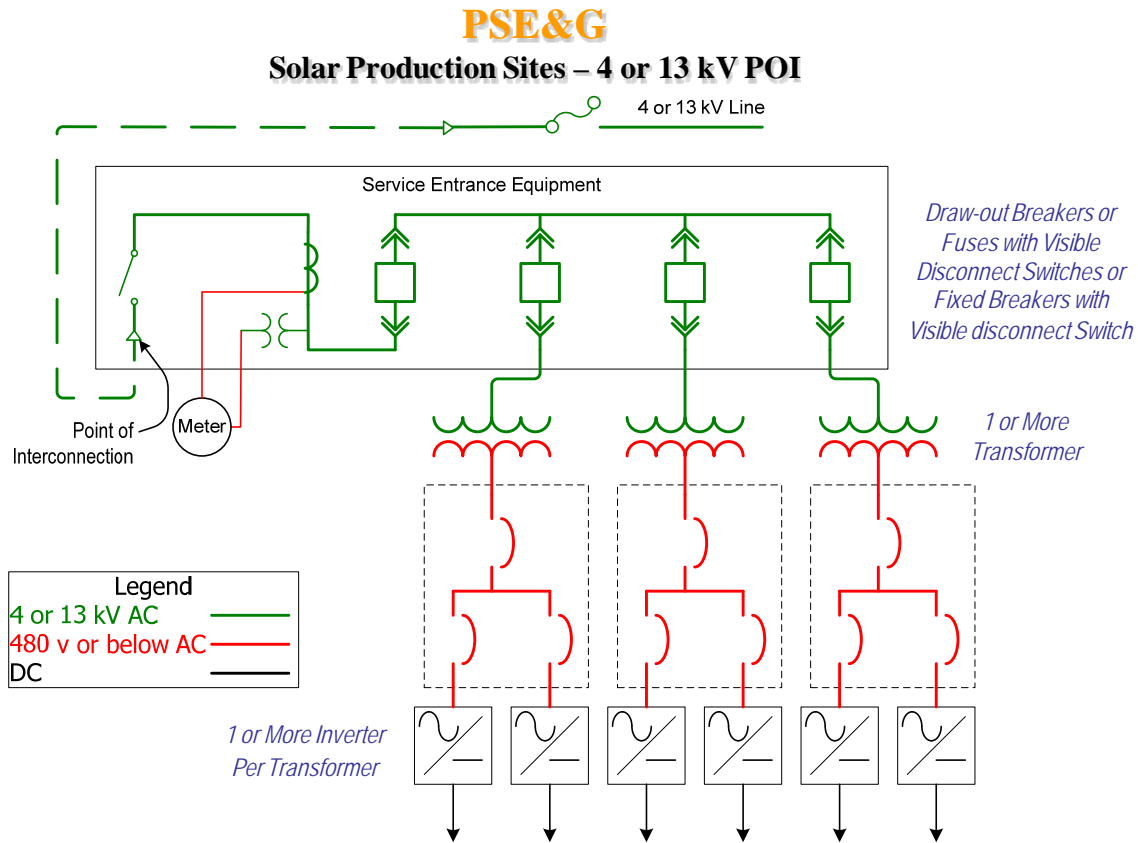
July 1, 2011

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 W2-027 was studied as a(n) 5 MW (1.9 MW of which was Capacity) injection into PSEG's system at the Beaver Brook 13kV substation. The project was studied on a combined feasibility-impact basis which utilizes an AC analysis, and incorporates all contingency types. Project W2-027 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.