PJM Generator Interconnection Request
Queue #V3-024
Devils Brook 13kV
Feasibility/Impact Study Report

November 2009
#567645

V2-009 Plainsboro & Devils Brook 13kV Feasibility/Impact Study

General

Recurrent Energy Development Holdings, L.L.C. has proposed installing a total of 7.498 MW of solar panels on five commercial buildings in the Cranbury, New Jersey area. The five sites are listed below.

5 Santa Fe Way	Cranbury	NJ
6 Santa Fe Way	Cranbury	NJ
7 Santa Fe Way	Cranbury	NJ
8 Santa Fe Way	Cranbury	NJ
301-321 Herrod Blvd.	S. Bruns.	NJ

The anticipated commercial operation date for all of the installations is May 31, 2010.

Direct Connection

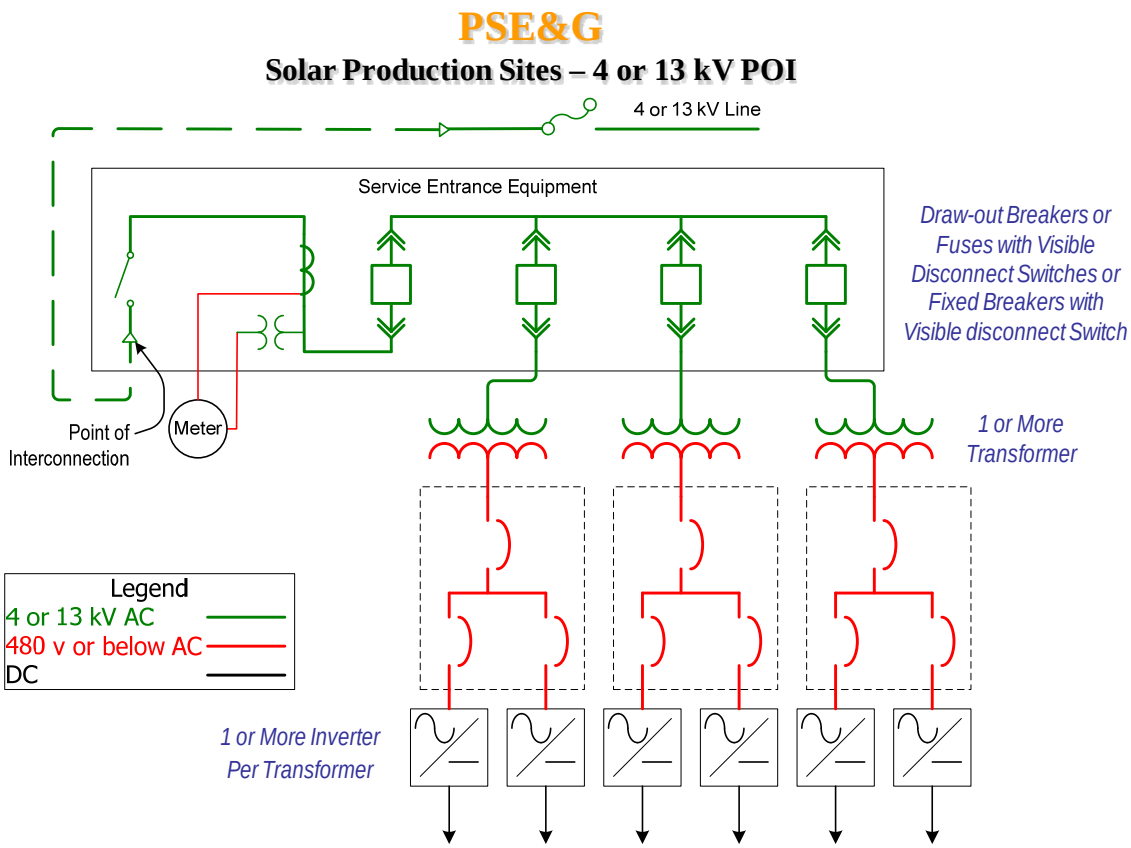
The attached spreadsheet contains estimates (including risk and contingencies) for the interconnection of 7.498 MW of solar generation by Recurrent Energy in the Cranbury, New Jersey area. Since no specific site plans were provided by the developer, all interconnection costs are based on the most efficient route to the existing Distribution infrastructure. The costs are identified by site for each of the 5 sites with a total cost of **$721,232**. The estimated cost for each individual connection is shown in Attachment #2. 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 is responsible for purchase and installation of all low voltage (277/480v) or high voltage (13-kV) service equipment as required for each site. See Figure #1
- 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 6 months from the date of project approval and authorization.

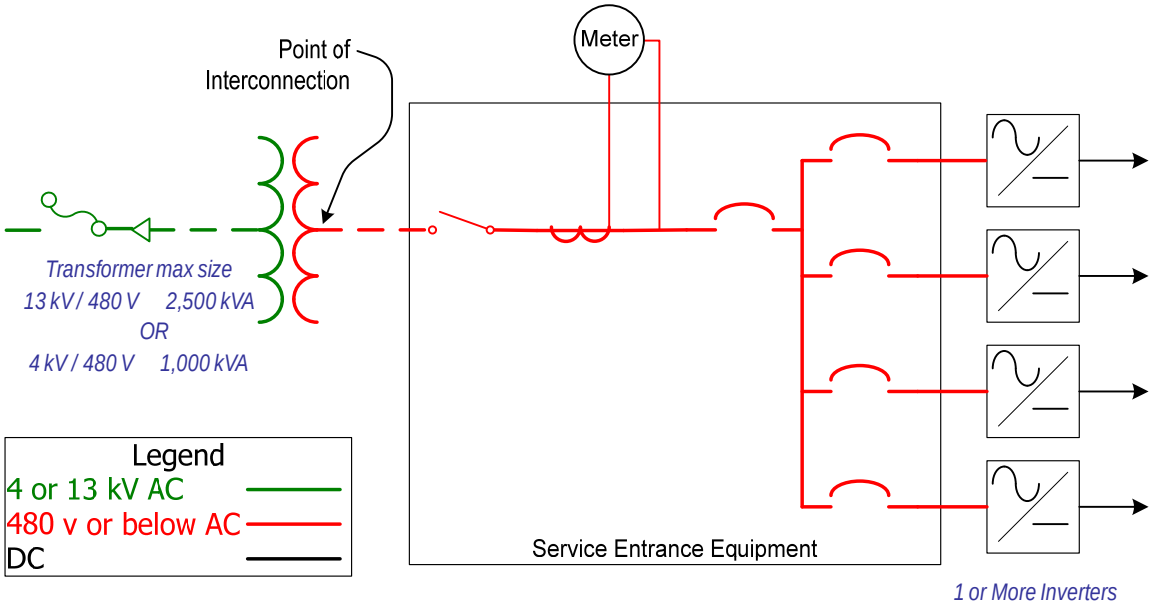
As can be seen on Attachment #2, Devils Brook 8021 circuit will have 2.49 MW connected and Devils Brook 8022 circuit will have 5.008 MW connected. The total MW connected to Devils Brook 13kV station is 7.498MW.

Figure #1



PSE&G

Solar Production Sites – 480 volt POI



Network Impacts

The queue V3-024 project was studied as a 7.498 MW injection (2.85 MW of which was capacity) into PSEG's system. The project was modeled at two different points of interconnection on the 13kV system: Devils Brook 1, and Devils Brook 2. The study was performed on a combined feasibility-impact basis which utilizes an AC analysis, and incorporates all contingency types. V3-024 was evaluated for compliance with reliability criteria for summer peak conditions in 2013. 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.

Cost Allocation

The V3-024 project is responsible for 100% of the estimated $721,332 cost for the direct connection facilities described above.

Attachment #2

RECURRENT ENERGY SOLAR PROJECT - CRANBURY

Site Selection - Part 2 (Project V3-024)

Name	Address	City	State	Zip	AC Output (MW)	Interconnection Circuit DVB8021	Interconnection Circuit DVB 8022	Service Type 13-kV Primary	Service Type 277/480v	Interconnection Cost Service	Revenue Metering	Tele Metering	Feeder Metering	Site Subtotal
	5 Santa Fe Way	Cranbury	NJ	08512	0.5420		0.542		x	$77,103	$17,025	$35,000	$74,600	$203,728
	6 Santa Fe Way	Cranbury	NJ	08512	0.6230		0.623		x	$80,626	$17,025	$35,000	*	$132,651
	7 Santa Fe Way	Cranbury	NJ	08512	2.5940		2.594	x		$41,470	$26,675	$35,000	*	$103,145
	8 Santa Fe Way	Cranbury	NJ	08512	1.2490		1.249		x	$74,422	$17,197	$35,000	*	$126,619
	301-321 Herrod Blvd.	S. Bruns.	NJ	08512	2.4900	2.490		x		$70,381	$26,675	$35,000	$23,133	$155,189
				MW Total:	**7.498**	**2.490**	**5.008**		**Total Cost:**	$344,002	$104,597	$175,000	$97,733	$721,332

* - Feeder metering will be required if other circuit site is eliminated.
Feeder metering costs will be reduced by $74,600 if Part 1 is completed.