



New Jersey Meadowlands Commission

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June 11, 2009

ADDENDUM #4

REQUEST FOR PROPOSAL:
Development, Installation, and Operation of a Solar Power Facility on
NJMC Landfill Property ("RFP")

To All Interested Parties:

1-A Landfill Solar Power Facility Electrical Configuration and PSE&G Interconnection Overview

The following is a brief discussion of interconnection of the solar project to the PSE&G distribution system based on information known and available as of the date of this document. It is intended to provide guidance to proposers. Proposers should present what they believe is the best configuration for the installation's power equipment, which may or may not necessarily be the configuration discussed below. NJMC will be filing an interconnection request with PJM which will be assignable to the chosen vendor.

Overview of Interconnect

Summary:

- Area distribution voltage – 15 kV class (13.8 kV assumed)
- Public Service Electric & Gas (PSE&G) territory
- Single connection via riser/junction pole on Newark Turnpike or Belleville turnpike
- Pole mounted line recloser (assume by PSE&G at developer cost) to protect facility connection
- Primary metering

Discussion:

Routing from existing PSE&G facilities is not yet finalized, but options appear to exist from existing distribution lines on either the Belleville Turnpike to the north or Newark Turnpike to the south. A connection point on Belleville turnpike lines would likely require a water crossing of approximately 200 feet which would probably be accomplished with an overhead line, unless routing can be secured along the New Jersey Turnpike maintenance ramps. Lines on the Newark Turnpike could be connected via underground lines routed through existing driveways or the PSE&G transmission ROW (subject to PSE&G concurrence).

In either option a new junction pole would be established on the existing PSE&G distribution line, which then would connect through a set of disconnect switches and a line recloser to isolate and protect the solar facility tap. A riser pole would then be established for the transition from overhead to underground lines as well as possibly a revenue metering instrument transformer cluster. The final quantity and location of poles as well as placement of pole top equipment would be finalized through the interconnection process with PSE&G.

On-Site Medium Voltage Electrical System

- Use commonly-available 15 kV distribution class equipment (compatible with PSE&G system)
- Pad mounted switchgear for sectionalizing incoming line from transformer connections
- Solid dielectric 15 kV cable (three single phase cables per circuit)
- Pad mounted transformers with loop-feed loadbreak elbow bushings to allow for sectionalization for maintenance or failures
- Connections from padmount transformers to solar array inverters at 480 V AC.

Discussion:

The final location of medium voltage switchgear, transformers, and inverters will need to be determined, but it is envisioned that transformers no larger than 2500 kVA and connections for no more than 2000 kW of solar output would be used in order to keep 480 V incoming switch ratings within reasonable limits. The use of commonly-available distribution-class equipment will likely result in lower cost, greater equipment availability and easier replacement in the event of a future failure.

System Performance and PSE&G Interface

The performance of the system at the Point of Interconnection with PSE&G will ultimately need to meet their requirements appropriate for the voltage and system to which the solar facility is interconnecting. The following topics will likely be of particular interest:

- Voltage regulation and power factor performance
- Anti-islanding protection
- Maintaining limits on harmonic current injections that may be produced by the inverters used for the project
- System protection coordination

The latter point may likely require direct protection system communications and transfer tripping to or from the distribution feeder's source substation. It is assumed that this substation is likely the Turnpike substation located approximately 0.8 miles north of the site at the New Jersey Turnpike's western spur overpass of the Belleville Turnpike.