New Jersey Clean Energy Program

Technical Worksheet – Solar Electric Equipment Information

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Technical Worksheet for Solar Equipment – Instructions

Please carefully read all of the following information. With the help of your Installation Contractor, fully complete Sections A through D of the attached Technical Worksheet for Solar Equipment, as well as the New Jersey Clean Energy Program Pre-Installation Application Form.

GENERAL TERMS AND CONDITIONS
Rebates will be processed based on the date the New Jersey Board of Public Utilities (NJBPU) approves the Final Application Form, not on the purchase date of the equipment. Program procedures and rebates are subject to change or cancellation without notice.

To qualify for a rebate, Applicant must comply with all Program Eligibility Requirements, Terms and Conditions, and Installation Requirements, and submit a completed Pre-Installation Application Form. For more information about the New Jersey Clean Energy Program, or for assistance in completing applications or forms, please contact the NJBPU (see "Contact Information").

INSTALLATION REQUIREMENTS
Equipment installation must meet the following minimum requirements in order to qualify for payment under the provisions of the New Jersey Clean Energy Program; proposed changes to the requirements will be considered, but they must be documented by the Applicant or Installation Contractor and approved by the NJBPU. These requirements are not all-encompassing and are intended only to address certain minimum safety and efficiency standards.

A: Code Requirements

1. The installation must comply with the provisions of the National Electrical Code and all other applicable local, state and federal codes or practices.
2. All required permits must be properly obtained and posted.
3. All required inspections must be performed (i.e., Electrical/NEC, Local Building Codes Enforcement Office, etc.). Note: In order to ensure compliance with provisions of the NEC, an inspection by a state-licensed electrical inspector is mandatory.

B: Solar Electric Module Array

1. Modules must be UL Listed and must be properly installed according to manufacturer's instructions.
2. The maximum amount of sunlight available year-round on a daily basis should not be obstructed. All applications must include documentation of the impact from any obstruction on the annual performance of the solar electric array. This analysis can be performed by using the New Jersey Clean Power Estimator on the program website www.njcep.com.
3. In order to qualify for program incentives, the solar electric system must adhere to a minimum design threshold, relative to the estimated system production using PVWATTS:
   - Solar electric array orientations require that the calculated system output must be at least 80% of the default output calculated by PVWatts. Additionally, all individual series strings of modules output must be at least 70% of the default output calculated by PVWatts.
   - For building integrated solar electric systems (i.e., part of the building envelope materials are comprised of solar electric components), the estimated system output must be 40% of the default output estimated by PVWATTS.
4. System wiring must be installed in accordance with the provisions of the NEC.
5. All modules installed in a series string must be installed in the same plane.

C: Inverter and Controls

1. The inverter and controls must be properly installed according to manufacturer's instructions.
2. The inverter must be certified as compliant with the requirements of IEEE 929 (including anti-islanding) and also compliant with UL 1741. 3.
3. The system should be equipped with the following visual indicators and/or controls:
   - On/off switch Operating mode setting indicator Operating status indicator
   - AC/DC overcurrent protection
4. Warning labels must be posted on the control panels and junction boxes indicating that the circuits are energized by an alternate power source independent of utility-provided power.
5. Operating instructions must be posted on or near the system, or on file with facilities operation and maintenance documents.
6. Systems must have monitoring capability that is readily accessible to the owner. This monitor (meter or display) must at minimum display instantaneous and cumulative production.

D: Control Panel to Solar Electric Array Wire Runs

1. Areas where wiring passes through ceilings, walls or other areas of the building must be properly restored booted and sealed.
2. All interconnecting wires must be copper. (Some provisions may be made for aluminum wiring; approval must be received from utility engineering departments prior to acceptance.)
3. Thermal insulation in areas where wiring is installed must be replaced to "as found or better condition." Access doors to these areas must be properly sealed and gasketed.
4. Wiring connections must be properly made, insulated and weather-protected.
5. All wiring must be attached to the system components by the use of strain reliefs or cable clamps, unless enclosed in conduit.
6. All outside wiring must be rated for wet conditions and/or encased in liquid-tight conduit.
7. Insulation on any wiring located in areas with potential high ambient temperature must be rated at 90° C or higher.
8. All wiring splices must be contained in UL-approved workboxes.

E: Batteries (If Applicable)

1. The batteries must be installed according to the manufacturer's instructions.
2. Battery terminals must be adequately protected from accidental contact.
3. DC-rated overcurrent protection must be provided in accordance with the provisions of the NEC.

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Original Application Date: _____ Revised Application Date: _____

Customer Name: _____ Application Number: _____
(Corresponding to Rebate Application Form) (Assigned by the NJBPU)

A: EQUIPMENT INFORMATION

1. Solar Electric Module Manufacturer: _____ Module Model Number: _____
2. Power Rating per Module: _____ DC Watts (Refer to STC conditions) Number of Modules: _____
3. Total Array Output: _____ DC Watts (No. of Modules x Power Rating)
4. Inverter Manufacturer: _____ Inverter Model Number: _____
5. Inverter's Continuous AC Rating: _____ AC Watts Number of Inverters: _____
6. Total Inverter Output: _____ AC Watts (Inverter Continuous AC Rating x Number of Inverters): _____
7. Inverter's Peak Efficiency: _____ (Refer to manufacturer's peak efficiency rating)

B: PROPOSED INSTALLATION/INTERCONNECTION INFORMATION

1. Solar Electric Array Location: _Rooftop _Pole Mount or Ground Mount Location:
2. Solar Electric Module Orientation: _____ degrees (e.g., 180 degrees magnetic south)
   Note: in Central New Jersey, magnetic south compass reading is 10 degrees east of true south.
3. Solar Electric Module Tilt: _____ degrees (e.g., flat mount = 0 degrees; vertical mount = 90 degrees)
4. Solar Electric Module Tracking: _Fixed _Single-axis _Double-axis
5. Inverter Location: _Indoor _Outdoor Location: _____
6. Utility-Accessible AC Disconnect Switch Location: _____
7. System Type and Mode of Operation:
   - _ Utility interactive (parallel/capable of backfeeding the meter)
   - _ Utility interactive with battery backup (capable of backfeeding the meter)
   - _ Dedicated circuit, utility power as backup (transfer switch)
   - _ Dedicated circuit, battery charging, utility power as backup (transfer switch)
   - _ Stand-alone (system confined to an independent circuit, no utility backup)
   - _ Stand-alone with battery backup (system confined to an independent circuit, no utility backup)

8. A one-page site map must accompany this application. This document must indicate the location of the solar electric modules, the inverter, batteries (if any), lockable disconnect switch, and point of connection with the utility system. The installation address, current account number at that address, and the installer's name and telephone number must also be included on the site map.

C: INCENTIVE REQUEST CALCULATION

1. System rated output (Section A, line 3 above): _____ DC Watts
2. Incentive Calculation (Calculate appropriate incentive based on System Rated Output):

All Private Sector Applicants	Public and Non-Profit
a. 0 to 10,000 Watts x $3.50/Watt = $_____ +	0 to 10,000 Watts x $4.10/Watt = $_____ +
b. 10,001 Watts – 40,000 Watts x $2.40= $_____ +	10,001 Watts – 40,000 Watts x $3.15 = $_____ +
c. 40,001 Watts – 100,000 Watts x $2.25 = $_____ +	40,001 Watts – 100,000 Watts x $2.50 = $_____ +
d. 100,001 Watts – 500,000 Watts x $2.00 = $_____ +	100,001 Watts – 500,000 Watts x $2.30 = $_____ +
e. 500,001 Watts – 700,00W X $1.75 = $_____	500,001 Watts – 700,00W X $1.75 = $_____

Rebate for PV Modules Assembled in NJ	**NJ Performance with Energy Star (Rebate for Residential Customers under 10kW ONLY)**
1 to 700,000 Watts x $0.25/Watt = $_____ +	1 to 10,000 Watts x $0.25/Watt = $_____ +

g. Total Rebate Calculation: $_____ Total Rebate Calculation: $_____

When a financial or familial relationship exists between ratepayer-applicant and vendor-installer, calculate rebate as ***Self-Install***

h. Rebate Calculation for system from 2g: $_____ less (15% x 2g) = $_____ **Self-Install Rebate**

3. School Applicants: Maximum Annual School Rebate: $_____
   (For Public School applicants, enter the appropriate value from no. 6 on the School Application form)

4. Total Installed System Cost: $_____
   (Eligible installed system cost includes all equipment, installation, and applicable interconnection costs before the New Jersey Clean Energy Program incentive.)

5. **Requested Incentive** (Enter the appropriate value from C2. g or h): $_____

D: WARRANTY INFORMATION

1. Module: _____ Years at _____ Percent of Rated Power Output 2. Inverter: _____ Years 3. Installation: _____ Years