New Jersey's Clean Energy Program

REIP Solar Technical Worksheet

Please carefully read all of the following information. With the help of your installation contractor, fully complete sections A through F, as applicable, of this REIP Solar Technical Worksheet.

GENERAL TERMS AND CONDITIONS

Rebates will be processed based on the date *New Jersey's* ***Clean Energy*** *Program*™ (NJCEP) approves the Final Paperwork Packet, 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, the applicant must comply with all *Renewable Energy Incentive Program* (REIP) eligibility requirements, terms and conditions, and installation requirements, and submit all completed forms. For more information about *NJCEP*, or for assistance in completing applications or forms, please visit NJCleanEnergy.com or call 866-NJSMART.

INSTALLATION REQUIREMENTS

Equipment installation must meet the following minimum requirements in order to qualify for payment under the provisions set by NJCEP. Proposed changes to the requirements will be considered, but they must be documented by either the applicant or the installation contractor and approved by NJCEP. 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. NJCEP inspection must be performed before the local Building Code Enforcement Office. If not, this may delay the processing of the rebate or system certification with the REC Administrator.
4. 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 (or listed by another nationally recognized testing laboratory) 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 tools available at NJCleanEnergy.com.
3. To qualify for the REIP rebate, 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 ideal output calculated by PVWATTS to receive the full rebate.
    - 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 for small photovoltaic systems and to UL 1741 standards by a nationally recognized testing laboratory.
3. The system should be equipped with the following visual indicators and/or controls:
    • On/off switch • Operating mode setting indicator • AC/DC over current protection • Operating status indicator
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. **All rebated non-residential projects must have an output meter that meets ANSI C.12 standards. Projects participating in other programs, such as the EDC solar contracting programs, may be subject to metering requirements applicable to those programs.**

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 potentially 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 over current protection must be provided in accordance with the provisions of the NEC.

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A: APPLICANT INFORMATION

Original Application Date: _____ **Or** Revised Application Date: _____
Customer Name: _____ Application Number: _____ (Only if revising an already approved application. This corresponds to REIP application form and is assigned by the RE MM/ NJBPU.)

B: 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: _____ (Enter as a percent without decimal, e.g., 97%. Refer to manufacturer's peak efficiency rating.)

C: SYSTEM PRODUCTION INFORMATION

1a. Designed System rated output (From PVWATTS): _____ b. Ideal System rated output (From PVWATTS) _____
c. The designed PVWATTS divided by the ideal PVWATTS equals _____. This must be 80% or greater to receive approval.

D: 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 True south is 191 degrees Magnetic)
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: _____

E: INCENTIVE REQUEST CALCULATION

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

Residential and Residential PPA-financed Applicants:
a. 0 to 7,500 watts x $0.75/ watt = _____
Systems can be sized up to 10,000 watts but will receive a REIP rebate up to a 7.5kW system.

Residential solar projects greater than 10kW are not eligible for a REIP rebate.

Public and Non-Profit Applicants:
b. 0 to 30,000 watts x $0.75/ watt = _____
Systems can be sized up to 50,000 watts but will receive a REIP rebate for up to a 30kW system.

Public and Non-Profit solar projects greater than 50.0 kW are not eligible for a REIP rebate.
Commercial and Non-Residential PPA-financed projects are not eligible for a REIP rebate.

Residential New Construction Applicants: (*Project must be located in a Smart Growth region)*
c. 0 to 7,500 watts x $0.75/ watt = $_____
Systems can be sized up to 10,000 watts but will only receive a REIP rebate up to 7.5kW.
Residential solar projects greater than 10kW are not eligible for a REIP rebate.

3. Total Installed System Cost: $_____
(Eligible installed system cost includes all equipment, installation, and applicable interconnection costs before NJCEP incentives.)
4. Requested Incentive (Enter the appropriate value from E2): $_____
5. Expected Project Completion Date (mm/dd/yr): _____
6. New Jersey Manufactured Items (check all that apply) and list certified NJ manufacturer name, address, and phone:
   - Solar Panels: ☐ _____
   - Solar Inverters: ☐ _____
   - Solar Racking System: ☐ _____

F: WARRANTY INFORMATION

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

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