



New Jersey's Clean Energy Program

Final As-Built Technical Worksheet for Solar Electric Equipment

Please carefully read all of the following information. With the help of your installation contractor, fully complete sections A through E. ALL PARTIES MUST SIGN SECTION F.

A. SITE HOST CONTACT / APPLICANT INFORMATION

The name that appears on the initial application/ registration must be the name that appears on this form. The approval/ acceptance letter number must be the number assigned by the NJBPU. Please include Site Host Company name for non-residential projects.

B: EQUIPMENT INFORMATION

1. The equipment listed in this section of the Final As-Built Worksheet must be a true representation of the equipment installed at the site covered by this submittal.
2. For projects that include multiple manufacturers for modules and/or inverters specify all manufacturers, model numbers and power ratings. If additional space is needed, please attach an additional equipment page utilizing the column format below.
3. For systems with multiple arrays specify the number of modules per string and number of strings per inverter.
4. The system installation information supplied in this section must concur with the program inspection within an accuracy of:
 - a. Azimuth (orientation) must be within +/- 3 degrees of the degrees reported on this form. Orientation shall be in degrees true (Ex. 191 magnetic = 180 True South)
 - b. Tilt must be within +/- 3 degrees of that reported on this form.
 - c. Shading must be within +/- 3%.
5. 5" X 7" digital photograph(s) of at least 300 DPI must be submitted and affixed to the attached template. The photograph(s) must be an accurate and true representation of the system installed.

C: INSTALLATION INFORMATION

1. Indicate array and inverter locations and the type of tracking that has been used for this installation.
2. If the system consists of multiple planes and/or orientations, indicate the orientation, tilt and modules per string per inverter of each array.
3. Indicate Interconnection Type as either Behind-the-Meter or Direct Grid-Supply.

D: SYSTEM ESTIMATED PRODUCTION CALCULATION

Estimated production calculations are one of the critical system information requirements of this technical worksheet. Each of the following requirements must be supplied with sufficient supporting documentation that will warrant acceptance of these forms:

1. Shading analysis shall be performed per the **Final As-Built Checklist**. The shading analysis must include entire shading report with a minimum sampling of two lower corners and two upper corners of each array.
2. The PVWatts printouts showing the system energy production (kWh) estimates of the **actual system installed** from the Final As-Built Technical Worksheet as compared to the **ideal system**:

For systems without shading or changes to the derate factors:

- Production calculated using the actual data from the Final As-Built Technical Worksheet and default derate factors in PV Watts

For systems with shading or changes to the derate factors:

- Production calculated using the actual data from the Final As-Built Technical Worksheet and new derate factors
- Complete documentation on why there are changes to the derate factors. The only acceptable changes are for PV module spec sheets, inverter spec sheet and shading.
- A printed copy of the calculator for overall DC to AC derate factor page with all the changes. (The derate factor help page).

For systems with multiple arrays:

- Each array must have a separate shade analysis and PV Watts.

E: SYSTEM COST INFORMATION

Registrants or applicants must supply cost information that is accurate and has been updated to reflect the total installed cost of the as-built system as of the date of this submittal. Cost can be submitted for protection under OPRA by following the Board's procedures found at www.nj.gov/bpu.

F: CERTIFICATION (Signatures Required)

1. By signing the certification, the installer, site host contact/applicant and system owner, if different, attest to the accuracy and completeness of the information.
2. **Effective with the June 21, 2010 New Jersey Board of Public Utilities board order, a \$200 inspection fee will be charged to rebated projects or projects that receive an ESFI incentive for every additional inspection required beyond the initial inspection. The fee for any additional inspections will be deducted from the rebate.**
3. The signature for the installer shall be from an Officer, Principle or Executive of the company that has signing authority for the company.



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A: SITE HOST CONTACT / APPLICANT INFORMATION

Name: _____ Application/Registration Number: _____
 Host Company Name (if applicable): _____
 (Name corresponds to applicant name on the REIP Application Form or site host contact on the SREC Registration Form and the numbers corresponds to the number listed on the Approval or Acceptance Letter by the NJBPU)

B: EQUIPMENT INFORMATION

1. Solar Electric Module (provide ratings in DC Watts at STC)

Manufacturer	Model Number	Power Rating	Quantity	Total Array Output	Orientation	Tilt
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Total: _____

Total Array Output = Power Rating x Module Quantity,
 Orientation in degrees True (e.g., 180° True South is 191° Magnetic), Tilt in degrees (e.g., flat mount = 0°; vertical mount = 90°).

2. Inverter (Continuous AC Watts Rating)

Manufacturer	Model Number	AC Watts	Quantity	Total Inverter Output	Peak Efficiency	# of Strings	Modules/ String
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

Total: _____

Total Inverter Output = Continuous AC Watts Rating x Number of Inverters

C: INSTALLATION INFORMATION

1. Array Location: _____ Rooftop _____ Pole Mount _____ Ground Mount
2. Tracking: _____ Fixed _____ Single-axis _____ Double-axis
3. Inverter Location: _____ Indoor _____ Outdoor Location: _____
4. Number of strings and modules per inverter: _____
5. Interconnection Type: _____ Behind-the-Meter _____ Direct Grid-Supply



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D: SYSTEM PRODUCTION CALCULATION

1. Shading analysis has been performed for this installation. The attached shade calculation has been completed and is accurate to the best of the technical and administrative ability of the installer. The shading analysis shows the loss of production associated with shading is _____%.
2. Installers must provide the appropriate inputs as described below for the ideal system verses designed system when using the PV WATTS tool to ensure accurate completion of this section.
 - o When calculating the production estimate for the **ideal system**, use the system size inputs submitted on the Final As-Built Technical Worksheet, but use true south (180 degrees) as the orientation (azimuth) and use the latitude for the location selected for tilt and do not include shading. This demonstrates the best possible system output for this proposed installation.
 - o When calculating the production estimate for the **designed system**, use the system size inputs, tilt and orientation submitted on the Final As-Built Technical Worksheet. Indicate shading by changing the derate factor only for shading as appropriate. This demonstrates the estimated system output for the designed installation based upon the specific conditions proposed.
- 2 a. Designed system rated kWh output (AC Energy from PVWATTS): _____
- 2 b. Ideal system rated kWh output (AC Energy from PVWATTS) _____
- 2 c. The **expected system rated output percent** equals 2a divided by 2b: _____. A value of 100% indicates that the proposed system output equals the ideal system output.
3. There is no minimum system output percent requirement for SRP projects. However, payments for REIP and CORE projects will be determined as follows:
 - a. System output percent $\geq 80.0\%$ will receive full payment
 - b. System output percent $\geq 70.0\%$ and $< 80.0\%$ will be prorated by multiplying the payment by the system output percent (item 2c) divided by 80.0% .
 - c. System output percent $< 70.0\%$ will receive **NO** rebate payment
4. It is acknowledged that this production estimate is for SREC calculation only and may not be a true representation of annual system production. The attached estimated production calculation has been completed and is accurate to the best of the technical and administrative ability of the installer.

E: SYSTEM COST INFORMATION

1. Total Installed System Cost: \$ _____
(Eligible installed system cost includes all equipment, installation, and applicable interconnection costs.)

Registrants **must** supply cost information that is accurate and based upon the actual as-built installation cost. Cost can be submitted for protection under OPRA by following the Board's procedures found at www.nj.gov/bpu.

F: CERTIFICATION (Signatures Required)

The undersigned by signing below attest to the accuracy and completeness of the above and any information provided with this submittal. If the NJCEP determines through an evaluation process of either on-site inspection or audit that the system has been misrepresented or that the paper work submittal is found to have violated program procedures then the contractor may be subject to corrective action as described in the Contractor Remediation Procedures specified in the Board Order dated October 15, 2010, Docket No. EO07030203.

The signature for the installer shall be an Officer, Principle or Executive of the company that has signing authority for the company.

System Owner: _____	Installer: _____	Applicant/Site Host Contact: _____
Signature: _____	Signature: _____	Signature: _____
Print Name: _____	Print Name: _____	Print Name: _____
Date: _____	Date: _____	Date: _____

Registrant (only needed if different from above):

Signature: _____ Print Name: _____ Date: _____



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System photos that are attached must be a true representation of the system installed per the application

ARRAY

Insert 5" X 7" 300 DPI Photo Here

IINVERTER

Insert 5" X 7" 300 DPI Photo Here



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ANSI C12 METER

Insert 5" X 7" 300 DPI Photo Here

SITE CHANGES (EX. TREE REMOVAL)

Insert 5" X 7" 300 DPI Photo Here