NY-Sun
Solar Powering New York
ny-sun.ny.gov

NY-Sun INCENTIVE

Program Manual

August 2014 Version 14.0

Table of Contents

1.0 Program Summary
- 1.1 What is the NY-Sun Incentive Program?
- 1.2 How does the NY-Sun Incentive Program work?
- 1.3 Installers “Eligible Installers”
- 1.4 “Contractors”

2.0 General Program Rules
- 2.1 Incentives
- 2.2 Incentives Caps
- 2.3 Standard Incentive Amounts
- 2.4 Cancellation Requests
- 2.5 90 Day Project Extensions
- 2.6 Change Orders
- 2.7 Expansion of Completed Systems
- 2.8 Incentive Payments
- 2.9 Incentive Structure
- 2.10 Clipboard Audits
- 2.11 Non-Residential Audit Energy Assessment
- 2.12 Systems Losses
- 2.13 Coordination with other NYSERDA Programs
- 2.14 Financing
- 2.15 Tax Credits

3.0 Specific Program Rules
- 3.1 New components
- 3.2 Qualified Solar Modules
- 3.3 Inverters
- 3.4 Monitoring Equipment

4.0 System Requirements
- 4.1 Grid Connection
- 4.2 Approved System Design
- 4.3 Interconnection
- 4.4 Other Electrical Components
- 4.5 Structural Requirements
- 4.6 Compliance with Laws and Code
- 4.7 PV System Warrantees

5.0 Application Process
- 5.1 Project Application
- 5.2 Site Map
- 5.3 Photo
- 5.4 One or Three-Line Electrical Drawings
- 5.5 System Output and System Loss Analysis
- 5.6 System Loss Analysis
- 5.7 Utility Bill (Proof of RPS Payment)
- 5.8 Permits
- 5.9 Environmental Assessment

6.0 Quality Assurance and Compliance
- 6.1 Field Inspection of Completed Projects
- 6.2 Handling Non-Conformance and Corrective Action
- 6.3 Prescriptive Probation and Disciplinary Action

7.0 Logo and Partner Portal
- 7.1 Use of Logo
- 7.2 Partner Portal

1.0 PROGRAM SUMMARY

1.1 What Is The NY-Sun Incentive Program?

The New York State Energy Research and Development Authority (NYSERDA) provide incentives for the installation of new grid-connected solar photovoltaic (PV) systems that will offset the use of grid-supplied electricity. System incentives are capped at the lower of: (1) 25kW per site/meter for residential systems, and 200 kW per site/meter for non-residential systems; or (2) the PV System kW size that is expected to produce energy equal to no more than 110% of the total kWh consumption for the previous 12 months of electric usage through the associated meter. New Construction systems must be sized not to exceed 110% of the calculated yearly projected kWh of electric usage.

Funding for the NY-Sun Incentive Program ("Program") has been allocated by the New York State Public Service Commission through the Renewable Portfolio Standard with additional funding made available through the Regional Greenhouse Gas Initiative. Incentives will be granted on a first-come, first-served basis, and applications will be accepted through December 31, 2023, or until funds are fully committed, whichever comes first.

The incentive caps apply to each site/meter. A site/meter is the location where the PV system will be interconnected to the utility meter. If multiple meters are present, multiple systems may be eligible for incentives; the incentive caps will apply to each meter. For example, a shopping mall with four separately metered businesses constitutes four "sites/meters," each of which may be eligible for incentives, subject to the kW and usage caps.

1.2 How Does the NY-Sun Incentive Program Work?

Financial incentives are available on systems for qualified customers who wish to install a PV system using a Participating Contractor in the NY-Sun Incentive Program. A list of Participating Contractors can be found by going to:
http://www.nyserda.ny.gov/Contractors/Find-a-Contractor/Photovoltiac-Installers.aspx

Participating Contractors have demonstrated that they fulfill the minimum requirements for participation the PV Program and have a fully executed Participation Agreement with NYSERDA, in which the Participating Contractor agrees to abide by the NY-Sun Incentive Program terms and conditions. Incentives are paid directly to the Participating contractor The Participating Contractor must apply the full value of the NYSERDA incentives to the cost of the PV System. Participating Contractors are responsible for preparing and submitting all required PV project documentation to NYSERDA. Eligible Installers are those individuals who have demonstrated technical competence in the PV field and the Contractor is the business which has signed a written Participation Agreement with NYSERDA to abide by certain NY-Sun Incentive Program terms and conditions. Eligible Installers and their Contractor are responsible for preparing and submitting all necessary project application paperwork to NYSERDA.

If a system is being purchased, although not part of the submission to NYSERDA, the **Customer Purchase Agreement is an important document as it is the contract between the customer and Contractor. The Customer Purchase Agreement must include the following and be signed by both parties.**

- Installation location, including town, street, and lot or building number;
- Installation schedule
- System description, including a description of the PV System being purchased and an outline of system specifications, the make and model of major system components, identification and location of easy-to-read meter, references to UL listing, etc.

- Estimate of annual energy output in kWh that summarizes the results of the System Loss Analysis;
- Total system and itemized costs broken down as follows: cost of panels, cost of inverter(s), balance of system (wires, racks, etc.), and labor and overhead (labor, permitting, etc.);
- Applicable incentives. The Customer Purchase Agreement must reflect the entire amount of the anticipated NYSERDA Incentive;
- An explanation and estimate of any additional costs that the customer will incur associated with the development, installation, and commissioning of PV Systems; Payment schedule;
- Party (customer or contractor) responsible for scheduling, obtaining and paying for permits, inspections or other regulatory requirements;
- PV System Warranty. A full warranty to the purchaser of the PV generation system installed under the Agreement for a period of five years after installation. The warranty should cover all components of the PV System against breakdown or degradation in electrical output of more than ten percent from the original rated electrical output. The warranty must cover the full costs, including labor and repair or replacement of defective components or systems. If the PV System includes a battery pack, the battery system must be covered by a full warranty including labor and repair or replacement of the battery to the purchaser for two years after installation;
- Addendum to Customer Purchase Agreement must be completed and signed by both the customer and the Eligible Installer/Contractor.
- **It is important that the Contractor has a direct relationship with the customer.** Incentives and warranties must pass to the customer. As a condition of participation in the Program, Participating Contractors must abide by the terms and conditions in the Participation Agreement.

If a lease or power purchase agreement (PPA) is being used, although not part of the submission to NYSERDA, the **PPA or lease is an important document as it is the contract between the Customer and Contractor. The PPA or lease must include the following and be signed by both parties.**
Installation location; including town, street, and lot or building number;

- Installation schedule (a realistic installation and interconnection schedule that takes into account NYSERDA and utility review requirements; System description, including a description of the PV System being purchased and an outline of system specifications, the make and model of major system components, identification and location of easy-to-read meter, references to UL listing, etc.
- Estimate of annual energy output in kWh that summarizes the results of the System Loss Analysis;
- Total Agreement cost and applicable incentives. The Lease or PPA must reflect the entire amount of the approved NYSERDA Incentive;
- An explanation and estimate of any and all additional costs that the customer will incur associated with the development, installation, and commissioning of PV Systems; Payment schedule;
- Party (customer or contractor) responsible for scheduling, obtaining and paying for permits, inspections or other regulatory requirements;
- Warranty: At a minimum, the Contractor shall offer a production guarantee to the Customer for the initial term of this Agreement. This production guarantee will provide the customer with compensation if the system produces less than the guaranteed output as specified in the PPA or lease agreement. Guaranteed output may not allow cumulative degradation in electrical output of more than one percent per year from the original rated electrical output for the initial term of this agreement. Under no circumstance will Customers be responsible

for any labor and repair or replacement costs of defective components or systems over the initial term of this Agreement. Should the customer sell the residence at which this solar facility is located, the production guarantee is fully transferrable to a new lessee, consistent with the terms of the lease or PPA agreement.

- Other terms such as the party (customer or Contractor) responsible for costs related to movement and re-installation of the system or parts of the system if needed due to necessary roof repairs or other issues and the terms under which those actions will be taken; and any insurance coverage related to the system;
- Addendum to Power Purchase agreement or Lease must be completed and signed by both the customer and the Eligible Installer.

1.3 Installer Qualifications

Interested qualified Installers may apply to participate in the Program at any time while the program is open. To qualify to participate as an Eligible Installer, an individual must have fulfilled one of the credentialing paths detailed below and fulfill all other NY-Sun Incentive Program participation requirements.

1. *NABCEP Certification (North American Board of Certified Energy Practitioners):*

   Installers who choose to become credentialed through NABCEP must fulfill one of the following requirements to be eligible to participate in the Program:

   A. Hold the NABCEP PV Installation Professional certification, or
   B. Have completed both the NABCEP PV Entry Level Program, by completing coursework offered by a registered NABCEP Entry Level Exam Provider, **and** passed the NABCEP PV Entry Level Exam.

NOTE: An Installer who chooses the NABCEP credentialing path and who is *NOT* credentialed as a certified NABCEP PV Installers at the time of participation must acquire the certification within 24 months of their becoming a participant in the Program. Failure to meet this requirement will result in the Installer being suspended from the NY-Sun Incentive Program.

2. *IBEW-NECA Electrical Journeyman & Apprentice Training (International Brotherhood of Electrical Workers and National Electrical Contractors Association)*

   Installers who choose to become credentialed through the IBEW must fulfill both of the following requirements to be eligible to participate in the Program:

   A. Be a Journeyman Electrician, **and**
   B. Completed any IBEW/NECA, NABCEP or UL approved 40 hour PV training course.

3. UL (Underwriters Labs)

   Installers who choose to become credentialed through the UL must fulfill the following requirement as a prerequisite to participate in the Program:

   - Be certified by UL as a PV System Installer
   -

Additional participation qualifications are based on the following:

Experience – Installer will be evaluated on past performance in this or other NYSERDA programs, if applicable; ; installation experience; experience in performing shading analysis; other relevant credentials; employment history; customer satisfaction; and other relevant experience.

Customer References – Provide three (3) written and signed business references for completed, grid-connected PV installations. References for installations where the installer had a primary role in installing the system are preferred. Verifiable references for specific projects should be accompanied by a brief description of the systems installed and the applicant's role in the project.

Performance Under Other NYSERDA Programs – An Installer Application will not be processed if the applicant is listed as the Installer on a delinquent system or where unresolved customer or performance issues exist with respect to this or other New York State programs.

1.4 Contractor Qualifications

Interested qualified companies may apply to participate in the Program at any time while the program is open.

To become a Participating Contractor, and maintain that status, contractors must employ, or hire subcontractors that employ, eligible installers as detailed in Section 1.3.

When making application, contractor should provide resumes of key personnel including ownership, management, sales, installation and design/engineering. The contractor must also provide three company references.

A Participating Contractor may use any business structure that is legal for conducting this type of business in the State of New York (corporation, LLC, sole proprietorship, etc.). To become a Participating Contractor, the Contractor must be able to meet all NY-Sun Incentive Program requirements including required insurance coverage and have the capability to provide warranty services on all PV systems installed, as required by the NY-Sun Incentive Program and NY State law.

Participating Contractor must comply with all local authority requirements for registration and licensing that apply to the installation of PV systems.

Once a contractor becomes a participant in the NY-Sun Incentive Program, the systems they install will be eligible to receive financial incentives through the NY-Sun Incentive Program. A System installed by a Contractor who is not a participant in the Program is not eligible for Program incentives.

2.0 GENERAL PROGRAM RULES

2.1 Incentives

Incentives are available on a first-come, first-served basis. Program incentives are not reserved until a project has achieved 'Approved' status.

The program is based on a Megawatt Block model. The Megawatt Block incentive structure is designed to provide certainty and transparency regarding incentive levels to the industry, accounts for regional market differences, provides a clear signal to industry that New York intends to eliminate cash incentives in a reasonable timeframe, and allows for the elimination of those incentives sooner in regions where the market conditions can support it, based on market penetration, demand, and payback.

The MW Block approach allocates MW targets to specific regions of the State and sectors within those regions; breaks those targets into blocks to which incentives are assigned; awards incentives to applications based on the block in effect at the time of application submission; and then moves to the next block and incentive level when a MW block is fully subscribed. Once all of the blocks within a

region/sector are fully subscribed, an incentive is no longer offered in that region/sector. The regional MW Blocks established for the program are as follows:

- The region served by Con Edison ("Con Ed");
- The region served by PSEG Long Island as the LIPA System Operator ("Long Island"); and
- The balance of the state ("Upstate")

Sectors established for the program are as follows:

- Residential systems (up to 25kW in nameplate capacity);
- Small non-residential systems (up to 200kW in nameplate capacity); and
- Large non-residential systems (larger than 200kW in nameplate capacity).

Incentives for NYPA customers will be based on their sector and the region above in which they are located.

Ideally, the block structures will not require modification over the course of the program. However, NYSERDA will monitor market conditions and MW block subscription and will make adjustments to the MW block design, but only if necessary. Stakeholders will be notified at least one full block in advance of any planned changes.

Information on the MW Block design, including real-time data on the current incentive levels can be found by visiting: http://www.nyserda.ny.gov/pv-dashboard

Any contractor/installer who moves forward with the installation of a project that has not been funded (has not obtained a status of "received" in the program database) and has a status of "submitted via Internet" does so at their own financial risk, as there is no guarantee of incentives until the project is both "received" and "approved." Also, projects *completed* prior to being *submitted* to NYSERDA (prior to obtaining a status of "submitted via Internet") are **not** eligible to receive Program incentives.

Incentives are reserved for PV Systems designed and installed by Eligible Installers/Participating Contractors. Incentives are available only for new equipment. Incentives will be provided directly to the Participating Contractors of record for the project, not to the customers.

For direct purchase transactions, the Agreement (Contract) between the Customer and Participating Contractor must clearly show the full amount of the NYSERDA incentive being applied toward the total PV system price. For Lease or Power Purchase Agreement (PPA) transactions, the value of the NYSERDA incentive must be applied to reduce the kWh cost. Once a project has achieved 'Approved' status, the Participating Contractor and Eligible Installer will receive an approval letter through PowerClerk, which will include the project incentive amount. Eligible Installers/Contractors are responsible for sending a copy of the approval letter to the customer. The incentive amount in the approval letter will not change assuming the PV System is installed, as approved**,** and within the Terms and Conditions of NYSERDA's NY-Sun Incentive Program. In instances where a Project Application has missing or inaccurate documents, NYSERDA not receive/accept the application and will contact the Eligible Installer or Contractor requesting the missing information be provided and/or inaccurate information be corrected. If the information is not provided or corrected after three requests by NYSERDA, the Project Application will be denied. The project can be re-submitted at a later date.

Incentives are based on direct current module Wattage ratings at standard test conditions ("nameplate" rating).

2.2 Incentive Caps

Incentives are capped based on the proposed PV System size that does not exceed 110% of the total kWh consumption for the previous 12 months of electric usage. New Construction systems must be sized not to exceed 110% of the calculated yearly projected kWh of electric usage.

2.3 Standard Incentive Amounts

Incentives are paid the residential rate or the non-residential (commercial) rate based on the service classification of the meter, as determined by the utility. Farms with a residential service classification may retain that classification up to 100kW AC for net metering purposes.

Farms meeting the Agriculture and Markets Law 301 definition of "farm operation" will be considered commercial.

2.4 Cancellation Requests

Any requests to cancel a project must be submitted to the Program using the *Change Request Form*.

- For cancelled projects in the *ConEd* or *Upstate* regions, the *Change Request Form* must be emailed to:

  PVForms@nyserda.ny.gov

- For cancelled projects in the *PSEG Long Island* region, the *Change Request Form* must be emailed to:

  PVFormsLI@pseg.com

When submitting a *Change Request Form* for a cancelled project, the following subject line naming convention should be used:

Cancellation Request, PV (4 digit installer # + Application #) - Name of Customer

Should a project wish to move forward after cancellation, the Eligible Installer/Participating Contractor must submit a new application package. In this case, the incentive level and all rules in effect at the time the new application is submitted will apply.

2.5 (90) Day Project Extensions

Project Extensions may be granted, upon written request, on a case-by-case basis if there are ***legitimate and verifiable reasons*** related to new construction or equipment availability. Project extensions may be granted in 90-day increments. To request an extension, Installer/Contractor must submit and have approved by NYSERDA a *Change Request Form*.

- To request a project extension in the *ConEd* or *Upstate* regions, the *Change Form* must be emailed to:

  PVForms@nyserda.ny.gov

- To request a project extension in the PSEG Long Island region, the *Change Request Form* must be emailed to:

  PVFormsLI@pseg.com

When submitting a *Change Request Form* to request a project extension, the following subject line naming convention should be used:

90 Day Project Extension, PV (4 digit installer # + Application #) - Name of Customer

2.6 Change Orders

Any system modifications or equipment changes **must be approved** by NYSERDA in writing before a system is installed. Submittal of a *Change Request Form* is required for all system modifications.

- For system modifications or equipment changes in the *ConEd* or *Upstate* regions, the *Change Request Form* must be emailed to:

  PVForms@nyserda.ny.gov

- For system modifications or equipment changes in the *PSEG Long Island* region, the *Change request Form* must be emailed to:

  PVFormsLI@pseg.com

When submitting a *Change Request Form* to identify a system modifications or equipment changes, the following subject line naming convention should be used:

Change Order Form, PV (4 digit installer # + Application #) - Name of Customer

Failure to get NYSERDA approval on any and all modifications may result in revocation of the incentive reservation or nonpayment of the incentive.

For projects accessing the Green Jobs Green New York (GJGNY) financing, a new Pro Forma tool must be submitted along with *Change Request Form*, and the subject line must also include the following information in the format provided below.

Proforma Tool, PV (4 digit installer # + Application #) - Name of Customer

Change order requests must state the reason for the change, the original equipment quantity and catalog numbers, the proposed equipment quantity and catalog numbers, changes in cost, changes in incentive (if applicable) amount and any changes in the array configuration or wiring. All proposed change requests must include the owner's signed acknowledgement of the proposed changes.

Installers/Contractors will receive an e-mail approval for change orders resulting in an increase in the incentive amount. All other changes will be approved in Power Clerk. Please check Power Clerk before contacting NYSERDA regarding change order approvals.

Change orders resulting in an increase to system size will not result in an additional incentive in excess of the current incentive cap in effect at the time the change order is received.

When calculating the resulting incentive for a Change Order where the system capacity has decreased, NYSERDA will continue to honor the original incentive level calculated at the smaller system size.

NOTE: Effective the launch date of the Statewide MW Block PV Incentive Program, projects that have already been approved through the Solar Pioneer program, and are not increasing the system size, cannot be cancelled in Seibel and then submitted into PowerClerk for the purpose of receiving a larger incentive.

2.7 Expansion of Completed Systems

Installers may request additional incentives for the expansion of a Completed System. Incentives will not be paid for additional Watts beyond the caps described in Section 2.2 based on the combined aggregate capacity including the existing system. Each Project Application must be completed in its entirety and indicate that it is an expansion system, and all required documents under NY-Sun Incentive Program need to be entered into Power Clerk. PowerClerk may require information about the existing PV system such as system size, project number, associated PON etc.

2.8 Incentive payments

Participating Contractors have two incentive payment options.

Two-Payment Option:

Under this option, the Participating Contractor receives project incentives in two installments, which are tied to specific installation milestones. The initial incentive payment, totaling **75%** of the total approved incentive amount for the project will be paid after all approved system components have been delivered to a customer's site, all permits and approvals have been obtained, and the *Incentive Request Form*, with the section titled 'Items to be Included with 75% request' completed and submitted to NYSERDA for approval. Participating Contractors who choose this option must submit for the initial 75% incentive payment within 120 days of the project approval date.

The Participating Contractor will then have 90 days from the approval date of the initial 75% incentive payment to complete the project. The final project incentive payment, or the remaining **25%** of the total approved incentive amount, will be paid upon receipt by NYSERDA of *the Incentive Request Form*, with the section titled 'Items to be Included with 25% request' completed and submitted to NYSERDA for approval.

To receive the final (25%) incentive payment, the *Incentive Request Form* must include a **utility interconnect letter and one of the following**:

(a) Final inspection certificate issued by authorities having jurisdiction or
(b) Digital photo of inspection sticker issued by authorities having jurisdiction or
(c) Documentation of a successful inspection by NYSERDA or its representatives.

NYSERDA will consider alternate documentation verifying that the system has been completed and complies with all programmatic and relevant code requirements. A Participating Contractor must submit the alternate documentation to NYSERDA for approval prior to the submittal of an Incentive Request Form.

The final *Incentive Request Form* must also list of names for all primary crew members who worked on the installation.

Single-Payment Option

Under this option, the total incentive amount approved by NYSERDA will be paid upon submittal to and approval by, NYSERDA of an *Incentive Request Form* that has **both the 'Items to be Included with 75% request' and 'Items to be Included with 25% request sections completed.** Participating Contractors have 210 days from the date of project approval to complete the system installation.

To receive the full incentive payment, the *Incentive Request Form* must include a **utility interconnect letter and one of the following:**

(a) Final inspection certificate issued by authorities having jurisdiction or
(b) Digital photo of inspection sticker issued by authorities having jurisdiction or
(c) Documentation of a successful inspection by NYSERDA or its representatives.

NYSERDA will consider alternate documentation verifying that the system has completed and complies with all programmatic and relevant code requirements. A Participating Contractor must submit the alternate documentation to NYSERDA for approval prior to the submittal of an *Incentive Request Form*.

The final incentive Request Form must also list names for all primary crew members who worked on the installation.

Documentation for all applicable utility, state, city or town permits and other inspections and approvals must be provided as part of any incentive payment requests. If the local authority having jurisdiction does not require a permit for a PV system, you may substitute a copy of a letter or regulation from the local authority stating that no permit is required. The local authority may not require a permit for a "Solar" system but may still require an electrical permit for wiring, in this case the contractors shall provide a copy of the electrical permit.

Outside of New York City, many local authorities having jurisdiction for code enforcement often employ third party independent inspectors. At the time the project is inspected by the third party independent inspector an approval sticker is placed at the point of the work, indicating that the work is in compliance with applicable codes. NYSERDA will accept a photo of the onsite approval sticker (or the inspection certificate) and the utility interconnection acceptance letter as the final close out documentation that the system is grid connected and operational in order to process the final incentive payment.

For projects in New York City, the contractor is still required to meet all local requirements of New York City, Department of Buildings and FDNY, but will not be required to submit the final inspection certificate. NYSERDA will accept the **Con Edison interconnection acceptance letter as the final close out documentation** that the system is grid connected and operational in order to process the final incentive request payment and use the following subject line naming conventions.

PON 2112: Incentive requests must be e-mailed to *PVInvoices@nyserda.ny.gov*

PON 2112LI: Incentive requests must be e-mailed to *PVInvoiceLI@pseg.com*

75%, PV (4 digit installer # + Application #) - Name of Customer
(Example. 75% – 4000-29000, John Smith)

25%, PV (4 digit installer # + Application #) - Name of Customer
(Example. 25% – 4000-29000, John Smith)

100%, PV (4 digit installer # + Application #) - Name of Customer
(Example. 100% – 4000-29000, John Smith)

Each scanned incentive request should be named **using the same naming convention as outlined above and all documents must be scanned together as a single pdf.** Please do NOT include packing lists.

2.9 Incentive structure
Where necessary, NYSERDA reserves the right to structure incentive payments differently to accommodate unique situations as determined by NYSERDA.

2.10 Clipboard Audit

For Residential Projects: A Clipboard Energy Efficiency Audit must be performed. A clipboard energy audit consists of two components: an interview of the home/building owners to determine energy use habits and the age of the building, and an inspection of the building to identify energy saving opportunities.

The inspection component of the Clipboard Audit includes an assessment of the hard-wired lighting systems and free-standing light fixtures, appliance ages and whether they are ENERGY STAR® qualified, the presence of advanced power strips, existence of "vampire loads" related to consumer electronics and battery chargers, use of programmable thermostats or timers for air conditioners, age and condition of the doors and windows, and details on recent energy efficiency upgrades, such as installation of insulation. The Clipboard Audit should take no more than 60 minutes.

The Clipboard audit also includes a debriefing, during which the Contractor will review with the homeowner the results of the Clipboard Audit. At the end of the debriefing the installer will leave a copy of the Clipboard Audit Report ('Report') with the owner, which will include a description of the home. The contractor will also leave a list of Home Performance Contractors that could install more comprehensive energy efficiency measures, and informational brochures with details of utility or NYSERDA energy efficiency programs.

Customers will not be required to implement energy efficiency measures as a pre-requisite to participating in the ST program. A copy of the Clipboard Audit must accompany the application and be uploaded into Power Clerk at time of application.

2.11 Non Residential Energy Assessment

For Non-Residential Projects: Building owners are provided with information on ENERGY STAR's Portfolio Manager Benchmarking Tool or other equivalent tool. If requested by the building owner, the Participating Contractor shall assist them to enter utility bill information into the Tool in order to produce a EUI (Energy Use Index) and, where applicable, an ENERGY STAR score. Customers will not be required to benchmark or implement energy efficiency measures as a pre-requisite to participating in the NY-Sun Incentive Program.

A copy of the signed acknowledgement letter must accompany the application and be uploaded into Powerclerk at time of application.

2.12 System Losses

Project Applications shall indicate all potential PV system output losses (actual kilowatt hours or kWh generated after all equipment losses are applied) associated with shading, system orientation, tilt angle, etc. and must be analyzed and detailed by the Participating Contractor or Eligible Installer for each PV System. PV Systems that are shaded by trees, or that are installed on a flat roof, will have kWh outputs that will be less than optimal. All impacts on system output must be quantified and must be considered during the review of the Project Applications submitted by the Participating Contractor. The incentive level for a project will be reduced in proportion to output losses when losses from factors such as shading and orientation exceed 20% of ideal kWh output as illustrated in table below.

Shading & Orientation Loss	Incentive Level
0% - 20%	100%
21%	79%
23%	77%
24%	76%
25%	75%
26%	74%
27%	73%
28%	72%
29%	71%
30%	70%

2.13 Coordination with other NYSERDA Programs

PV projects receiving, or selected to receive awards under any other NYSERDA Program, PON, RFP or PSEG Long Island Program are not eligible to receive incentives under NY-Sun Incentive Program for those projects. Projects receiving, or selected to receive, awards under NYSERDA's or PSEG Long Island Programs may not be canceled and re-submitted under NY-Sun Incentive Program.

2.14 Financing

- *Residential customers* existing homes of four units or less may be eligible to finance the purchase of their PV system through NYSERDA's Green Jobs/Green New York (GJGNY) loan program using either a Smart Energy Loan or On-Bill Recovery.

  Customers may apply online or download an application at **www.energyfinancesolutions.com**

  To access the GJGNY loan Participating Contractors must register with the GJGNY loan servicer, Energy Finance Solutions (EFS). To register, Participating Contractors must complete and submit an *EFS Contractor Application Packet.* The Contractor Packet consists of the following documentation:

  - EFS Contractor Application
  - EFS Participation Agreement
  - ACH Authorization Form (allows for electronic transfer of loan proceeds –optional)
  - IRS form W-9
  - Certificate of Insurance

- *Small business and not-for-profit customers* may be eligible to finance the purchase of their PV system through NYSERDA's low-interest small commercial financing made available by GJGNY. A customer who wishes to finance the purchase of their PV system will rely on the Installer/ Contractor to submit a Request for Financing to NYSERDA on their behalf. NYSERDA will review the Request for Financing and will provide the Customer with a letter approving or denying the eligibility of the PV system for low-interest small commercial financing made available by GJGNY. If the PV system is approved as eligible by NYSERDA, the Customer must submit the approval letter as part of their loan application to a Lender participating in NYSERDA's Small Commercial Energy Efficiency Program. If the Customer is approved for financing by the Lender, the Customer will receive the loan proceeds directly from

the Lender. More information on NYSERDA's low-interest energy efficiency financing options for small business and not-for-profit customers can be found at www.nyserda.ny.gov/small-commercial-financing.

Contractors should email a complete *EFS Contractor Application Packet* to: efs@energyfinancesolutions.com and expect a response within 5 days that will either:

- Notify Participating Contractors of Approval
- Request additional information

NOTE: Only Participating Contractors in the NY-Sun Incentive Program can submit for GJGNY financing.

2.15 Tax Credits

Customers may also be eligible for State and federal tax credits. In addition customers may qualify for Real Property Tax Exemptions and Tax Abatement Programs, along with accelerated depreciation allowances. Always consult with an accountant or tax professional to determine eligibility.

New York City Residents may be eligible for the Real Property Tax Abatement Program. Contractors installing systems in New York City should consult with The New York City Department of Buildings for specific information.

Real Property Tax information can be found at New York State Department of Taxation & Finance Office of Real Property Tax Services website

The Real Property Tax Exemption FORM RP487 may be found at the following

http://www.tax.ny.gov/pdf/current_forms/orpts/rp487_fill_in.pdf

For a listing of jurisdictions that have opted out of the Real Property Tax exemption and Form RP487 does not apply may be found at the following-

http://www.tax.ny.gov/research/property/legal/localop/487opt.htm

3.0 SPECIFIC PROGRAM RULES

3.1 New Components

All components installed as part of an approved PV System must be new.

3.2 Qualified Solar Modules

All PV modules must be certified as meeting all applicable standards of the Institute of Electrical and Electronics Engineers ("IEEE") and Underwriter's Laboratory ("UL") 1703, and detailed in the CEC eligible list found on PowerClerk. It is the manufacturer's responsibility to update PowerClerk with the most up to date product information.

3.3 Inverters

All inverters must be certified as meeting all applicable standards of IEEE and UL and must meet the standards of the New York State Public Service Commission. See Link: http://www3.dps.ny.gov/W/PSCWeb.nsf/All/DCF68EFCA391AD6085257687006F396B?OpenDocument

The CEC eligible list can be found in PowerClerk. It is the manufacturer's responsibility to update PowerClerk with the most up to date product information.

3.4 Monitoring Equipment

Each PV system must have the ability to record system production in kWh. Recorded production output information in kWh must be provided to NYSERDA as required in other sections of these documents. The contractor has the option of providing this information from either a hard wired PV production meter, on line monitoring system, inverter display recorded production or other approved method.

When a hard wired meter is provided it shall have the capability of displaying: (a) instantaneous AC power, and (b) cumulative total AC energy production. Such meter(s) must have a minimum accuracy of 5% and a certificate of compliance from the manufacturer. Remanufactured utility-style meters are permitted if they are certified as calibrated to the applicable ANSI standards for electricity metering. The meter(s) must include numerical digital displays, or analog ("easy-read type") in watts or kilowatts for power and kilowatt-hours or megawatt-hours for energy.

4.0 SYSTEM REQUIREMENTS

4.1 Grid Connection

To be eligible for Incentives, all PV Systems must be grid-connected, end-use applications. End-use PV Systems are those where the PV System is connected on the customer's side of the electric meter, and electricity generated by the PV System offsets the customer's electricity purchases in accordance with current net metering laws and utility guidelines. In addition to net metering, upon approval by the local participating utility, projects may benefit from remote net metering of multiple utility accounts. In all cases NYSERDA's incentive will be limited to the maximum system size cap of 25kW DC for residential installations and 200kW DC for commercial installations and may not to exceed 110% of the aggregated 12 month annual usage.

4.2 Approved System Design

PV Systems must be installed in accordance with the design and PV System components submitted in the application and approved by NYSERDA. Any change in PV System design from the approved design must be approved in writing by NYSERDA prior to Installation of the PV System.
PV Systems that are not installed according to the design submitted to and approved by NYSERDA are **not** eligible to receive Program incentives. When significant changes are made a new 3-line diagram must be included with the change order. See section 2.6 for details on submitting a Change Request.

4.3 Interconnection

The Participating Contractors and Eligible Installer are required to ensure that all approved PV Systems have an appropriate interconnection agreement that meets New York State Standard Interconnection Requirements. The Participating Contractors and Eligible Installer must ensure that all approved systems are installed in compliance with that interconnection agreement.

4.4 Other Electrical Components

All other electrical components of each PV System, including, but not limited to, charge controllers, batteries, wiring, and metering equipment must be certified as meeting the requirements of all relevant national and New York State codes and standards.

4.5 Structural Requirements

The Participating Contractor and Eligible Installer are responsible for determining that a building is structurally able to support the addition of a PV system and that the installation of that PV system does not over stress the structure and/or increase the dead load beyond acceptable limits as described in all relevant National and New York State codes and standards. NYSERDA encourages consulting with a Licensed Professional Engineer.

4.6 Compliance with Laws and Codes

All approved PV Systems, system components, and installations must comply with any and all manufacturers' installation requirements, applicable laws, regulations, codes, licensing and permit requirements, including but not limited to, the New York State Environmental Quality Review (SEQR), the New York State Building Code, the National Electric Code (NEC), New York State's Standard Interconnection Requirements and all applicable State, city, town, or local ordinances or permit requirements.

For further information on NYC fire codes and the **NYC Fire Code Section 504.4,** please see links.

Fire Code-Section FC504:
www.nyc.gov/html/fdny/html/firecode/index.shtml or http://bit.ly/bpVFKD

Fire Code-Frequently Asked Questions:
www.nyc.gov/html/fdny/html/firecode/faq.shtml or http://bit.ly/a5FtjQ

Application for a Variance to Fire Code FC504:
www.nyc.gov/html/fdny/pdf/fire_prevention/modification_variances.pdf or http://bit.ly/cRLNjp

4.7 PV System Warranty

The Participating Contractor must provide the purchaser of the PV System with a full five year transferable warranty. The warranty must cover all components of the generating system against breakdown or degradation in electrical output of more than ten percent from the original rated electrical output. The warranty shall cover the full costs, including labor, of repair or replacement of defective components or systems. The Participating Contractor is responsible for providing warranty coverage in a timely manner regardless of the level of support from the equipment manufacturer. Requests for warranty services must be responded to within 72 hours and repairs completed within 30 days. Batteries must be covered by a minimum two-year warranty. The Participating Contractor must provide the customer with information on any additional or extended warranties that may also be applicable. Refer to the Addendum for production guarantees applicable to Power Purchase Agreements and Leases.

5.0 APPLICATION PROCESS

Each Application for Incentives must include a completed and accurate copy of each of the following:

5.1 Project Application Form

The Eligible Installer or their Participating Contractor must submit all applications electronically, using the PowerClerk database.

The process for projects planning to use GJGNY financing (either the Smart Energy loan, Participation Loan or On-Bill Recovery (OBR)), are as follows:

Residential projects: A Proforma tool must be provided to NYSERDA once the project achieves 'received' status. The Installer/Contractor will receive an e-mail on behalf of "PowerClerk" that will ask you to email the excel version of the ProForma tool and the applicant's pre-approval loan letter from Energy Finance Solutions (EFS) to

pvforms@nyserda.ny.gov or pvformsLI@pseg.com using the subject line naming convention provided below.

ProForma Tool, PV (4 digit installer # + Application #) - Name of Customer
(Example) ProForma Tool – 4000-29000, John Smith)

The Proforma tool is used to calculate the cost effectiveness of the GJGNY financing options at different loan terms. In order to qualify for GJGNY financing a project must meet the cost-effectiveness test in the Proforma tool. Once the Proforma is received, your application will be in line for design review. After the Proforma has been reviewed and approved, it will be converted to a pdf and uploaded directly into PowerClerk as part of the project application submission.

Small business and not-for-profit customers

A Proforma tool must be provided to NYSERDA once the project achieves 'received' status. The Installer/Contractor will receive an e-mail on behalf of "PowerClerk" that will ask you to email the excel version of the ProForma tool.. The appropriate email addresses and subject line naming convention are provided below.

- Proforma tool for projects in the *ConEd* or *Upstate* regions must be emailed to:

  PVForms@nyserda.ny.gov

- Proforma tool for projects in the PSEG Long island region must be emailed to:

  PVFormsLI@pseg.com

Subject Line naming convention:

ProForma Tool, PV (4 digit installer # + Application #) - Name of Customer
(Example) ProForma Tool – 4000-29000, John Smith)

The Proforma tool is used to calculate the cost effectiveness of the GJGNY financing options at different loan terms. In order to qualify for GJGNY financing a project must meet the cost-effectiveness test in the Proforma tool. Once the Proforma is received, your application will be in line for design review. After the Proforma has been reviewed and approved, it will be converted to a pdf and uploaded directly into PowerClerk as part of the project application submission.

5.2 Site Map (Site Plan)

The site map must include: location of all PV System components including panels, the inverter, attachment methods and wind loads, roof type, system orientation and tilt angle, location of batteries (if any), lockable disconnect switch, point of connection with utility system, distance for wire runs, meters, customer name and address, and Eligible Installer name and number.

5.3 Photos

There must be photos of the array location, from both the ground and roof level, and photos taken looking south. In addition, the application must include photos of the existing electrical service and the proposed location of the inverter.

5.4 One or Three-Line Drawing

A legible electrical diagram using unique line characteristics and standard symbols to clearly describe the solar electric system as installed is required. ***Based on the requirements of the Utility or Authority having Jurisdiction either a one or three line drawing is acceptable***. The drawings should indicate: hot or powered conductor(s), neutral (grounded) conductor(s), and equipment grounding conductor(s) and grounding electrode conductors (s). Each conductor's size and insulation type is to be shown, as well as the size and type of relevant raceway, cable and enclosure characteristics. The configuration of the sub arrays/arrays is to be shown. The voltage and amperage ratings of all combiner and/or transition boxes, over current protection devices, switches, inverters, batteries, electrical panels and other relevant equipment are to be shown, as applicable.

The drawing should clearly indicate the point of connection and method used for connecting to the existing building distribution system. Line side taps must include a service rated disconnect after the tap and ahead of any other system components. Circuit breakers, or fused connections added to panels or switchgear must comply with NEC 690.64 (B) (2) (not exceed 120% of the bus or cable rating) and must be physically located at the opposite end of the bus from the main over current protection device.

Due to the potential for overloading, PV systems may not be connected to split bus panel boards (or load centers) by supply side or load side connection.

5.5 System Output and System Loss Analysis

The system output and loss analysis must up loaded into PowerClerk as a single pdf file.

System Output

An estimate of annual system output in kWh taking into account the tilt, orientation, and shading of the system must be submitted. Eligible Installers shall also provide an estimate of annual system output in kWh for an optimal system. Reports generated by Solar Electric Production Calculator, PV Watts, Solar Pathfinder or other approved methods are acceptable. The Solar Electric Calculator can be found at the following link:

https://psegli.powerclerk.com/IncentiveCalculator/PSEGLI/IncentiveCalculator.aspx

System Loss Analysis

Include statement of the ideal conditions, (base line) kWh along with all potential system output losses (kilowatt hours or kWh generated after all equipment losses are applied) associated with shading, system orientation, tilt angle, etc. Such losses must be detailed using industry accepted shading and orientation tools, verifiable assumptions, and calculations. In cases where trees or any other obstruction must be removed or moved in order to meet the program rules, incentive payment will not be made until a new system loss analysis and photos have been submitted and reviewed by NYSERDA. Reports generated by Solmetric Sun Eye, Solar Pathfinder and other approved method are acceptable.

5.6 Utility Bill for Non-Residential Applicants Only

The site address on the utility bill must match the installation site address on the Project Application Form. The customer's historic usage for the past twelve (12) months will be required. For new construction, information on anticipated electric usage is required. The Eligible Installer must submit detailed calculations for review. When 12 months of past billing does not exist, then provide those months that do exist along with supplemental calculations that demonstrate the anticipated yearly usage.

5.7 Permits

Copies of all necessary permits, approvals, certificates, etc. must be attached for all non-residential systems. Residential customers may submit permits with the application or the initial invoice. Invoices for PV Systems without permits will be rejected. All permits must clearly reference installation of the approved PV System at the customer site. If permit(s) are not needed for installation, a signed letter from the Town Code Officer, or Authority Having Jurisdiction (AHJ) must be submitted stating that no building permit is required An AHJ or 3rd party electrical inspection certificate will be required prior to payment of the final incentive.

5.8 Environmental Assessment

For all projects that include the installation of PV panels with total panel surface area exceeding 4,000 square feet, an environmental assessment form must be completed and the project must satisfy the New York State Environmental Quality Review Act (SEQRA). Installers must indicate if PV panel surface area exceeds 4,000 square feet. Information regarding SEQRA is available from the NYS DEC website at http://www.dec.ny.gov/permits/357.html.

It is the installer's responsibility to identify all agencies involved or that may be an "interested party" in the SEQRA process. You can find the SEQR form at: http://search.usa.gov/search?affiliate=nysdec&query=SEQR+short+form&Search.x=37&Search.y=10

6.0 QUALITY ASSURANCE AND COMPLIANCE

NYSERDA maintains the integrity of its NY-Sun Incentive Program through an independent Quality, Standards and Compliance (QSC) team which manages the quality assurance system for the NY-Sun Incentive Program. The quality assurance system has several components including review of qualifications and credentials, paperwork audits, establishment of program standards and a comprehensive field inspection. QA Field inspection includes verification of contracted scope of work, accuracy of site analysis, comparison of installation to submitted design drawings, general health and safety compliance, and the overall delivered quality of the PV installation. NYSERDA QSC or its representatives may make a reasonable number of visits to the customer site before, during and/or after installation of a PV System.

Field QA inspections are conducted by a qualified independent third party, using a comprehensive field inspection QA checklist, or other QA standard as approved by NYSERDA.

Such visit(s) will be at a time convenient to the customer. The customer is given the option of having the Installer or contractor attend the field inspection. If the customer declines to have the Installer or contractor present at the time of the field inspection, no notice of scheduled field inspections is sent out to the Installer or contractor. If the customer accepts the attendance of the Installer and contractor, a notice of the scheduled field inspections will be sent to both parties with approximately one week-advance notice. Every effort will be made to accommodate the schedule of the Installer and contractor, but the customer's schedule and efficient scheduling of inspections take precedence.

6.1 Field Inspection of Completed Projects

NYSERDA selects specific "completed" projects for QA field inspection following a sampling protocol. The sampling protocol utilizes random sampling of completed units with sampling rates primarily based upon the current NY-Sun Incentive Program status of the Eligible Installer and "Contractor.". NYSERDA intends to conduct field inspections on 15% of units installed by full status installers and contractors. Probationary and Suspended status installers and contractors will be subjected to 30% inspection overall and up to 100% inspection on specific units for cause. Provisional installers and

contractors will initially be subjected to up to 100% inspection and after demonstrated competency their inspection rate as determined by NYSERDA and generally not less than 15%

The purpose of the QA Field Inspection is to provide NYSERDA with an opportunity to evaluate the accuracy of the site analysis and design paperwork and to verify that the PV System was installed according to all NY-Sun Incentive Program requirements including selected health and safety and performance items and specific compliance items per applicable code.

Following the QA Field Inspection a QA Field Inspection report will be made available to the installer and contractor approximately 15 days after the inspection. The report will be made available to the owner upon submission of a request directly to NYSERDA.

NYSERDA may select any completed project at any point in the future for Field Inspection based upon customer complaints, warranty related issues or a review of the work done by an Installer or Contractor under status review or program disciplinary action.

QA field inspection for Long Island customers will be conducted on 100% of all completed projects according to performance and health and safety inspection protocol currently in place and administered by PSEG, and will transition to the statewide comprehensive QA field inspection protocol upon approval by NYSERDA.

6.2 Procedure for handling Non-Conformance and Corrective Action

The QA report generated from the field inspection will provide details of all evaluated elements of the project and list any non-conformances that were identified. The report will identify the overall score of the project and whether this result passes or fails program requirements.

Projects that have non-conformances related to critical (Health & Safety) or major (System Performance) attributes will automatically fail. Projects that have only non-conformances to minor or incidental attributes may pass or fail based upon their overall merits.

All non-conformances are expected to be addressed and corrected with regard to future work conducted in the NY-Sun Incentive Program. Acknowledgement and plans for preventing future problems may be requested with the report.

While some non-conformances cannot be corrected post installation, others can be remedied through corrective action to the documentation, incentive applied to the project or remediation of the installation or its components.

When NYSERDA seeks specific corrective action, a Corrective Action notice will be provided with the QA report. The Corrective Action notice must be either disputed within 15 days by contacting NYSERDA or remedied within 30 days. Sufficient evidence of the remediation must be provided to NYSERDA to document the completion of the required corrective action. NYSERDA may at its option conduct a field verification of the remediated installation.

NYSERDA retains the right to provide a copy of the QA report or specific information from the QA Field Inspection directly to the owner, all authorities having local jurisdiction or the interconnecting utility based upon health, safety and compliance concerns. In an emergency NYSERDA or its representatives may shut down the system. NYSERDA will notify the installer or contractor whenever it takes such action as soon as is practicable.

NYSERDA may, at NYSERDA's discretion, communicate by voice and/or written format with any PV System customer with respect to any matter relevant to a proposed or installed PV System. Such communications may be in reply to an inquiry from a customer or at NYSERDA's initiation.

6. 3 Procedure for Prescriptive Probation and Disciplinary Action

When an installer or contractor either fails to consistently complete projects which pass NYSERDA's QA evaluation or fails to respond to or remedy Corrective Action notices, NYSERDA will review the contractor or installer status in the NY-Sun Incentive Program.

An installer or contractor may be moved to either a probation status in which specific results and a timeline for demonstrating those results will be prescribed and monitored or to a disciplinary status such as suspension or termination from the NY-Sun Incentive Program.

The complete details of the Participation Status and Review Process are stated in Article 6 of NY-SUN INCENTIVE PROGRAM PARTICIPATION AGREEMENT.

7.0 NYSERDA LOGO AND PARTNER PORTAL

7.1 Use of Logo

NYSERDA has very strict policies with regard to logos. There are very few companies that are eligible to use a version of NYSERDA's logo on their marketing materials. For these purposes, we have established three distinctive attribution marks: Sponsored by NYSERDA, Supported by NYSERDA, and an Independent Contractor to NYSERDA. These attribution marks are distributed by NYSERDA and are evaluated on an individual basis for their appropriateness.

The Sponsored by NYSERDA logo is specifically for events that NYSERDA has provided funding to sponsor. The Supported by NYSERDA is intended specifically for companies that have received a contract award from NYSERDA, and NYSERDA is funding specific research, development, or deployment of an energy efficient technology, or service. The Independent contractor logo is reserved for those contractors who have been tasked specifically with customer outreach on NYSERDA's behalf.

In the case of Solar Installers, ESCOs, participating builders, building contractors, and other organizations that have been qualified by NYSERDA, but not contracted, or funded by NYSERDA, it is not appropriate for them to use NYSERDA's logo on their organizations' website, or any marketing materials including business cards.

In the future, should you have a need for NYSERDA's logo, you may request one at the following website: http://www.nyserda.ny.gov/About/Resources/Logo-Requests.aspx

7.2 Partner Portal

NYSERDA has a *Partner Portal* on NYSERDA's website for eligible PV Installers/Contractors who participate in the NY-Sun Incentive Program PV Incentive Program. Partner Portal: http://cmsapps.nyserda.ny.gov/PartnerPortal/

Currently the Partner Portal contains information such as past PV conference call summaries, upcoming training announcements, examples of required documentation and other documents and links pertaining to the PV Incentive Programs. Your user name is your email address, and your password is the same. After logging in, choose "Advanced Technologies."