Attachment H

Solar PV Program Manual

PON 2112

April 2013 Version 7.0

New York State Energy and Research Development Authority

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1.0 PROGRAM SUMMARY

1.1 What Is The Solar Photovoltaic (PV) Program?

The New York State Energy Research and Development Authority (NYSERDA) provide incentives for the installation of new grid-connected solar photovoltaic (PV) systems. System incentives are capped at 7kW per site/meter for residential systems, 50 kW per commercial site/meter applicants. Funding for the Solar Electric Incentive Program ("Program") has been allocated by the New York State Public Service Commission through the Renewable Portfolio Standard program. Incentives will be granted on a first-come, first-served basis, and applications will be accepted through December 31, 2015, or until funds are fully committed, whichever comes first.

1.2 How Does the Solar PV Program Work?

Financial incentives are available for qualified customers who wish to install a PV system using a Participating Contractor in the PV Program. A list of Participating Contractors can be found by clicking here or by going to the NYSERDA website at:
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 PV 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 PV Program terms and conditions. Incentives are paid directly to the Contractor, but must be passed on or credited in full to the customer. Eligible Installers and their Contractor are responsible for preparing and submitting all necessary incentive application paperwork to NYSERDA.

In general, incentives for a typical residential or commercial system cover approximately 25-35% of the installed cost of a PV System but not more than 40%, of the owner out of pocket cost. The PV Program incentive level will be set by NYSERDA after all tax credits are applied.

1.3 Installer "Eligible Installers"

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 in Section 1.3 and fulfill all other PV Program participation requirements.

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 PV Program.

Once an Installer becomes a participant in the PV Program, the systems they install will be eligible to receive financial incentives through the PV Program.

There are currently two paths for obtaining the required technical credentials.

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

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

NABCEP Path for Credentialing:
To enter the program, an installer applicant must have completed the NABCEP PV Entry Level course (40 hour minimum) and have passed the NABCEP PV Entry Level Exam. An Installer must attain NABCEP PV Installer Certification by September 1, 2012, or within 24 months of the date upon which the installer became an "Eligible Installer" under the program to retain their eligibility.

IBEW-NECA Path for Credentialing:
A Journeymen Electrician with IBEW-NECA PV training that has met all other program requirements may gain and retain eligibility.

1.4 Contractor "

Interested qualified companies may apply to participate in the Program at any time while the program is open. Once a company becomes a participant in the PV Program, they can submit eligible systems for qualified customers to the PV Program and qualify for financial incentives

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, an entity must be able to meet all PV Program requirements including required insurance coverage and have the capability to provide warranty services on all PV systems installed, as required by the PV 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.

Participating Contractors must employ, or hire subcontractors that employ, installers who meet one of the following PV Program credentialing 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. Be a certified NABCEP PV Installer, 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 PV Program.

   -or-

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 or NABCEP approved 40 hour PV training course.

Once a contractor becomes a participant in the PV Program, the systems they install will be eligible to receive financial incentives through the PV Program.

2.0 GENERAL PROGRAM RULES

2.1 Incentives

Incentives are available on a first-come, first-served basis. Incentives will only be reserved for customers once an application has been approved by NYSERDA.

Current Program Funding

2013 $3,125,000 per month
2014 To Be Determined
2015 To Be Determined

The individual project incentive rate is $1.40 per watt for all types of applications, subject to change on a bi-monthly basis, depending upon demand during the previous two months.

When the monthly allowance and the amount of otherwise available funds have been exceeded, NYSERDA cannot accept new applications for funding in that month. If in the subsequent month the incentive level per watt is lowered, those applications in the queue will be the first to be accepted, but will receive the lower per watt incentive level. The placement of a customer's application in a queue does not constitute an entitlement to a particular level of incentive. The guidelines described above are intended to result in the incentive levels being adjusted as needed based on consumer demand and other market factors.

Incentives are reserved for PV Systems designed and installed by Eligible Installers/ Contractors. Incentives are available only for new equipment and PV Systems that have not been installed (partially or completely) prior to NYSERDA approval of an incentive application submitted in accordance with the terms and conditions of this Incentive Program. Incentives will not be provided directly to customers purchasing or installing PV systems.

The full amount of the approved NYSERDA incentive must appear in the contract between the customer and the Contractor.

The Agreement must clearly apply the full amount of the NYSERDA incentive toward the price of the system. When approved, the incentive amount will appear on the approval letter that Eligible Installers receive electronically from NYSERDA. *Eligible Installers or Contractors proceeding with construction prior to receipt of a NYSERDA Purchase Order do so at their own risk*. Eligible Installers/Contractors are responsible for sending a copy of the approval letter to the customer. This amount will not change assuming the PV System is installed, as approved**,** and within the Terms and Conditions of NYSERDA's PV Program. An application will be denied after 3 unsuccessful requests to the Eligible Installer or Contractor for missing or inaccurate application documents. If an application is denied, the Eligible Installer or Contractor will be notified that they may re-apply at a later date if project plans to move forward.

Incentives are available for PV systems installed for qualified customers only. Qualified customers are those who pay the Renewable Portfolio Standard (RPS)/System Benefits Charge (SBC) as part of their electricity bills from participating utilities.

NYSERDA reserves the right to limit the number of incentives per eligible installer/ Contractor, customer, site, and or meter.

Incentives are based on direct current module Wattage ratings at standard test conditions.

System sizes may be greater than the maximum size allowed for incentives; however, the incentives will be provided only for the eligible portion of the PV System.

NYSERDA reserves the right to make changes in the incentive levels. It is anticipated that these changes may occur at two month intervals based on the level of participation in the program and market conditions. Specifically, if applications in the prior months exceed by a material amount the amount of available funds and fully use the available funds, NYSERDA will reduce the incentive level for the subsequent two months. NYSERDA also reserves the right to change incentive levels based on other market conditions, including decreases in the cost of hardware, including modules or soft costs. Any revisions in the incentive levels will be posted on NYSERDA's website, and Eligible Installers also will be informed via email. A customer's application which is accepted by NYSERDA after an incentive change will be automatically changed to the new incentive level. Eligible Installers and Customers are prohibited from cancelling and re-applying if incentives are increased.

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.

An additional PON 2112 Program requirement is that the value of the incentive amount cannot exceed 40% of the owner's net out-of-pocket costs.

2.3 Standard Incentive Amounts

a. Residential (as determined by your utility) - Incentives available for systems up to 7 kW.
Standard Residential Systems - $1.40 per watt or $1,400 per kW for standard residential systems up to a maximum of 7 kW per site/meter, not to exceed 40% of the total installed system costs. *For example: If you have a 7 kW residential system you may be eligible to receive $1,400 per kW: $1,400 x 7kW = $9,800, or 40% of the total installed system cost, whichever is less.*

b. Commercial (Non-Residential)* - Incentives available for systems up to 50 kW.
Commercial Systems - $1.40 per Watt or $1,400 per kW for commercial systems up to a total of 50 kW per site/meter, not to exceed 40% of the total installed system costs. *For example: The incentive for a 40 kW PV System would be $56,000, or 40% of the total installed system cost, whichever is less.*

*Farms meeting the Agriculture and Markets Law 301 definition of "farm operation" will be considered commercial. NYSERDA will confer with DPS Staff on any other variance from these designations and NYSERDA will update PON 2112 accordingly.

2.4 Cancellation Requests

Any requests to cancel a project must be submitted to NYSERDA in writing. The NYSERDA Cancellation Form is required for all projects requesting to be cancelled.

2.5 Change Orders

Any system modifications or equipment changes **must be approved** by NYSERDA in writing before a system is installed. Failure to get NYSERDA approval on any and all modifications may result in revocation of the incentive reservation or nonpayment of the incentive.

Change order requests shall 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 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.

The NYSERDA Change Order Form (Attachment D), is required for all system modifications. Allow 4-6 weeks for review and approval of change orders resulting in an increased incentive.

You 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.

2.6 Expansion of Completed Systems

Installers may request additional incentives for the expansion of a Completed System (Attachment B-1). The combined incentive cannot exceed system size caps of PON 2112. Each Attachment B-1 form must be completed in its entirety, and all required documents under PON 2112 need to be entered into Power Clerk. If the expansion system is not adding a new meter (a single meter will record the production of both the original and new array), you must submit a meter reading from the original array prior to connection of the new system (at the time you request the final incentive for the expansion system).

2.7 Incentive payments

There are two options for applying for incentive payments.

a. Option one is the 75% initial and 25% final option

Incentives will be paid to the Contractor in two increments and will be tied to specific installation milestones. The first incentive payment, 75% of the total incentive amount approved by NYSERDA, 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 "Attachment C – Incentive Payment Request" has been completed, submitted and approved by NYSERDA. Eligible Installers have 90 days from the date the initial invoice is approved by NYSERDA to complete the installation.

The second incentive payment, or the remaining 25% of the total incentive amount approved by NYSERDA, will be paid after a PV System has been connected to the utility grid, inspected by all authorities having jurisdiction, and/or inspected by NYSERDA or its representatives, and the "Attachment C – Incentive Payment Request" has been completed, submitted and approved by NYSERDA. Eligible Installers must provide a list of names for all primary crew members who worked on the installation, as outlined on the Incentive Request Form.

Documentation for all applicable utility, state, city or town permits and other inspections and approvals must be provided as appropriate.

Acceptable Documentation: Option # 1

In New York City, NYSERDA will accept the Con Ed interconnection acceptance letter as the final close out documentation that the system is grid connected and operational in order to process the final payment application and count the system as complete for calculating our contribution to the NY Sun goal. The contractor is still required to meet all local requirements of New York City, Department of Buildings but will not be required to submit the final inspection certificate.

Acceptable Documentation: Option # 2

Option 2

Outside of NYC, many local authorities having jurisdiction for code enforcement often employ third party independent inspectors. At the time the project is inspected 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 payment application .

b. Option two is the 100% combined final option

All invoices must be e-mailed to PVInvoices@nyserda.ny.gov.
The subject line of the e-mail should be one of the following:

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

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

An Installer and their "Contractor" may at their option choose a single final 100% incentive payment. The 100% option will require all of the required documents listed above under option (a) upon final completion of the project.

2.8 Incentive structure

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

2.9 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. The Contractor will also provide informational brochures on low cost/no cost tips for reducing energy consumption, as well as other NYSERDA, and utility, energy efficiency programs.

At the end of the inspection, the installer will leave a copy of the inspection form 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 Solar PV program. A copy of the Clipboard Audit must accompany the application and be uploaded into Power Clerk at time of application.

2.10 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 PV Solar Program.

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

2.11 System Losses

All potential PV system output losses associated with shading, system orientation, tilt angle, etc., must be analyzed and detailed for each PV System by the Eligible Installer. Incentives are reduced in proportion to output losses when losses from factors such as shading and orientation exceed 20%. This is equivalent to a Total Solar Resource Fraction (TSRF) of 80 or greater.

2.12 Coordination with other NYSERDA Programs

Systems that applied for and received NYSERDA incentives under PON 716, PON 1050, PON 2112 are not eligible to receive additional incentives under PON 2112 beyond the value of the system size cap. For example, a home owner that received an award for a 5kW system in PON 1050 would be eligible for up to 2kW of additional incentives under PON 2112.

Systems receiving RPS funded awards under NYSERDA's Competitive Bid Program programs, PON 2156 or PON 2589 are not eligible to receive incentives under PON 2112 for those projects.

Systems receiving ARRA funded awards under NYSERDA's PON 1686, PON 1613, and RFP 10 are not eligible to receive incentives under PON 2112 for those projects. However, new projects by these owners not receiving any other NYSERDA funding may apply to receive incentives under PON 2112.

2.13 Financing

Residential customers may be eligible to participate in any loan programs such as PACE (Property Assessed Clean Energy, On-bill financing, the NYS Energy $mart Loan Fund^{sm} , should they be available in the future. For customers that participate in the loan programs, the incentive will be reduced by the equivalent "buy down" cost or other cost incurred by NYSERDA to make the loan

product available. The total incentive for any customer, including cash and loan product, will not exceed the system capacity in kW times the per kW incentive.

2.14 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.

3.0 SPECIFIC PROGRAM RULES

3.1 New Components

All components installed as part of an approved PV System must be new, with the exception of the PV monitoring production meter(s). The use of used or refurbished equipment is not permitted under the Program.

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 include, at a minimum, a hard wired PV production meter or meters 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 displays ("easy-read type") in watts or kilowatts for power and kilowatt-hours or megawatt-hours for energy. The energy metering data must be automatically stored independently of the inverter display. Examples include a separate utility-style meter. The energy value displayed should be the total production for the life of the system. Battery-based systems may require multiple energy meters to capture the net production considering the critical load panel, export to the grid, and import from the grid for battery charging.

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.

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. Incentives will not be paid for PV Systems that are installed prior to approval from NYSERDA, or for PV Systems that are not installed according to the design submitted to and approved by NYSERDA. When significant changes are made a new 3-line diagram must be included with the change order. Please be sure to use the NYSERDA Change Order Form.

4.3 Interconnection

The Eligible Installer and their "Contractor" are required to ensure that all approved PV Systems that are designed to be interconnected to the electric grid have an appropriate interconnection agreement that meets New York State Standard Interconnection Requirements. The Eligible Installer and their "Contractor" 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 installer and their "Contractor" 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 "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 "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.

5.0 APPLICATION PROCESS

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

5.1 Incentive Application Form or Expansion of Completed System Form

The Eligible Installer or their "Contractor" must submit all applications electronically, using the PowerClerk database. Use Attachment "B-1" only for the expansion of existing systems that have not exceeded the system size incentive cap, use Attachment "B" for all other new systems.

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, easy-to-read meter, customer name and address, and Eligible Installer name and number.

5.3 Photo

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 and PV recording meter.

5.4 Three-Line Drawing

A legible diagram using unique line characteristics and standard symbols to clearly describe the solar electric system as installed is required. The three lines to be shown are: hot or powered conductor(s), neutral conductor(s), and equipment grounding conductor(s). Each conductor's size and insulation type is to be shown, as well as the size and type of relevant raceway 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 devices, switches, inverters, batteries, electrical panels and other relevant equipment are to be shown, as applicable.

The 3-line 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 the PV recording meter, and 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 rating) and must be physically located at the opposite end of the bus from the main over current protection device.

5.5 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.

5.6 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. Please see Exhibit 15 under Attachment H for instructions on how to enter in Power Clerk.

5.7 Utility Bill

A copy of the customer's utility bill or other proof (for new construction applications) that the customer pays (or will pay, in the case of new construction) the Renewable Portfolio Standard/System Benefits Charge must be included. The site address on the utility bill must match the installation site address on the Incentive 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.

5.8 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.

5.9 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 http://www.dec.ny.gov/permits/357.htm. 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

5.10 Customer Purchase Agreement

Each Incentive Application must be accompanied by a Customer Purchase Agreement and signed by the Customer and the "Contractor" NYSERDA may reject an Application for Incentives if it is received by NYSERDA more than (30) days from the date of the customer's execution of the Customer Purchase Agreement. The Customer Purchase Agreement (or sale contract) must incorporate an Attachment "E" Addendum to the Customer Purchase Agreement. Each Customer Purchase Agreement must include the following:

- Installation location; including town, street, and number, if applicable;

- Installation schedule (a realistic installation and interconnection schedule that takes into account NYSERDA and utility review requirements. For example, incentive applications should not have an expected installation date that does not include adequate time for NYSERDA to receive, review, and notify an Eligible Installer and the customer regarding the status or approval of an application;
- 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 approved NYSERDA Incentive;
- An explanation and estimate of any and all costs that the customer will incur associated with the development, installation, and commissioning of PV Systems that are not included in the Eligible Installer's price quote;
- Payment schedule;
- 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 must 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 in the form provided at Exhibit E, completed and signed by both the customer and the Eligible Installer.
- It is important that the Contractor has a direct relationship with the utility customer. Incentives and warranties must pass to the customer. As a participating Contractor, a Participation Agreement with NYSERDA enforces to Contractor to abide by the program rules.

5.11 Power Purchase Agreement (PPA) or Lease (if applicable)

Each Incentive Application must be accompanied by a Power Purchase Agreement or Lease, signed by the Customer and the "Contractor". NYSERDA may reject an Application for Incentives if it is received by NYSERDA more than (30) days from the date of the customer's execution of the Customer Purchase Agreement. The Maintenance Cost/Insurance line of Attachment B must be indicated. The Power Purchase agreement or Lease must incorporate an Attachment "E-1" Addendum to the Power Purchase agreement or Lease.

Each Customer Purchase Agreement must include the following:

- Installation location; including town, street, and number, if applicable;
- Installation schedule (a realistic installation and interconnection schedule that takes into account NYSERDA and utility review requirements. For example, incentive applications should not have an expected installation date that does not include adequate time for NYSERDA to receive, review, and notify an Eligible Installer and the customer regarding the status or approval of an application;

- 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 applicable incentives. The Lease or Power Purchase Agreement must reflect the entire amount of the approved NYSERDA Incentive;
- An explanation and estimate of any and all costs that the customer will incur associated with the development, installation, and commissioning of PV Systems that are not included in the Eligible Installer's price quote;
- Payment schedule;
- 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.
- Addendum to Power Purchase agreement or Lease in the form provided at Exhibit E-1, completed and signed by both the customer and the Eligible Installer.

6.0 QUALITY ASSURANCE AND COMPLIANCE

NYSERDA maintains the integrity of its PV Program through an independent Quality, Standards and Compliance (QSC) team which manages the quality assurance system for the PV 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 and the 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 typically conducted by a qualified independent third party chosen 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. If the customer accepts the attendance of the installer and contractor, a notice of the scheduled field inspections will be sent to both a week in advance. We will make an effort 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 PV 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 will be lowered to 30%.

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 PV Program requirements including applicable code.
Following the QA Field Inspection NYSERDA will produce a detailed report and determine whether the project fully complies with all program requirements and meets acceptable standards of workmanship. The report will be made available to the installer and contractor approximately 15 days after the inspection following an internal review and scoring by NYSERDA. 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.

6. 2 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 PV 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 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 PV 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 PV Program.

The complete details of the Participation Status and Review Process are stated in Article 6 of Attachment G: SOLAR PV PROGRAM PARTICIPATION AGREEMENT.

7.0 POST INSTALLATION PRODUCTION

7.1 Data Collection

The Eligible Installer / Contractor is responsible for submitting all meter readings to NYSERDA, regardless of who agrees to take the meter readings.

7.2 Submission to NYSERDA

Meter readings must be conducted by the installer or customer at least every six months and energy and power production data submitted directly into PowerClerk two times per year for three years for each installed system.

8.0 NYSERDA LOGO

8.1 Use of Logo

NYSERDA has very strict policies with regard to our logo. 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/en/About/Resources/Logo-Request.aspx.

9.0 OTHER FORMS AND INFORMATION