



## Solar PV Incentive Program Guidebook

Program Year 2011 (5/24/2011 through program end)  
Updated May 24, 2011

*Oncor's Solar PV Program is provided by Oncor Electric Delivery Company LLC (Oncor) as a part of its commitment to reduce energy consumption and demand. Frontier Associates and Clean Energy Associates implement the Solar PV Program as independent contractors. For more information, visit [www.takealoadofftexas.com](http://www.takealoadofftexas.com).*



# Solar PV Incentive Program Program Year 2011 Guidebook

Updated 5/24/2011

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## Note on this 5/24/2011 Update to the Solar PV Incentive Program Guidebook

This update to the Solar PV Program Guidebook reflects the addition of \$900,000 in new incentive funding in May 2011. It is published and available on the program website along with previous versions of the program guidebook so that changes can be easily identified. Key changes from the previous version include:

- **Program Incentive Budget:** The program incentive budget is increased by \$900,000. The additional incentive funds are to be initially allocated evenly to residential (\$450,000) and non-residential (\$450,000) customer classes.
- **Incentive Levels:** The additional incentive funds are to be offered at reduced incentive levels of \$2.00/watt-dc for residential customers and \$1.50/watt-dc for non-residential customers.
- **Program Rollout and Establishment of Queues:** The program implementer will take steps consistent with past practice to communicate the availability of additional funds, to award additional funds to projects currently in queue at the new incentive levels, and to begin accepting new applications for additional funds consistent with past practices.
- **Customer and Service Provider Limits:** The incentive limit per customer and per service provider shall be 20% of the total of each new incentive batch allocated to the program.
- **Open Season:** In order to maximize the probability that new program funds will be spent, the program implementer will maintain the limits presented above for approximately 30 days following each addition of new funds to the program. After this 30 day period, any funds that have not been reserved will be open to any customer class, and customer and service provider limits will be eliminated. However, maximum incentives awarded to a single project will be maintained (i.e., 10 kW residential and 100 kW non-residential). Each open season starting date will be posted on the program website.

Unless additional program changes are necessary (at the discretion of Oncor and the Solar PV Program team), this Program Guidebook will be applicable for any future incentive funding allocations beyond the current \$900,000 allocation. Details on future allocations will be posted on the program website.

## 1. Program Overview

### 1.a. Program Description

The Oncor Take a Load Off, Texas, Solar PV Program offers financial incentives for Oncor Electric Delivery customers who install eligible distributed solar energy generating equipment. This Guidebook presents program participation guidelines applicable to customers, Service Providers, and projects awarded on or after May 24, 2011. The customer participation process, in summary, is as follows:

1. Customers work with Service Providers to determine eligibility and define the technical specifications of a solar electric system suitable for their property.
2. The selected Service Provider completes an incentive application, submitting technical details of the proposed system to the Program Manager for review. The Program Manager reviews the incentive application, and either approves the application or informs the customer/Service Provider of the reasons for denial. Approvals indicate the incentive dollar amount reserved and the period of time the incentive reservation is valid.
3. The Service Provider constructs the proposed system, submits a final application form, and passes a program inspection (if selected for inspection). Oncor sends an incentive check directly to the customer or their selected Service Provider.

The Oncor Take A Load Off, Texas Solar PV Program is just one of many Oncor programs offering financial incentives, educational resources, and information on renewable energy systems, energy efficiency measures, and combined heat and power technologies. These programs are available to Oncor Electric Delivery customers, including residential customers, businesses, and schools. Information about these programs can be found at Oncor's website, [www.takealoadofftexas.com](http://www.takealoadofftexas.com).

### 1.b. Program Management and Contacts

For questions about the status of your Service Provider application or your project application, please contact:

Anne Castello  
acastello@frontierassoc.com  
(512) 372-8778 ext. 127

or

Cece Hyslop  
cece@cleanenergyassociates.com  
(800) 381-6552 ext. 103

For all other questions please contact the Program Manager:

Steve Wiese, Program Manager  
Oncor's Take a Load Off, Texas Solar PV Program  
1515 S Capital of Texas Highway, Suite 110  
Austin, Texas 78746  
(512) 653-9651  
[steve.wiese@cleanenergyassociates.com](mailto:steve.wiese@cleanenergyassociates.com)

Take A Load Off, Texas<sup>®</sup> is provided by Oncor Electric Delivery LLC as part of the company's commitment to reduce energy consumption and demand. Frontier Associates and Clean Energy Associates implement the Oncor Solar Photovoltaic Program as an independent contractor. For more information, visit [www.takealoadofftexas.com](http://www.takealoadofftexas.com).

For questions regarding Frontier Associates' and Clean Energy Associates' relationship to Oncor and the Take a Load Off, Texas Solar PV Program, you may contact Oncor's customer service department at (866) 728-3674 or [eecustinfo@oncor.com](mailto:eecustinfo@oncor.com).

## ***1.c. Program Changes***

This document is intended to provide a detailed and consistent reference on Solar PV Program design and implementation processes to market participants, but does not address every possible situation or complication which may arise during program implementation. When instances requiring clarification are identified, the Program Manager will attempt to provide guidance consistent with program intent as well as with higher level goals and priorities.

Oncor and the Solar PV Program Manager reserve the right to change program guidelines, processes, requirements, budgets, budget allocations and other program details at any time without prior notice to market participants.

## 2. Eligibility

### 2.a. Customers

For the purposes of this program, “customers” are defined as the entity with financial responsibility for paying the electric bill for the meter behind which the distributed solar energy equipment is to be installed.

Any customer served by Oncor Electric Delivery is eligible to participate in the program. Customers may receive incentives for new systems proposed for multiple points of service (i.e., locations with unique meter ESI-IDs). Each customer and point of service is eligible to participate in the program multiple times, subject to annual limitations set forth in this guidebook.



The map at right shows Oncor Electric Delivery’s service area in Texas. This map is provided for reference only, as customers located within this service territory may or may not receive electric service from Oncor Electric Delivery.

Oncor customers may be identified by either of two Electric Service Identifier numbers (ESI-ID) printed on their electric bill or meter as shown below. The ESI ID must include an Oncor company code.

#### Oncor ESI ID

10	<u>44372</u>	000	<u>1234567</u>	10	<u>17699</u>	000	<u>1234567</u>
Oncor company code			Premise ID#	Oncor company code			Premise ID#

### 2.b. Service Providers

All applications for program funding must be submitted by an eligible solar PV Service Provider. A list of eligible Service Providers will be made available on the program website and can be requested from the Program Manager. In order to be eligible to request funding in the program, Service Providers must:

- A. Carry liability insurance with the following coverages:
  - \$500,000 Combined Single Limit;
  - Bodily Injury and Property Damage/\$500,000 General Aggregate; and,
- B. Agree that only licensed electrical contractors & electricians will offer, perform, and permit all electrical work in accordance with applicable state and local requirements (see the Texas Department of Licensing and Regulation’s website at <http://www.license.state.tx.us/> for more information); and,

- C. Agree they have read the Program Guidebook and understand that it is the Applicant's responsibility to comply with all Program requirements, processes, policies and guidelines; and,
- D. Meet at least one of the eligibility requirements listed below:
- (1) The Applicant is a licensed Texas Electrical Contractor or Master Electrician who:
    - (a) Employs at least one full-time Texas-based employee who is currently certified by the North American Board of Certified Energy Practitioners (NABCEP) as a PV Installer (note: this is the NABCEP PV Installer certification, not the entry level certification also offered by NABCEP);
    - or,
    - (b) Employs at least one full-time Texas-based employee who has been determined by NABCEP to be eligible to sit for the NABCEP PV Installer exam (please see [www.nabcep.org](http://www.nabcep.org) for more details on eligibility requirements);
    - or,
    - (c) Employs at least one full-time Texas-based employee who has successfully completed at least 40 hours of PV installation training provided by a third party;
    - or,
    - (d) Is listed as a registered solar installer in any of the Texas utility-sponsored solar incentive programs administered by Frontier Associates and Clean Energy Associates (see <http://www.txreincentsives.com> for a current list).
  - or,
  - (2) The Applicant is not a licensed Texas Electrical Contractor or Master Electrician and:
    - (a) Employs at least one full-time Texas-based employee who is currently certified by the North American Board of Certified Energy Practitioners (NABCEP) as a PV Installer (note: this is the NABCEP PV Installer certification, not the entry level certification also offered by NABCEP).
    - or,
    - (b) Is listed as a registered Service Provider in any of the Texas utility-sponsored solar incentive programs administered by Frontier

Associates and Clean Energy Associates (see <http://www.txreincentives.com> for a current list).

All new Service Providers may be required to work through a probationary period prior to being listed on the program website. The probationary period will end and the Service Provider will be listed on the program website only after the Service Provider has completed at least one installation and passed the program inspection on the first attempt. Service Providers may be removed from the program if they do not complete at least one project in each program year.

Please note that it is the intention of the Program Manager to encourage (though not require) NABCEP PV Installer certification or an equivalent professional certification, and to require full compliance with all Texas electrical licensing requirements, by all Service Providers participating in the program.

In order to maintain eligibility to participate in the program, Service Providers must also meet ongoing quality control/quality assurance requirements detailed in Section 5, must attend a minimum number of technical training sessions offered by the Program Manager, and must attend periodic program update conference calls and webinars. Dates for the training/webinars can be found on the program website.

## ***2.c. Do-it-Yourself or Self-Installations***

Consumers who wish to install systems by themselves may do so only if they meet all eligibility requirements and become a registered Service Provider in the Program, or contract with a registered Service Provider who will apply for funding, oversee the installation and applicable permitting, and provide the required warranty. Service Providers are required by the Program to have a lead role in every project in order to promote safety and quality in the design and installation process, and to maintain consistency with Texas interconnection rules.

## ***2.d. Cities, Local Governments, School Districts and other Customers with Unique Purchasing Processes or Requirements***

Some eligible customers, such as large companies and government agencies such as municipalities and schools, may need to register their project and receive a letter confirming pre-approval of the requested incentive amount prior to selecting an eligible solar PV installation Service Provider. These customers may work directly with the Program Manager to submit an incentive reservation request on their behalf. In these cases, the Program Manager will act as a proxy Service Provider until the customer has selected a registered Service Provider; at that time, the project will be transferred to the registered Service Provider.

In general, the Program Manager will act as a proxy Service Provider for customers with unique purchasing processes or requirements as long as the customer:

- Demonstrates funding availability and appropriate authorization for the proposed project;
- Commits to using a registered Service Provider for the installation; and,

- Agrees to complete the installation within the applicable incentive reservation period.

## **2.e. Equipment and Installation**

### **Major Equipment (Modules, Inverters, Meters)**

Only new eligible solar photovoltaic equipment providing energy to the customer premise through an interconnection on the customer's side of the electric meter qualifies for incentives under this program.

NOTE: Oncor is not a manufacturer, supplier or guarantor of the PV system or Service Providers, and Oncor, whether by making available a list of registered Service Providers and equipment sources or otherwise, has not made and makes no representations or warranties of any nature, directly or indirectly, express or implied, as to performance of the Service Provider or reliability, performance, durability, condition or quality of the PV system selected and purchased.

#### **Photovoltaic Modules**

All installed photovoltaic modules must be new and certified to UL 1703 by a Nationally Recognized Testing Laboratory (NRTL) to ensure safety and reliability. Eligible modules must be warranted for at least 10 years to produce at least 90% of their rated power output, and for at least 20 years to produce at least 80% of their rated power output.

#### **Inverters**

All installed inverters, including micro-inverters, must be new and certified to UL 1741 standards by a Nationally Recognized Testing Laboratory (NRTL). When an inverter is integral to and wholly contained within a solar electric generator (PV module), the inverter shall not be required to be separately certified to UL 1741 if UL 1741 testing is performed as part of a full safety certification by a NRTL for the solar electric generator.

#### **AC Disconnect**

A visible, lockable, labeled, utility-accessible AC disconnect is required per Oncor's interconnection requirements. This disconnect must be a throw-type switch capable of creating a visible break between conductors when in the open position.

#### **Revenue-Grade Solar Meter**

All projects must include an electrical meter to measure the energy produced by the solar electric system. The solar meter must be certified to meet or exceed the applicable accuracy standards of ANSI C12.1-2008 or its equivalent. Meters shall be bi-directional and report net available/usable power for the purpose of REC creation (i.e. generation net of standby losses, transformer losses, and grid power utilized by the system for significant items such as tracking systems, etc.).

Note this is not the "inflow-outflow meter" owned by Oncor Electric Delivery and installed at the point of service demarcation. Note also that most currently-

available inverter-based metering does not meet the standard referenced above; however some inverters currently meet the standard, and more are expected.

## **Mounting Systems**

All installations shall utilize mounting/racking systems and hardware specifically designed for use with photovoltaic systems, incorporating rust and corrosion-resistant components and appropriately engineered to withstand anticipated structural and wind loading conditions. Custom mounting solutions may be necessary in some cases: in these cases, the proposed mounting system should be properly engineered and stamped drawings submitted to the Program Manager.

## **Minimum Performance Threshold**

To be eligible to receive an incentive payment, the estimated annual electrical energy output of a solar electric system, as modeled by PVWATTS and considering an appropriate factor for shading, must be at least eighty percent (80%) of the estimated annual energy output for an optimally-sited, unshaded system of the same DC capacity. Systems which do not meet the minimum performance threshold will not receive an incentive. For the purpose of this section, a system is defined as any DC string of modules feeding into an inverter.<sup>1</sup>

The estimated annual electrical energy output of an optimally-sited, unshaded system can be determined by selecting an appropriate location, entering the system capacity in kWdc, and accepting default parameters for tilt (latitude tilt), orientation (due south), and derating factor (0.77) into the National Renewable Energy Laboratory's PVWatts calculator, available online at [http://rredc.nrel.gov/solar/codes\\_algs/PVWATTS/](http://rredc.nrel.gov/solar/codes_algs/PVWATTS/).

The estimated annual electrical energy output of a proposed system shall be derived from PVWatts or equivalent software and shall consider separately the effects of tilt, orientation and shading on each array and/or string, as appropriate. The effect of shading shall be determined using a Solar Pathfinder or equivalent instrumentation. As a general rule, multiple shading measurements should be made along the lower or southern edge of an array, and/or at locations where shading is most prevalent.

Installations which do not meet the minimum performance threshold will not receive an incentive. Prorated incentives are not available. Service Providers are strongly discouraged from pursuing borderline systems, and are encouraged to contact program administrators and clearly document shading measurements whenever clarification or pre-approval is needed.

## **Interconnection**

All PV systems must be interconnected, at the customer's expense, to Oncor's electrical grid. The PV system must comply with current Oncor guidelines governing interconnection with Oncor's electric distribution system, and any subsequent revisions to these guidelines. Interconnection requirements for distributed generation systems are

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<sup>1</sup> Therefore, each "AC module" or module employing micro-inverters are considered a complete string, and each module must individually meet the minimum performance threshold.

defined by the Texas Public Utility Commission and current requirements are posted on Oncor's website. The Program Manager will work with Service Providers to communicate and distribute updates to these requirements as necessary.

## **Manufacturer's Instructions**

All equipment must be installed in accordance with manufacturer's instructions.

## **Ineligible Equipment**

Any solar electric systems that do not deliver energy to a building's electric distribution system are ineligible for participation. Portable systems, systems of a temporary nature, systems directly interconnected with the distribution or transmission system, and off-grid systems are not eligible for participation.

## **2.f. Warranties**

Eligible systems must be covered by an all-inclusive warranty for at least five years from the date of installation to protect the purchaser against component or system breakdown. The warranty must cover all major components of the system against breakdown or degradation in electrical output of more than 10% from their originally-rated electrical output during the five-year period. The manufacturer and Service Provider may provide the required warranty in conjunction, covering major system components and labor, respectively. An owner's manual, including warranty documentation, must be provided to the customer on completion of the installation.

## **2.g. Codes/Standards/Permits**

All PV system installations must obtain appropriate local building permits and pass all required local inspections. Work must be performed in accordance with all applicable federal, state, and local, codes and standards. All equipment must be installed in full compliance with the National Electric Code (NEC) and local ordinances.

## **2.h. Additional Considerations**

- **Incentive Assignments:** The incentive may be assigned by the customer to the Service Provider, equipment supplier, or other third party.
- **Other Restrictions:** Deed restrictions, homeowners associations, neighborhood covenants or local regulations must not prohibit the installation of solar photovoltaics on property.
- **Condominiums/joint ownership associations:**
  - Individual condominium owners applying must obtain Condominium Association permission.
  - Condominium Associations can apply under the commercial section of the incentive program, and must be connected to a commercial meter.
- **Apartments/rentals/leased properties:**
  - These qualify as commercial projects and must be under a single incentive application. Applicant must demonstrate project approval by building owner.
- **New construction:**

- The program encourages PV projects associated with new construction; however, Service Providers should be aware of special circumstances associated with these projects which may delay obtaining a funding reservation and/or final processing of the incentive check. The Program Manager is able to reserve funds for such projects only after a temporary ESI-ID has been established. A final check request may only be processed after a permanent ESI-ID has been established. Since establishment of a permanent ESI-ID is typically completed by the building owner after commissioning, and is largely outside the control of the Service Provider, Service Providers or others designated as incentive payment recipients may face significant delays in receiving incentive checks for new construction projects.

## 3. Incentive Design and Delivery

### ***3.a. Total Funding and Customer Classes***

For updated details on total funding levels, incentive requests and funding reservations, please see the Program Budget Status page of the program website at [www.txreincentives.com/opv/status.php](http://www.txreincentives.com/opv/status.php). The program budget status tables are updated on a weekly basis.

### ***3.b. Incentive Level***

The current incentive levels for the program are:

- \$2.00/watt (dc-stc) for installations by residential customers; and,
- \$1.50/watt (dc-stc) for installations by all other customers.

Incentives are calculated based on the total DC capacity of a solar electric system, determined by summing of the DC(stc) capacity of all modules installed.

The final incentive amount will be determined following verification of the installed system by an Oncor solar field inspector. Systems not meeting all program requirements, including the minimum design threshold requirement, are ineligible for incentives.

### ***3.c. System Size/Capacity Limits***

Systems less than 1 kW (dc-stc) capacity are not eligible for funding unless they are proposed for educational use by schools.

System size/capacity is limited by applicable rules regarding interconnection and net metering. Systems estimated to produce more energy on an annual basis (including both the proposed system and any existing system or systems already present) than is consumed by the customer at the interconnected meter are not eligible for incentives.

### ***3.d. Incentive Reservation/Payment Limits***

Incentive reservations/payments for systems installed by residential customers are limited to the applicable incentive level for a 10 kWdc system (i.e., \$20,000 for a 10 kWdc residential installation at the \$2.00/watt incentive level).

Incentive reservations/payments for systems installed by all other customers are limited to the applicable incentive level for a 100 kWdc system (i.e., \$150,000 for a 100 kWdc non-residential installation at the \$1.50/watt incentive level).

### ***3.e. Limits on Participation***

The table below summarizes limits on incentive reservations by customer class applicable to customers and Service Providers with multiple projects. The table entries indicate the maximum amount of available incentive funds that may be reserved by a single customer or Service Provider.

#### **Limits on Participation**

##### **Maximum Incentive per Project (per interconnected meter, per program year)**

Residential: \$20,000  
(@ \$2.00/watt incentive level)

Non-residential: \$150,000  
(@ \$1.50/watt incentive level)

##### **Maximum Incentive per Customer (multiple projects, per program year)**

All Customers: 20% of the total of each new incentive batch  
allocated to the program

##### **Maximum Incentive per Service Provider**

All Projects: 20% of the total of each new incentive batch  
allocated to the program

**Open Season:** In order to maximize the probability that new program funds will be spent, we will maintain the limits presented above for approximately 30 days following each addition of new funds to the program. After this 30 day period, any funds that have not been reserved will be open to any customer class, and customer and service provider limits will be eliminated. However, maximum incentives awarded to a single project will be maintained (i.e., 10 kW residential and 100 kW non-residential). Each open season starting date will be posted on the program website.

### ***3.f. First-Come, First-Served Policy***

Incentive funding is offered to eligible customers with complete applications on a first-come, first-served basis.

### ***3.g. Incentive Reservation Period***

All incentive reservations expire on the earlier of 6 calendar months after the date of acceptance, or December 7, 2011. The incentive reservation period is specified on the funding reservation letter. Any changes to this policy will be posted on the program website.

### ***3.h. Quarterly Milestone Reporting***

All projects greater than 10 kWdc will be required to demonstrate progress toward completing financing and construction on a quarterly basis. Failure to report quarterly or

to demonstrate progress in quarterly reports may result in termination of the incentive reservation.

### **3.i. Extensions**

Extensions will be limited through the end of the program (see 3.g.). To the extent extensions can be evaluated within the constraints described in 3.g., the existing criteria for granting extensions will continue to be used. These are as follows.

Extensions will be granted for residential projects only if the Service Provider requests an extension prior to the incentive reservation period's expiration date and provides documentation that construction is complete and utility interconnection and local permits have been applied for prior to the incentive reservation period's expiration date. If these conditions are not met, Service Providers will need to re-apply for incentive funding with a new application subject to funding availability at the time of reapplication.

Commercial/industrial and government/non-profit customers who cannot complete their project within the incentive reservation period may apply for an extension. Extension requests must be received before 5:00 PM on the expiration date, and must include detailed documentation regarding the reasons for the delay. Progressive documentation of issues to the Program Manager as they occur throughout the project will significantly improve the case for a project extension.

The Program Manager will consider extensions in cases where significant progress has been made toward completion of the project, and where the delay was unavoidable and unforeseeable at the time of the initial application. Approval of any extension will depend on the totality of circumstances related to reasonable progress toward each of the items listed below and the reason why the delay was unavoidable and unforeseeable as demonstrated through documentation provided with the extension request.

- a) Physical construction has started at the customer's site, which means that:
  - i. construction permits have been granted (where applicable);
  - ii. project are materials either onsite or in storage; and
  - iii. installation work has started;
- b) Irrevocable orders have been placed with the manufacturers of the major items of equipment (PV modules and inverters);
- c) Construction permits have been approved by the authority having jurisdiction (where applicable);
- d) Engineering and design work has been started and progressed to a significant degree;
- e) Material and/or equipment have been received from the manufacturer, and are either onsite or in storage.

If granted, the extension will be for a period no greater than 6 months. No additional extensions are permitted. If a project exceeds the extended deadline, the Service Provider will need to re-apply for incentive funding with a new application.

### ***3.j. Designation of Incentive Recipient***

Service Providers may designate the customer, themselves, or a manufacturer or supplier to receive the incentive payment. The designation of incentive recipient can be made as part of the initial application.

### ***3.k. Other Oncor Programs***

Participation in the Solar PV Program does not affect a customer's eligibility to participate in other Oncor energy efficiency/conservation programs.

## 4. Participation Process

### 4.a. Overview

The program utilizes several forms, including the Service Provider Information Form, Project Pre-Approval Application, and Final Application Form. These forms are typically provided to the Program Manager by registered Service Providers. The paper versions of some or all of these forms may be replaced with a web-based registration process during the 2010 program year.

### 4.b. Detailed Description of Process Steps

Participating in Oncor's Take a Load Off, Texas Solar PV Program consists of three main steps:

1. Service Provider registration;
2. Project pre-approval application; and,
3. Final application.

#### 1. Service Provider Registration

Only eligible and approved Service Providers may apply for incentive funding. Eligible Service Providers must apply for approval by filling out and submitting the Service Provider Information Form and by providing proof of eligibility to the Program Administrator. When this information is deemed to be complete, the Service Provider will be able to register projects for Pre-Approval. The Service Provider Information Form may be obtained from the program website or by contacting the Program Manager.

#### 2. Project Pre-Approval Application

Service Providers must fill out and submit a complete Project Pre-Approval Application for each proposed customer project, except in cases where the Program Manager acts as a proxy Service Provider for customers with unique purchasing processes or requirements (see section 2.b.).

The Program Manager will review each Project Pre-Approval Application to ensure eligibility of the proposed project, and availability of funding. If the project is determined to be eligible for participation and funding is available, the Program Manager will confirm pre-approval with a letter to the Service Provider providing a registration number and stating the pre-approved incentive amount and the incentive reservation period.

If the Project Pre-Approval Application is determined to be incomplete or the proposed project ineligible for participation, the Program Manager will inform the Service Provider of the deficiencies, and the Service Provider may modify and/or resubmit the Application. If insufficient funds are available in the program budget, the Program Manager will either hold the application until new funds are available within the existing program year or require the project to be resubmitted once the application period opens for the following year's program, subject to the following year's incentive levels and other terms and conditions.

### 3. Final Application

When construction is complete and all local inspections have been passed, the Service Provider must submit a Final Application to the Program Manager. The Final Application is used to document any differences from the Project Pre-Approval Application and to provide proof that the project has passed all required local inspections.

The Program Manager will review each Final Application for completeness and, in the case of projects which have changed in any way from what was submitted in the Project Pre-Approval Application, eligibility. A signed copy of the Interconnection Agreement is due with the Final Application.

Once determined to be complete and eligible, the Program Manager will select a sampling of projects for on-site inspection, and will work with the customer and/or Service Provider to schedule such inspections. The primary purpose of the program inspections will be to verify accuracy of the information submitted in the Final Application and to ensure the system is installed and operating in accordance with all program guidelines.

Projects that are not selected for inspection, or projects that are selected for and pass their program inspection, are then reported to Oncor for incentive check delivery. Customers or their designated check recipients should expect about 6-8 weeks for incentive check delivery after final approval.

#### ***4.c. Differences Between Pre-Approved and Final Applications***

The Final Application is used to identify changes between project specifications detailed in the Project Pre-Approval Application from those specified in the Final Application.

All changes in project specifications potentially trigger review of a project's eligibility to receive incentives and of the Interconnection Application, so Service Providers should clearly communicate any such changes in advance with the Program Manager to determine the effect, if any, on project eligibility and/or the customer incentive amount.

- Changes which decrease the total capacity of a project will reduce the incentive amount.
- Changes which increase the total capacity of a project may increase the incentive amount, but additional incentive funds are subject to availability at the time the Program Manager is notified of the change.

Again, Service Providers are encouraged to clearly communicate any such changes in advance with the Program Manager and Oncor interconnection staff to determine the effect, if any, on project eligibility and/or the customer incentive amount.

## **5. Quality Control / Quality Assurance**

### ***5.a. Offsite Pre-Inspections***

The Program Manager will perform pre-inspections on all projects for which a Project Pre-Approval Application has been submitted, provided that unreserved incentives remain. The pre-inspection will entail an off-site evaluation of the proposed site for the PV system to verify that the orientation and shading of the building are appropriate for adequate solar energy conversion. Depending on the situation, this evaluation will be performed using the satellite and street view applications of Google Maps or an equivalent online mapping service. It is expected that a remote evaluation using online mapping tools will be sufficient for the vast majority of pre-inspections. The data collected through the pre-inspection process will be combined with the system specifications submitted by the program applicant to produce the proper inputs for the modeling software, PV Watts v1, used to evaluate whether the proposed system meets minimum design threshold requirements.

### ***5.b. Post-Installation Inspections***

The second stage of measurement and verification will consist of post-installation inspections of approximately 50% of projects installed in the first year. Most projects will be randomly selected for inspection, but for large projects and projects installed by new Service Providers, the probability of inspection may be increased at the Program Manager's discretion. For the selected projects, the program inspector will perform a thorough inspection of the installed system within two weeks of installation. This post-installation inspection will serve to verify that the system has been installed as proposed in the application and that it conforms to the program guidelines and best practices as described in the program guidebook. The inspector will also conduct a real-time system performance test to check that the system performs at an acceptable level compared to its rated output. Finally, the inspector will verify that the solar meter is connected and functioning and record the meter reading at the time of inspection.

### ***5.c. Persistence Inspections***

The final stage of measurement and verification will be follow-up inspections of installed systems that have been in operation for at least one year. In each of years 2 through 5 of the program, at least 5% of the systems installed in all previous years will be inspected, as shown in the table below. All systems will be eligible for follow-up inspections, regardless of previous inspections. Real-time performance tests and solar meter readings will be performed to quantify system degradation and establish long-term energy production levels. The data gathered during these inspections will be used to tailor model inputs used in estimating demand and energy savings to reflect as accurately as possible the performance of systems installed under the program.

**Table 3: Inspection Sampling Rates**

<b>M&amp;V Activity</b>	<b>Inspection Sampling Rates, 2011 to program end</b>
Post-Installation Inspection	30%
Persistence Inspection	20%

### ***5.d. Inspection Failures***

Applicants with projects that are found to be unlikely to produce acceptable levels of solar energy conversion through the pre-inspection process will be notified of the issues regarding their project design and will be allowed to re-submit an application. The second application will be treated as a new application and no special treatment (i.e., holding their position in the order of applicants) will be given.

Applicants with projects that fail the post-installation inspections will have 1 month to correct the problems with the system and either submit evidence of correction or schedule a second inspection, at the Program Manager's discretion. Service Providers that fail to correct deficiencies in a timely manner may be removed from the program and/or be denied an incentive.

## 6. Service Provider Performance Standards

### *6.a. Service Provider Standing*

All service providers must maintain good standing with the Program. Service providers in good standing are defined as those:

- Who have attended all required service provider meetings, technical training sessions and other mandatory events;
- Whose three most recent installations subject to a program inspection have passed those inspections on the first attempt;
- Who have maintained and documented to the Program Manager proper and current licensure, certificates, insurance, and other eligibility requirements;
- Who have provided all required progress reports in a timely fashion;
- Who have completed more than 80% of approved projects within the applicable incentive reservation period; and,
- Who work in good faith with the Program Manager to resolve any customer disputes or complaints and to change business practices as appropriate to reduce the likelihood of future disputes or complaints.

Service providers who are not in good standing may have their service provider listing removed from the program website. They will be notified by the Program Manager of their status and will be required to work with the Program Manager to develop a plan to correct the problem(s). A lack of progress on this plan may lead to disqualification from the program.

### *6.b. Service Provider Disqualification*

All Service Providers are required to maintain proper licensure, certificates, insurance, and other eligibility requirements as listed in the Service Provider Participation Agreement and as required by law.

The Program Manager may also determine and maintain metrics of Service Provider performance which may be used to disqualify Service Providers from participation in the Onco Solar PV Program. Service Provider performance metrics include, but are not limited to:

- High rates of customer complaints handled by Program Management staff;
- Low rates of passing program inspections;
- Low rates of completing pre-approved projects within the incentive reservation period;
- Failure of the Service Provider to maintain regular attendance at technical training sessions and periodic program update conference calls and webinars.

## ***6.c. Dispute Resolution***

Unresolved disputes hurt the success of the program. In this respect, the overriding objective of all the participants in the Oncor Solar Incentive Program is to achieve 100% customer satisfaction and to satisfactorily resolve any and all disputes at the lowest level possible.

Disputes, concerns or complaints arising from customers should, in general, be addressed at the lowest level possible. Most of the time, this means the problem should be resolved between the Service Provider and customer.

Issues that cannot be addressed by the Service Provider and customer and are brought to the attention of the Program Manager may be addressed by the Program Manager. The Program Manager's first level response shall be to document the date and nature of the complaint and the specific details to include contact information; name address phone number and/or email and parties or programs involved. The Program Manager will maintain all contact and status records. This will open the issue; next an appropriate action step must be completed for it to be resolved and closed. The Program Manager shall be responsible to delegate or take action to resolve the issue within 2 weeks.

Disputes, concerns or complaints arising between Service Providers and the Program Manager shall follow a similar path. The Program Manager's first level response shall be to document the date and nature of the complaint and the specific details to include contact information; name address phone number and/or email and parties or programs involved. The Program Manager will maintain all contact and status records. This will open the issue; next an appropriate action step must be completed for it to be resolved and closed. The Program Manager shall be responsible to delegate or take action to resolve the issue within 2 weeks. Disputes that cannot be resolved or have future action agreed to by all parties during initial contact may be brought to the Oncor Energy Efficiency Program Manager.

## **7. Technical Training / Technical Assistance**

The Program Manager intends to provide and support technical training and technical assistance opportunities to Service Providers, local code officials, and potential customers. In addition, the Program Manager will host periodic program update conference calls for Service Providers and periodic customer information sessions for customers. Attendance by Service Providers at a minimum number of technical training and program update events is mandatory. Details of available training opportunities will be made available as they arise.

## 8. Additional Considerations

### ***8.a. Interconnection***

Service Providers should submit an Interconnection Application to Oncor once a proposed project has been approved for program funding. All Final Applications must contain a signed Interconnection Agreement.

### ***8.b. Metering for Distributed Renewable Generation***

Oncor is responsible for installing and maintaining metering equipment that tracks energy inflows (energy delivered from the distribution system to the customer) and outflows (energy delivered from the customer to the distribution system) on separate registers, in compliance with rules developed by the Public Utility Commission of Texas.

### ***8.c. Compensation for Energy Delivered to the Distribution System (Outflows)***

Oncor may not and does not engage in the purchase or retail sale energy inflows or outflows from any customers, including customers with distributed renewable generation. More information regarding Oncor's role in metering distributed renewable generation is available on the program website.

A customer's retail electric provider is responsible for retail sales of energy provided to the customer (inflows), and may contract with the customer for the purchase of energy provided to the distribution system by the customer (outflows). Customers should contact their retail electric provider for more information about the availability and terms of compensation for outflows. Additional information on retail electric providers offers for outflow is available at [www.powertochoose.com](http://www.powertochoose.com).

### ***8.d. Renewable Energy Credits***

Once operational, owners of distributed renewable generation systems may be eligible to earn, sell, and/or retire renewable energy credits in accordance with applicable laws and rules. AT THIS TIME, ONCOR RESERVES THE RIGHT TO CLAIM ALL RENEWABLE ENERGY CREDITS OR OTHER ENVIRONMENTAL CREDITS ASSOCIATED WITH PROJECTS RECEIVING ONCOR INCENTIVES UNDER THIS PROGRAM. Prior to Oncor's exercise of that right, customers may register their generating units and create solar renewable energy credits on a monthly basis.

### ***8.e. Tax Considerations***

Program participants should consult a tax professional regarding taxation and potential tax benefits of REC payments received, the eligibility of their installation for federal tax credits, treatment of incentive funds provided by Oncor, depreciation and all other tax matters.