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## Instructions for Completing Oncor's Interconnection Application For Solar PV Projects

Program Year 2009

*Take a Load Off, Texas<sup>SM</sup> is provided by Oncor Electric Delivery LLC as part of the company's commitment to reduce energy consumption and demand. For more information, visit [www.takealoadofftexas.com](http://www.takealoadofftexas.com).*

# 1. Definitions and Roles

**Interconnection Application:** A form and accompanying technical information regarding a proposed distributed generation system used by the utility to determine eligibility for interconnection. Oncor's form is titled "Application for Interconnection and Parallel Operation of Distributed Generation with the Utility System" and is attached to this document.

**Interconnection Agreement:** A contract between the interconnected customer and Oncor which enables interconnection of a distributed generation system and specifies the rights and obligations of each party.

**Service Provider:** A Service Provider participating in Oncor's Take a Load Off, Texas Solar PV Program.

**Customer:** A customer receiving electric delivery service from Oncor and participating in Oncor's Take a Load Off, Texas Solar PV Program.

**Oncor's Take a Load Off, Texas Solar PV Program "Solar PV Program":** A program offered by Oncor providing customer incentives for the installation of solar PV equipment.

**Oncor Distributed Resource Specialist:** The person assigned by Oncor to review, accept, and deny Interconnection Applications, and to issue Interconnection Agreements. The current Oncor Distributed Resource Specialist is:

Ken Brunkenhoefer  
Oncor Electric Delivery Company  
1601 Bryan Street, Rm 24-055E  
Dallas, TX 75201  
Phone 214.486.5547  
Fax: 214.812.3440  
[brunkenhoefer@oncor.com](mailto:brunkenhoefer@oncor.com)

**Solar PV Program Manager:** The point of contact for all matters pertaining to the Solar PV Program. The current Solar PV Program Manager is:

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

## 2. Coordination: Oncor and the Solar PV Program Manager

Oncor's Interconnection Application is required for all distributed generation projects. In the case of solar PV projects participating in Oncor's Solar PV Program, the Solar PV Program Manager acts as a conduit between the Solar PV Program and Oncor's Distributed Resource Specialist. With regard to the Interconnection Application, the process and information flow between the Service Provider, Solar PV Program Manager, and Oncor Distributed Resource Specialist is as follows (subject to change):

1. The Interconnection Application is a required element of the Solar PV Program's project pre-application step. The Service Provider fills out the Interconnection Application and submits it to the Solar PV Program Manager.
2. The Solar PV Program Manager checks the Interconnection Application for completeness.
  - a. If it is incomplete, the Solar PV Program Manager informs the Service Provider of any missing information, and the Service Provider may resubmit the Interconnection Application.
  - b. If complete, the Solar PV Program Manager forwards the Interconnection Application to Oncor's Distributed Resource Specialist.
  - c. Oncor's Distributed Resource Specialist reviews the information submitted.
  - d. If any issues are identified, the Oncor Distributed Resource Specialist contacts the Service Provider directly to resolve them.
  - e. Once all issues are resolved, the Oncor Distributed Resource Specialist:
    - i. Prepares an Interconnection Agreement and sends it to the Customer. A signed version of the Interconnection Agreement must be submitted to the Solar PV Program Manager as part of the final application step (see Step 5, below)
    - ii. Informs the Program Manager that the Interconnection Application has been accepted.
  - f. After receiving the Oncor Distributed Resource Specialist's acceptance of the Interconnection Application, and after review and acceptance of all other elements of the Service Provider's Project Pre-Application submittal, the Solar PV Program Manager issues a Pre-Approval Letter to the Service Provider referencing the customer, site location, reserved incentive amount, and reservation expiration date.
3. The Service Provider completes construction of the PV system and submits final application paperwork, which includes a signed copy of the Interconnection Agreement.
4. The Solar PV Program Manager receives the final application and forwards the signed Interconnection Agreement to the Oncor Distributed Resource Specialist. Upon determination that all other final application materials are in order, the Solar PV Program Manager completes the incentive process by scheduling an inspection (if the system is selected for inspection) and requesting the incentive check.

### 3. Completing the Interconnection Application

#### a. Customer Section

The top of the first page is used to gather information about the customer. It can be filled in by the customer or a customer's representative.

#### b. Generator Section

This section is used to gather information about the generating unit. Most requested data is available on inverter cut-sheets, or on inverter nameplates.

**Number of Units:** Enter the number of inverters installed.

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**Type:** For solar PV projects, this should always be "inverter".

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**Kilowatt Rating:** Enter the sum of the continuous power ratings of all the inverters installed.

**Kilovolt-Ampere Rating:** Enter "NA."

**Power Factor:** Enter the Power Factor rating from the inverter's cut sheet. Often this is listed as "Unity".

**Voltage Rating:** Enter the AC voltage output.

**Ampere Rating:** Enter the sum of the maximum current (amperage) ratings of all the inverters installed.

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**Do you plan to export power?** Enter "yes," even if the expected amount of export is small.

**If Yes, maximum amount expected:** Enter the total kWac of the PV system, assuming no other building loads are present.

**Pre-Certification Label or Type Number:** Enter "CEC" to indicate that the inverter is listed on the CEC website.

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**Normal Operation of Interconnection:** Enter "Parallel"

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**Has the generator Manufacturer supplied its dynamic modeling values to the Host Utility?** Enter "NA".

#### c. One-Line Diagram Requirements

A sample one-line electrical diagram is available. In general, electrical one-line diagrams should contain the following information:

- The customer name, address, electrical account ID, and meter number.
- Identification of a technical contact person (typically the Service Provider who prepared the one-line diagram).
- Identification of the following system components:

- Solar modules (make, model, #);
- Inverter(s) (make, model, #);
- Utility accessible, visible, lockable, labeled AC disconnect switch;
- Main service panel;
- Utility meter.
- Identification of the distance between the utility meter and the AC disconnect switch.
- Identification of placard language:
  - To be installed on the AC disconnect switch (required);
  - To be installed at or near the utility meter if the AC disconnect switch is not close to (within 10 feet) or clearly visible from that location;
  - Any other placard language, such as that for placards for utility transformers and other more complex, typically commercial, installations.

#### **d. Site Layout Sketch Requirements**

A sample site layout sketch is available. In general, site layout sketches should contain the following information:

- The customer name, addresses, electrical account ID, and meter number.
- Identification of a technical contact person (typically the Service Provider who prepared the one-line diagram).
- An overhead view of the property, with a directional indicator.
- The relative locations of the PV modules, inverter, AC disconnect switch, main service panel, utility meter and utility source (if overhead pole).
- The distances between the AC disconnect switch and the utility meter.

#### **e. Company and Customer Signatures**

The Company who prepared the Interconnection Application must identify itself; the Customer must sign the Interconnection Application.

#### **f. Authorized Release of Information List**

This section enables Oncor Distributed Resource Specialist to share information contained in the Interconnection Application with other entities for the purpose of application review. For example, if a Service Provider is working with separate engineering or construction companies who are also involved in the project, it might be helpful to list those contacts here.

#### **g. Solar, Wind, Renewable Information**

**Inverter UL-1741 Utility Interactive Rating:** Indicate whether your inverter(s) is rated to the UL-1741 utility interactive standard. This is a requirement of interconnection and the Solar PV Program.

**Visible Lockable Labeled AC Disconnect:** Indicate whether your layout sketch shows a visible lockable labeled AC disconnect.

**PV Modules:** List the make, model, and number of PV modules included in your installation.

## 6.3.2 Application for Interconnection and Parallel Operation of Distributed Generation with the Utility System

Return Completed Application to:

Oncor Electric Delivery Company  
Attention: Ken Brunkenhoefer  
1601 Bryan Street, Rm 24-055E  
Dallas, TX 75201

Customer's Name: \_\_\_\_\_

Address: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Telephone Number \_\_\_\_\_

Service Point Address: \_\_\_\_\_

Information Prepared and Submitted By: \_\_\_\_\_

(Name and Address) \_\_\_\_\_

Signature \_\_\_\_\_

The following information shall be supplied by the Customer or Customer's designated representative. All applicable items must be accurately completed in order that the Customer's generating facilities may be effectively evaluated by Company for interconnection with the utility system.

### GENERATOR

Number of Units: \_\_\_\_\_

Manufacturer: \_\_\_\_\_

Type (Synchronous, Induction, or Inverter): \_\_\_\_\_

Fuel Source Type (Solar, Natural Gas, Wind, etc.): \_\_\_\_\_

Kilowatt Rating (95 F at location) \_\_\_\_\_

Kilovolt-Ampere Rating (95 F at location): \_\_\_\_\_

Power Factor: \_\_\_\_\_

Voltage Rating: \_\_\_\_\_

Ampere Rating: \_\_\_\_\_

Number of Phases: \_\_\_\_\_

Frequency: \_\_\_\_\_

Do you plan to export power: \_\_\_\_\_ Yes \_\_\_\_\_ No

If Yes, maximum amount expected: \_\_\_\_\_

Pre-Certification Label or Type Number: \_\_\_\_\_

Expected Energizing and Start-up Date: \_\_\_\_\_

Normal Operation of Interconnection: (examples: provide power to meet base load, demand management, standby, back-up, other (please describe)) \_\_\_\_\_

One-line diagram attached: \_\_\_\_\_ Yes

Has the generator Manufacturer supplied its dynamic modeling values to the Host Utility? \_\_\_\_\_ Yes

[Note: Requires a Yes for complete application. For Pre-Certified Equipment answer is Yes.]

Layout sketch showing lockable, "visible" disconnect device: \_\_\_\_\_ Yes

\_\_\_\_\_  
[COMPANY NAME]

\_\_\_\_\_  
[CUSTOMER NAME]

BY: \_\_\_\_\_

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

**Authorized Release of Information List**

By signing this Application, Customer authorizes Oncor to release Customer's proprietary information to the following persons:

	Name	Phone Number	E-Mail Address
Owner / Customer			
Project Manager			
Electrical Contractor			
Consultant			

If Customer does not sign this Application, then Customer must authorize Oncor to release Customer's proprietary information to consultant or contractor. For residential Customers, that authorization may be provided in an e-mail communication or in hard copy. For commercial Customers, that authorization must be made on the Customer's business letterhead.

**Solar, Wind, Renewable Information**

Please indicate if the inverter has a UL-1741 utility interactive listing Yes \_\_\_ No \_\_\_

Please indicate if you layout sketch shows a "visible lockable labeled disconnect" : Yes \_\_\_ No \_\_\_

For distributed renewable generation customers with solar fuel sources please indicate the number of panels, wattage and manufacturer \_\_\_\_\_

Ken Brunkenhoefer  
Distributed Resource Specialist  
Oncor Electric Delivery  
1601 Bryan Street, Rm. 24-055E  
Dallas, Texas 75201

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