



Sheet 1

Electric Sample Form 79-1101
Application and Interconnection Agreement for Customers with Solar and/or Wind
Electric Generating Facilities of 30 kilowatts or

**Please Refer to Attached
Sample Form**

Advice Letter No: 3772-E
Decision No. D.08-06-011

Issued by
Jane K. Yura
Vice President
Regulation and Rates

Date Filed December 2, 2010
Effective January 1, 2011
Resolution No. _____



Net Energy Metering

Application and Interconnection Agreement for Customers with Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less ¹

Please note that this agreement does not constitute an application to any **rebate** and/or **incentive programs**. For more information on these programs and their specific applications, please contact PG&E by phone, or by email using the subject "solar energy" at smarter-energy@pge.com, 1-800-933-9555 (residential) or BusinessCustomerHelp@pge.com, 1-800-468-4743 (commercial/industrial).

For more information on the California Solar Initiative (CSI) or the New Solar Homes Partnership (NSHP), please go to www.pge.com where you will find information about the program, including the program handbook, reservation request forms with the program contract as well as a list of requirements, FAQ's and resources. For additional questions about the CSI or the NSHP, contact PG&E at solar@pge.com.

Project Identification Number _____(for PG&E's use only)

If you are applying for a CSI rebate, please check the appropriate box below and continue with this application

- I am also applying for a CSI rebate, and understand that I will have to apply for CSI rebates separately.
- I am also applying for a NSHP rebate, and understand that I will have to apply for the NSHP rebates separately.

Part I – Identifying the Generating Facility's Location and Responsible Parties

A. Applicability and Purpose:

This *NET ENERGY METERING APPLICATION AND INTERCONNECTION AGREEMENT FOR CUSTOMERS WITH SOLAR AND/OR WIND ELECTRIC GENERATING FACILITIES OF 30 KW OR LESS* ("Agreement") applies to electric rate schedule NEM, Net Energy Metering Service (NEM) for Customer-Generators ("Customer") who interconnect a solar and/or wind turbine electrical Generating Facility, or a hybrid system of both, with an aggregate capacity of 30 kilowatts (kW) or less that is located on Customer's premises, and that operates in parallel with Pacific Gas and Electric Company's ("PG&E") Distribution System.

The purpose of this Agreement is to allow Customer to interconnect with PG&E's Distribution System, subject to the provisions of this Agreement and PG&E's rate schedule NEM. Customer has elected to interconnect and operate its solar and/or wind electric Generating Facility in parallel with PG&E's Distribution System, primarily to offset part or all of the Customer's own electrical requirements at this service point. Customer shall comply at all times with this Agreement as well as with all applicable laws, tariffs and applicable requirements of the Public Utilities Commission of the State of California.

B. Description of Service (This Agreement is being filed for, check all that apply):

- A New NEM Generating Facility interconnection (at an existing service)
- For Physical Changes to an interconnected Generating Facility with previous approval by PG&E (adding PV panels, changing inverters/turbines or changing load and/or operations).
- A New interconnection in conjunction with a new service
 - An **Application for Service** must be completed. Additional fees may be required if a service or line extension is required (in accordance with PG&E Electric Rules 15 and 16). Please contact PG&E at 1-800-PGE-5000.
- An Interconnection under Direct Access (DA)
 - Customers applying for NEM who are served under **Direct Access** by an Energy Service Provider (ESP) must contact their ESP directly for information regarding the ESP's net energy metering program.
- An Interconnection under Community Choice Aggregation Service (CCA Service)
 - Customers applying for NEM who are served under Community Choice Aggregation Service by a Community Choice Aggregator (CCA) must contact their CCA directly for information regarding the CCA's net energy metering program.

¹ Automated Document, Preliminary Statement, Part A.

- An interconnected Generating Facility that never exports electricity to PG&E (load always exceeds generation)
 - For Customers with a non-exporting Generating Facility, Form 79-974 may be more appropriate. Form 79-974 may be found at www.pge.com/tariffs/pdf/E79-974.pdf

C. Customer Generating Facility Information - Where will the Generating Facility be installed?

Name shown on PG&E service account (Must Match Customer Name on PG&E Blue Bill)		Account Number	Meter Number (Meter Badge ID)
Street Address			
City	State	Zip	
Mailing Address			
City	State	Zip	
Business Phone	Home Phone	Fax	Email

D. Contractor Information (Must be completed even if Contractor will not serve as a PG&E contact).

Contractor		Company Name	
Mailing Address			
City	State	Zip	
Business Phone	Fax	Email	
<input type="checkbox"/> This contractor is to be used as PG&E contact and is authorized by Customer to receive confidential Customer information and act on behalf of Customer with respect to this agreement.			

E. Other Contact Information (This information is optional.)

Contact Person		Company Name	
Mailing Address			
City	State	Zip	
Business Phone	Fax	Email	
<input type="checkbox"/> This contact person is to be used as PG&E contact and is authorized by Customer to receive confidential Customer information and act on behalf of Customer with respect to this agreement.			

By checking the boxes above and signing this agreement, Customer authorizes PG&E to release information to the contact(s) named above regarding Customer's usage and billing information, Generating Facility location, size and operational characteristics as requested in the course of this interconnection process. PG&E is granted permission to share information with authorized recipients for a period of **three years** from the date this agreement is received by

Please complete this agreement in its entirety

PG&E. Contact(s) are also authorized to make changes to rates and metering arrangements which may result in charges to Customer. Should customer wish to select a different authorization period, Customer may utilize the "Authorization to Received Customer Information or Act on a Customer's Behalf", which may be found at: www.pge.com/includes/docs/pdfs/shared/newgenerator/solarwindgenerators/standardenet/customer_behalf_app.pdf

In addition, Customer authorizes PG&E to release to the California Energy Commission (CEC) information regarding Customer's facility, including customer name and Generating Facility location, size, and operational characteristics, as requested from time to time pursuant to the CEC's rules and regulations.

Part II – Requirements for Interconnection

In submitting this document, I the Customer, understand and agree to the following terms and conditions:

Permission to Interconnect

Customers must not operate their Generating Facility in parallel with PG&E's Distribution System until they receive written authorization for Parallel Operation from PG&E. Unauthorized Parallel Operation could result in injury to persons and/or damage to equipment and/or property for which the Customer may be liable.

Safe Operation of your Generating Facility

Notwithstanding any other provision of this Agreement, if at any time PG&E determines that either (a) the Customer's Facility, or its operation, may endanger PG&E personnel, or (b) the continued operation of the Customer's Facility may endanger the safe and reliable operation of PG&E's electrical system, PG&E shall have the right to disconnect the Facility from PG&E's system. Customer's Facility shall remain disconnected until such time as PG&E is satisfied that the unsafe condition(s) have been corrected.

Interconnections on PG&E's Secondary Network

Applications to interconnect systems located in San Francisco or Oakland may require additional analysis to determine whether or not their proposed installation is on PG&E's networked secondary system. Networked secondary systems are in place to provide heightened levels of reliability in densely populated areas and may affect the ability of PG&E to interconnect NEM customers. **Please contact Generation Interconnection Services at 415-972-5676 or email gen@pge.com if your proposed installation is in San Francisco where the zip code is 94102, 94103, 94104, 94105, 94107, 94108, 94109, 94111 or 94133 or in Oakland and where the zip code is 94607 or 94612.**

Meter Access

Following your bi-directional meter installation, your meter must be installed in a safe PG&E-accessible location and remain unobstructed by locked gates or pets. Additionally, meter access must be maintained at all times for meter reading and system maintenance. Any animals owned by the customer, including pet dogs, should not have access to these areas to avoid hindering PG&E service personnel, preventing them from completing their work. If your self contained meter is being utilized as the AC disconnect switch, the meter must be accessible at all times and can not be located within a residence or garage.

Document and Fee Requirements

Other Documents and/or Fees *may* be required and there may be requirements for interconnection in addition to the above list, depending on the specifics of the planned Generating Facility. Other approvals and/or other agreements may be needed for special PG&E programs or regulatory agency requirements.

Stale Agreements

If this agreement is still pending two years from its date of submittal and customer has not met all of the requirements, PG&E will close this application and Customer will be required to submit a new application should Customer wish to take service on Schedule NEM.

A. Agreement Package:

These documents are needed to ensure safe and reliable operation of PG&E's Distribution System and to confirm that Customer's interconnection has been performed in accordance with PG&E's tariffs. (Additional forms are available upon request by telephoning 415-972-5676, emailing gen@pge.com, or visiting PG&E's website at www.pge.com/standardnem). **Customers should not delay sending any part of the agreement package to PG&E.** As PG&E receives the documentation described in Sections (1) through (5) below, PG&E will begin to process the application.

Please complete this agreement in its entirety

Required Documents for New Applicants:

1. A completed copy of this **Agreement**. **Please note:** the Customer name (as identified in Part I, Section C) must be the same name as on the PG&E bill. In this Agreement, Customer will confirm their otherwise-applicable rate schedule (OAS), establishing how Customer's monthly usage or net generation will be charged/credited. Customer-initiated rate changes are governed in accordance with PG&E's Electric Rule 12.
2. A **single-line diagram** showing Customer's actual installation of his/her Generating Facility. The diagram must include the electrical rating and operating voltages of the significant electrical components such as the service panel, the disconnect switch (if required), inverters, all wind and/or photovoltaic generators, circuit breakers and other protective devices of the Generating Facility, the general location of the Customer's loads relative to the Generating Facility, and the interconnection with PG&E's Distribution System. The diagram must include the following information:

- a. A description and location of the visible, lockable **AC disconnect switch** if present.

Effective November 21, 2006, customers installing inverter-based systems will no longer be required to include an AC disconnect switch when the facility has a self-contained electric revenue meter (i.e. 0-320 amp socket-based meters or 400 amp K-based meters). This type of meter is used by 98% of all PG&E customers.

To accommodate this change while maintaining utility operating needs, the revenue meter, when appropriate, may be temporarily removed by PG&E to isolate the customer's generator from the electric distribution system. Removal of the revenue meter (due to an emergency or maintenance on PG&E's system) will result in loss of electrical service to the customer's facility or residence.

PG&E recommends that customers installing an inverter-based generator consider also installing an AC disconnect switch to facilitate maintenance of the customer's equipment (i.e. inverter, PV arrays, etc). The AC disconnect switch provides the additional benefit of allowing PG&E to isolate the customer's generator from the utility's Distribution System without having to interrupt service to the customer's facility or residence.

PG&E's AC disconnect requirement for Distributed Energy Resources (Distributed Generation) will continue to apply to:

- Inverter-based interconnections having a transformer-rated meter (i.e. all meter panels or switchboards employing the use of potential and current transformers).
 - Non-inverter based generators, including rotating or machine-based generators - irrespective of whether the service meter configuration is transformer-rated or self-contained.
- b. A description of the specific **inverter(s)** used to control the interconnection between PG&E and the Generating Facility, including rating, brand name, and model number. CEC-certified inverters¹ will pass the requirements for Simplified Interconnection per PG&E's Electric Rule 21. Non-certified units will require further study and may involve additional costs.
 - c. A complete description of the **generating equipment Customer plans to install**. If the Generating Facility includes photovoltaic panels, the description must include the manufacturer name, model number, number of panels, and the nameplate rating. If the Generating Facility includes a wind turbine, the description must include the manufacturer name, model number, number of turbines, and the nameplate rating. Only CEC-certified inverters and certified wind-turbine generators without separate inverters will pass the requirements for Simplified Interconnection. (See the PG&E website www.pge.com/gen or the CEC website at: www.consumerenergycenter.org/erprebate/equipment.html)
 - d. A description of how the power output from the inverter is connected to the **main service panel via a branch breaker**. The ampere rating of this branch breaker and the main service panel breaker must be compatible with the output rating of the Generating Facility. The output rating is computed based on the total nameplate rating of the inverter.
 - e. If such metering is required, a complete description of the **performance (generation output) meter and related equipment**. The description must include the meter manufacturer, model number and type (socket or panel), as well as any other relevant information (e.g., socket, panels, breakers, etc.). If instrument transformers are required, the description should include this information.

¹ The CEC's eligible inverter list can be found under the CSI heading at: www.consumerenergycenter.org/erprebate/equipment.html

3. Information regarding any existing **insurance coverage** (liability and/or property) for the Schedule-NEM Generating Facility location

Customer shall meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules of the California Public Utilities Commission regarding safety and reliability. A Customer with a solar or wind-turbine electrical generating system, or a hybrid system of both, that meets those standards and rules shall not be required to install additional controls, perform or pay for additional tests, or purchase additional liability insurance.

To the extent that Customer has currently in force property insurance and commercial general liability or personal liability insurance, Customer agrees that it will maintain such insurance in force for the duration of this Agreement in no less amounts than those currently in effect. Pacific Gas and Electric Company shall have the right to inspect or obtain a copy of the original policy or policies of insurance prior to commencing operation. As long as Customer meets the requirements of this section, Customer shall not be required to purchase any additional liability insurance.

I have insurance. I hereby certify that there is presently insurance coverage in the amount of \$_____ for the Schedule-NEM Generating Facility location.

Insuring Company's Name: _____

Insurance Policy # _____

I **do not** have insurance. I hereby certify that there is presently \$0 (zero) dollars of insurance for the Schedule-NEM Generating Facility location

4. A copy of the **final, signed, jurisdictional approval (building permit) for Customer's Generating Facility** from the local government entity with jurisdiction over the Customer's project. **Customer's agreement package will not be complete until PG&E receives this document.**

B. Internet Agreement Forms

If this Agreement has been completed electronically, it may be submitted to PG&E via e-mail or U.S. mail. Copies or forms requiring a signature, attachments or any applicable fees described in Part II must be mailed to PG&E at the address noted in Section IV (F), Notices.

Part III – General Facility and Rate Information

A. What applicable **Rate Schedule** have you selected for your NEM account (known as your "otherwise applicable rate schedule" or "OAS")?

RESIDENTIAL:

- E-1 – Non-Time-of-Use Residential Service
- E-6 – Residential Time-of-Use Service
- E-7 – Residential Time-of-Use Service²
- E-9 – Experimental Residential Time-of-Use for Low Emission Vehicle Customers³
- Other Residential rate schedule (_____) please enter

SMALL COMMERCIAL:

- A-1 – Small General Non-Time-of-Use Service
- A-6 – Small General Time-of-Use Service
- A-10 - Medium General Demand-Metered Service
- Other (_____)

Service Voltage Options – (circle one)	
<u>Primary</u>	<u>Secondary</u>
- circle A-10 option: <u>Time-of-Use</u> <u>Demand Only</u>	

AGRICULTURAL:

- AG-1 – Agricultural Power (circle rate option: A B)
- AG-R – Split-Week Time-of-Use Agricultural Power (circle rate option: A B D E)
- AG-V – Short-Peak Time-of-Use Agricultural Power (circle rate option: A B D E)
- AG-4 – Time-of-Use Agricultural Power (circle rate option: A B C D E F)

² E-7 and EL-7 are closed to all new customers.

³ If customer selects **Schedule E-9**, the **Experimental Rate for Low Emission Vehicles** as the otherwise-applicable rate, a **Schedule E-9 Application** will need to be completed and signed.

Please complete this agreement in its entirety

- AG-5 - Large Time-of-Use Agricultural Power (circle rate option: A B C D E F)
- Other (_____)

Historical electrical rate information may be found at: www.pge.com/nots/rates/tariffs/rateinfo.shtml, and current electric rate schedules may be found at: www.pge.com/tariffs/ERS.SHTML#ERS.

Depending on Customer's rate schedule and metering arrangement, an installation fee and/or reprogramming fee may be required to provide net energy metering.

Customers will be billed and will be expected to pay monthly for the non-energy charges (i.e., non-per-kilowatt-hour charges) that are due under Customer's OAS. In addition, Customer may (at his/her option) pay any amount for energy charges monthly, with the understanding that any and all payments will be reconciled at the completion of the true-up period. At the end of every twelve (12) billing cycles, or other reconciliation period as provided in Schedule NEM, Customer's charges will be totaled including: (1) any unpaid monthly non-energy charges, (2) the charge for any net-energy consumption as defined in rate Schedule NEM. Customer's total payments for the twelve (12) billing cycles or other reconciliation period as provided in Schedule NEM will then be subtracted from the total charges. Customer will then be billed for any balance due. In addition, PG&E Electric Rules and Rates, including but not limited to Electric Rules 2, 14, 15, 16, and 21, Schedule NEM, and Customer's OAS may apply.

For further information on understanding NEM billing, please go to the 'related docs' section of PG&E's Net Energy Metering website at: www.pge.com/standardnem.

B. Will this account be established in a new **subdivision?**

- Yes **If yes:** (a) who is the developer? _____
 (b) tract number? _____
 (c) name of the development? _____
 (d) please attach a list of lots/addresses included with this application
- No

C. Will an electric **vehicle recharging facility be included as part of the load at this location?**

- Yes **If yes,** will the vehicle recharging facility be separately metered from the residence?
 Yes (PV will serve: residence or recharging facility - *circle one*)
 No (PV will serve both residence and recharging facility)
- No

D. Expected **date of Project Completion and PG&E Receipt of Final, Signed-Off Building Permit for Generating Facility?**

Date: _____

E. Are there any other generators connected on this account?

- Yes **If yes,** specify what kind of generator _____
- No

F. Are there any possible meter access issues?

- Yes **If yes,** check all that apply:

<input type="checkbox"/> Locked Gate	<input type="checkbox"/> Meter located inside of facility/residence
<input type="checkbox"/> Unrestrained animal at meter or AC disconnect switch location	<input type="checkbox"/> Other (Please explain) _____
- No

G. Are you on a Demand Response program?

- Yes **If yes,** what program are you on? _____
- No.
 (for more information on PG&E's demand response programs see: www.pge.com/demandresponse)

Part IV – Description of the Generating Facilities Use additional sheets, if necessary.

Please complete this agreement in its entirety

A. AC Disconnect Switch (see Part II , Section A.2.a above for policy on disconnect switches)

List the AC disconnect switch that will be used at this Generating Facility (Enter "N/A" if not applicable).

Disconnect Switch Manufacturer	Disconnect Switch Model Number	Disconnect Switch Rating (amps)

B. Inverters interconnected with PG&E

List all the inverters that will be interconnected to PG&E.

Customers with non-standard inverters which do not meet the UL and IEEE requirements specified in Electric Rule 21, or Customers whose aggregate Generating Facility capacity exceeds 15% of the peak load on the distribution line section as described in Electric Rule 21 (Section I.6.) require a **Supplemental Review** which may entail a study, additional equipment, and/or other requirements.

No.	Inverter Manufacturer	Inverter Model Number	Inverter Nameplate Rating ⁴ kW (per unit)	Inverter CEC Rating kW (per unit)	Quantity of Inverters	Inverter Output Voltage	Single or Three phase?
1							
2							

C. Photovoltaic Generator Equipment

List the photovoltaic (PV) panel information requested below. If the panels are not all identical modules, list the total capacity connected to each inverter you listed above. (Please attach additional sheets if more space is needed.)

No.	PV Panel Manufacturer	PV Panel Model	PV Panel Nameplate Rating ⁵ kW (per unit)	PV Panel CEC Rating kW (per unit)	Quantity of PV Panels	Total Capacity ⁶ (kW)	Inverter number from (B.) above (1 or 2)
1							
2							

D. Wind Turbine Equipment

List the wind turbine information requested below. If there is more than one wind turbine of the same type, list the total capacity connected to each inverter you listed in B) above. Write NONE if the inverter is incorporated in the wind turbine and no inverter is required.

No.	Wind Turbine Manufacturer	Wind Turbine Model	Wind Turbine Nameplate Rating ⁶ kW (per unit)	Wind Turbine CEC Rating (kW) per unit	Quantity of Wind Turbines	Total Capacity (kW) ⁷	Turbine Output Voltage	Single or Three Phase	Inverter number from (B.) above (1 or 2)
1									

E. Service Panel Short Circuit Interrupting Rating

For systems larger than 10 kW, what is the short circuit interrupting rating (SCIR) rating of the service panel connected to this generating facility? _____

⁴ The inverter rating equals the nameplate rating, in kW. If there are more than one inverter of one type being installed, the inverter rating equals the nameplate rating of one unit of the model being installed.
⁶ For all generation equipment ratings, please use the nameplate rating found on the equipment or in the equipment specifications.
⁶ The total capacity is the pv panel (or wind turbine) rating times the quantity.

Please complete this agreement in its entirety

F. Notices - Mailing Instructions and Assistance:

When this agreement has been completed it should be mailed, along with the required attachments and any applicable fees, to:

PG&E'S P.O. BOX ADDRESS	PG&E'S STREET ADDRESS
Pacific Gas and Electric Company Attention: Generation Interconnection Services Mail Code N7L P.O. Box 770000 San Francisco, California 94177	Pacific Gas and Electric Company Attention: Generation Interconnection Services Mail Code N7L 245 Market St. San Francisco, California 94105

Phone calls and questions may be directed to the Generation Interconnection Services hotline at: 415-972-5676 or email gen@pge.com

G. Governing Law

This Agreement shall be interpreted, governed, and construed under the laws of the State of California as if executed and to be performed wholly within the State of California.

H. Term Of Agreement

This Agreement shall become effective as of the date of PG&E's issuance of the permission to operate letter after receipt of all applicable fees, required documents, and this completed Agreement. This Agreement shall continue in full force and effect until terminated by either Party providing 30-days prior written notice to the other Party, or when a new Customer takes service with PG&E operating this approved generating facility. This new Customer will be interconnected subject to the terms and conditions as set forth in Schedule NEM.

I. Governing Authority

This contract shall at all times be subject to such changes or modification by the Public Utilities Commission of the State of California as said Commission may, from time to time, direct in the exercise of its jurisdiction.

Customer Name (Please Print): _____

(Signature): _____ Date: _____

Title: _____

A copy of this signed agreement should be retained with the "Permission to Operate" letter to confirm project approval.