

PUBLIC UTILITIES COMMISSION  
505 Van Ness Avenue  
San Francisco CA 94102-3298



**Pacific Gas & Electric Company  
ELC (Corp ID 39)  
Status of Advice Letter 6270E  
As of August 24, 2021**

Subject: Modifications to Various Pacific Gas and Electric Company's Electric Rule 21 Filed Forms to Support the Consolidation of its "YourProjects" Generator Application and Service Plan Application Online Portals

Division Assigned: Energy

Date Filed: 07-23-2021

Date to Calendar: 07-28-2021

Authorizing Documents: None

<b>Disposition:</b>	<b>Accepted</b>
<b>Effective Date:</b>	<b>08-30-2021</b>

Resolution Required: No

Resolution Number: None

Commission Meeting Date: None

CPUC Contact Information:

[edtariffunit@cpuc.ca.gov](mailto:edtariffunit@cpuc.ca.gov)

AL Certificate Contact Information:

Kimberly Loo

415-973-4587

[PGETariffs@pge.com](mailto:PGETariffs@pge.com)

**PUBLIC UTILITIES COMMISSION**  
505 Van Ness Avenue  
San Francisco CA 94102-3298



To: Energy Company Filing Advice Letter

From: Energy Division PAL Coordinator

Subject: Your Advice Letter Filing

The Energy Division of the California Public Utilities Commission has processed your recent Advice Letter (AL) filing and is returning an AL status certificate for your records.

The AL status certificate indicates:

- Advice Letter Number
- Name of Filer
- CPUC Corporate ID number of Filer
- Subject of Filing
- Date Filed
- Disposition of Filing (Accepted, Rejected, Withdrawn, etc.)
- Effective Date of Filing
- Other Miscellaneous Information (e.g., Resolution, if applicable, etc.)

The Energy Division has made no changes to your copy of the Advice Letter Filing; please review your Advice Letter Filing with the information contained in the AL status certificate, and update your Advice Letter and tariff records accordingly.

All inquiries to the California Public Utilities Commission on the status of your Advice Letter Filing will be answered by Energy Division staff based on the information contained in the Energy Division's PAL database from which the AL status certificate is generated. If you have any questions on this matter please contact the:

Energy Division's Tariff Unit by e-mail to  
**[edtariffunit@cpuc.ca.gov](mailto:edtariffunit@cpuc.ca.gov)**

July 23, 2021

**Advice 6270-E**

(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

**Subject: Modifications to Various Pacific Gas and Electric Company's Electric Rule 21 Filed Forms to Support the Consolidation of its "YourProjects" Generator Application and Service Plan Application Online Portals**

**Purpose**

The purpose of this advice letter is to modify Pacific Gas and Electric Company's (PG&E) Rule 21 Filed Forms (the first 7 are attachments to California Public Utilities Commission (CPUC) Filed Form [79-1174-02](#) – PG&E's *Rule 21 Generator Interconnection Application*).

- 1) **79-1174-02A** - Interconnection Application Attachment A Customer and Project Information
- 2) **79-1174-02B** - Interconnection Application Attachment B Non-Export
- 3) **79-1174-02D** - Interconnection Application Attachment D Solar (PV) Technology
- 4) **79-1174-02E** - Interconnection Application Attachment E Wind Turbine Technology
- 5) **79-1174-02F** - Interconnection Application Attachment F Machine-Based Technology
- 6) **79-1174-02G** - Interconnection Application Attachment G Fuel Cell Technology
- 7) **79-1174-02H** - Interconnection Application Attachment H Energy Storage Technology
- 8) **79-1151B** Application Net Energy Metering Interconnection for Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts or Less
- 9) **79-1151B-02** Application Net Energy Metering (NEM2) Interconnection for Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts or Less

The changes are being made to improve and consolidate PG&E customer generator application, and service planning, web portals into a new portal called **YourProjects**.<sup>1</sup>

---

<sup>1</sup> The "YourProjects" portal was initially referred to as "Smart Connect."

The net effect would be to simplify and improve applicants' experience when applying to interconnect with PG&E. In addition to the above changes, PG&E would like to "retire" Form 79-1174 (and all its associated attachments). Form 79-1174 has been superseded by 79-1174-02.

### **Background**

CPUC Decision (D.) 14-11-001<sup>2</sup> in its background notes:

The California Solar Initiative (CSI) application process currently collects valuable data about customer-sited solar photovoltaic systems. As the CSI incentive funds are depleted, an increasing share of customer-sited renewable generation facilities will be installed without going through the CSI application process.

D. 14-11-001 went on to order to collect the additional interconnection data required fields once collected as a part of the California Solar Initiatives (CSI) program and notably, also orders "the utilities that have not done so to establish an online NEM application process."<sup>3</sup>

On October 5, 2015 PG&E submitted Advice Letter (AL) 4718-E,<sup>4</sup> which created a new application form 79-1174 with numerous attachments that were specific to programs and/or generation technologies.

As noted in AL 4718-E,

*"The new application Form (Form 79-1174) includes a set of 14 attachments that reflect the new online process that will be used to (i) comply with Decision (D.) 14-01-001 Ordering Paragraphs (OP) 6 and 7, and (ii), simplify and standardize the application process for customers, installers and PG&E. The new form and attachments were distilled from the various existing forms. While the combined application form covers many different interconnection types, applicants will only be required to enter the data for their specific application. This is an improvement on the existing forms, which covers numerous possibilities that the applicant must sift through themselves..."*

A subsequent supplemental Advice Letter 4718-E-A was submitted addressing additional changes and rendered effective November 2, 2015.

---

<sup>2</sup> [D. 14-11-001](#) (R.12-11-005) *Decision to Transfer Responsibility for Collecting Solar Statistics from The California Solar Initiative to The Net Energy Metering Interconnection Process* - Date of Issuance 11/13/2014

<sup>3</sup> D. 14-11-001 p2. Also see OP 6 and 7.

<sup>4</sup> [AL 4718-E](#) and [AL 4718-E-A](#) *Revisions to Interconnection Application Forms to Implement and Enhance the Online Application Process, in Part to Comply with Decision 14-01-001* [sic, should be D.14-11-001] Advice Letter 4718-E-A was made effective November 2, 2015.

Later, the NEM successor tariffs (e.g., NEM2, NEM2V, NEM2VMASH) were ordered to be created in D. 16-01-044. In response to the requirements of D. 16-01-044, PG&E submitted AL 4802-E.<sup>5</sup> Form 79-1174 was revised and renumbered to 79-1174-02 to accommodate the extensive changes made to the NEM program (e.g., generator > 1 megawatt).

Other subsequent changes or updates were made to Form 79-1174-02 in later advice letter submissions to reflect in program changes (e.g. for storage, rate schedule NEMFC).

The changes in this Tier 2 advice letter is being submitted reflect PG&E initiative to further simplify the application process by consolidating its SNEM<sup>6</sup>, ACE-IT<sup>7</sup> and CCO<sup>8</sup> portals along with PG&E's service planning online application portals named **YourProjects**. Advantages anticipated by PG&E's new **YourProjects** portal include:

- One-stop shop for load and solar interconnection applications, including the ability to run interconnection application processes in parallel, thus reducing cycle-time (e.g., for subdivisions, parallel battery load storage).
- Intuitive and dynamic form population of certain application data, reducing clicks and erroneous entries.
- New ability to save, and later resume, an application, available for all interconnection program type applications.
- Self-service ability for applicant to see application status, down to the task level on all their projects as well as see any outstanding defects or deficiency letters, thereby reducing the need to call PG&E's contact center.

---

<sup>5</sup> [AL-4802-E](#) - *Implementation of Commission Decision 16-01-044 Creating Pacific Gas and Electric Company's New Net Energy Metering Successor Rate Schedules NEM2, NEM2V, and NEM2VMASH, and Various Associated Filed Forms, and Modifying of Electric Rule 21.*

<sup>6</sup> The SNEM (or Standard Net Energy Metering) application portal is for solar and/or wind net energy metering (Schedule NEM upgrades and Schedule NEM2) projects 30 kw or less. This portal is the most active by programing count, with about 6000 applications received per month.

<sup>7</sup> The ACE-IT (or Application Configuration & Eligibility Interconnection Tool) application portal is for other NEM project types not applicable to the SNEM tariff and other program (e.g., larger NEM2, NEMFC, storage, RES-BCT, non-export Rule 21, etc.) interconnections under Rule 21.

<sup>8</sup> The CCO portal (or Customer Connections Online) application portal is for New Service Installations, Temporary Construction Power, Service Relocations/Rearrangements, New Streetlight Services, and certain other large Electric Generation Interconnection Requests.

- New *DocuSign*<sup>9</sup> capabilities available for all programs requiring an Advanced Authorization (A & A) (to authorize a contractor to act on a customer's behalf).
- New 'Actions Tab', for the portfolio, to help highlight defects on a per application level.
- Financial security due date tracking capability.

Note, that not all the functionality outlined above may not be available during the upcoming release, but it is anticipated to be fully realized in the subsequent release.

### **Tariff Changes**

The changes proposed in the Filed Forms, include but are not limited to the following:

- Adds functionality and logic to support in the online applications process.
- Updates Non-Export option selection, as described in changes due to ongoing Working Group 2/3 discussions with stakeholders/IOUs.
- Adds limited export" questions (related to the deployment of Power Control Systems (PCSs), relays, or derated inverters).
- Revisions related to back-up generator interconnections, with additional questions related to the nature of the control device being used (e.g., ATS, contactor, or breaker).
- Adds questions to confirm adherence to PG&E Distribution Interconnection Handbook and Greenbook standards.
- Updates to PG&E's online application portal weblinks from the current ACE-IT link, to a new **YourProjects** weblink. (i.e., Forms 79-1174-02A, 79-1151B, and 79-1151B-02).

The forms changing are:

- 1) 79-1174-02A - Interconnection Application Attachment A Customer and Project Information
- 2) 79-1174-02B - Interconnection Application Attachment B Non-Export
- 3) 79-1174-02D - Interconnection Application Attachment D Solar (PV) Technology
- 4) 79-1174-02E - Interconnection Application Attachment E Wind Turbine Technology
- 5) 79-1174-02F - Interconnection Application Attachment F Machine-Based Technology

---

<sup>9</sup> A registered trademark of DocuSign Inc.

- 6) 79-1174-02G - Interconnection Application Attachment G Fuel Cell Technology
- 7) 79-1174-02H - Interconnection Application Attachment H Energy Storage Technology
- 8) 79-1151B - Application Net Energy Metering Interconnection for Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less
- 9) 79-1151B-02 - Application Net Energy Metering (NEM2) Interconnection for Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts or Less

### **Protests**

**\*\*\*Due to the COVID-19 pandemic, PG&E is currently unable to receive protests or comments to this advice letter via U.S. mail or fax. Please submit protests or comments to this advice letter to EDTariffUnit@cpuc.ca.gov and PGETariffs@pge.com\*\*\***

Anyone wishing to protest this submittal may do so by letter sent via U.S. mail, facsimile or E-mail, no later than August 12, 2021, which is 20 days after the date of this submittal. Protests must be submitted to:

CPUC Energy Division  
ED Tariff Unit  
505 Van Ness Avenue, 4<sup>th</sup> Floor  
San Francisco, California 94102

Facsimile: (415) 703-2200  
E-mail: EDTariffUnit@cpuc.ca.gov

Copies of protests also should be mailed to the attention of the Director, Energy Division, Room 4004, at the address shown above.

The protest shall also be sent to PG&E either via E-mail or U.S. mail (and by facsimile, if possible) at the address shown below on the same date it is mailed or delivered to the Commission:

Sidney Bob Dietz II  
Director, Regulatory Relations  
c/o Megan Lawson  
Pacific Gas and Electric Company  
77 Beale Street, Mail Code B13U  
P.O. Box 770000  
San Francisco, California 94177

Facsimile: (415) 973-3582  
E-mail: PGETariffs@pge.com





# ADVICE LETTER SUMMARY

## ENERGY UTILITY



MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No.: Pacific Gas and Electric Company (ID U39E)

Utility type:

- ELC       GAS       WATER  
 PLC       HEAT

Contact Person: Kimberly Loo

Phone #: (415)973-4587

E-mail: PGETariffs@pge.com

E-mail Disposition Notice to: KELM@pge.com

EXPLANATION OF UTILITY TYPE

ELC = Electric      GAS = Gas      WATER = Water  
 PLC = Pipeline      HEAT = Heat

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #: 6270-E

Tier Designation: 2

Subject of AL: Modifications to Various Pacific Gas and Electric Company's Electric Rule 21 Filed Forms to Support the Consolidation of its "YourProjects" Generator Application and Service Plan Application Online Portals

Keywords (choose from CPUC listing): Compliance, Rule 21

AL Type:  Monthly  Quarterly  Annual  One-Time  Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #:

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL: No

Summarize differences between the AL and the prior withdrawn or rejected AL:

Confidential treatment requested?  Yes  No

If yes, specification of confidential information:

Confidential information will be made available to appropriate parties who execute a nondisclosure agreement. Name and contact information to request nondisclosure agreement/ access to confidential information:

Resolution required?  Yes  No

Requested effective date: 8/30/21

No. of tariff sheets: 13

Estimated system annual revenue effect (%): N/A

Estimated system average rate effect (%): N/A

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: See Attachment 1

Service affected and changes proposed<sup>1</sup>: N/A

Pending advice letters that revise the same tariff sheets: N/A

<sup>1</sup>Discuss in AL if more space is needed.

**Protests and all other correspondence regarding this AL are due no later than 20 days after the date of this submittal, unless otherwise authorized by the Commission, and shall be sent to:**

CPUC, Energy Division  
Attention: Tariff Unit  
505 Van Ness Avenue  
San Francisco, CA 94102  
Email: [EDTariffUnit@cpuc.ca.gov](mailto:EDTariffUnit@cpuc.ca.gov)

Name: Sidney Bob Dietz II, c/o Megan Lawson  
Title: Director, Regulatory Relations  
Utility Name: Pacific Gas and Electric Company  
Address: 77 Beale Street, Mail Code B13U  
City: San Francisco, CA 94177  
State: California Zip: 94177  
Telephone (xxx) xxx-xxxx: (415)973-2093  
Facsimile (xxx) xxx-xxxx: (415)973-3582  
Email: [PGETariffs@pge.com](mailto:PGETariffs@pge.com)

Name:  
Title:  
Utility Name:  
Address:  
City:  
State: District of Columbia Zip:  
Telephone (xxx) xxx-xxxx:  
Facsimile (xxx) xxx-xxxx:  
Email:

<b>Cal P.U.C. Sheet No.</b>	<b>Title of Sheet</b>	<b>Cancelling Cal P.U.C. Sheet No.</b>
50661-E	Electric Sample Form 79-1151B APPLICATION Net Energy Metering Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less Sheet 1	48632-E
50662-E	Electric Sample Form No. 79-1151B-02 Application - Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less Sheet 1	48633-E
50663-E	Electric Sample Form No. 79-1174-02A Rule 21 Generator Interconnection Application - Attachment A Sheet 1	49769-E
50664-E	Electric Sample Form No. 79-1174-02B Rule 21 Generator Interconnection Application - Attachment B Sheet 1	49268-E
50665-E	Electric Sample Form No. 79-1174-02D Rule 21 Generator Interconnection Application - Attachment D Sheet 1	49270-E
50666-E	Electric Sample Form No. 79-1174-02E Rule 21 Generator Interconnection Application - Attachment E Sheet 1	49271-E
50667-E	Electric Sample Form No. 79-1174-02F Rule 21 Generator Interconnection Application - Attachment F Sheet 1	49272-E
50668-E	Electric Sample Form No. 79-1174-02G Rule 21 Generator Interconnection Application - Attachment G Sheet 1	49273-E
50669-E	Electric Sample Form No. 79-1174-02H Rule 21 Generator Interconnection Application - Attachment H Sheet 1	49274-E
50670-E	ELECTRIC TABLE OF CONTENTS Sheet 1	50656-E
50671-E	ELECTRIC TABLE OF CONTENTS Sheet 24	50637-E
50672-E	ELECTRIC TABLE OF CONTENTS Sheet 25	50638-E
50673-E	ELECTRIC TABLE OF CONTENTS Sheet 28	50640-E



**Electric Sample Form 79-1151B**

Sheet 1

APPLICATION

Net Energy Metering Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30  
Kilowatts Or Less

**Please Refer to Attached  
Sample Form**





# APPLICATION

## Net Energy Metering Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

### Part I – Generating Facility Information and Responsible Parties – Continued

**E. Contractor Information** (List who is installing the system):  Check this box if self-installed

Company Name	California Contractors State License Number
Company Address	Phone Number
Email	

**F. Preparer of this Application** (if not the PG&E Customer, the Preparer must be authorized to act on behalf of the Customer on the Interconnection Agreement and Customer Authorization Form 79-1151A):

Company Name	Preparer Name	Date Prepared
--------------	---------------	---------------

**G. Customer Impacted by a Natural or Man-Made Disaster**

Customers who were taking service on the NEM tariff prior to the total or partial destruction of their system have the option to resume service on the same NEM tariff if a request for reapplication is received within two years from the date of destruction. To be eligible for this provision, all the following must be true:

1. You are the same PG&E customer of record pre-system destruction
2. You are now reapplying with a system that is sized to your most recent 12 months usage, or estimated usage that is determined by building size<sup>1</sup> (if applicable)
3. You are not operating the new (either completely new or partially new) system without written permission from PG&E
4. Your NEM Transition Period has not expired at the time of reapplication (see NEM Tariff)

Based on the above, select the appropriate box (check one):

I am a Customer who was impacted by a Natural or Man-Made Disaster as described in the NEM Tariffs and the above statements are true. I will submit my application online at [yourprojects.pge.com](http://yourprojects.pge.com) and will include the complete system currently onsite on the single line diagram. If my previous system was destroyed, I will also state this on the single line diagram.

I am either ineligible for this provision or this provision does not apply to my application. In either case, I will submit my application online at [yourprojects.pge.com](http://yourprojects.pge.com).

### Part II – Description of the Generating Facilities

**A. Variances from Distribution Interconnection Handbook (DIH) and Greenbook Requirements** (check one):  
Generating Facilities must meet the DIH and Greenbook requirements, available at [www.pge.com/dih](http://www.pge.com/dih) and [www.pge.com/greenbook](http://www.pge.com/greenbook). A Variance Request must be submitted with the application for deviations, i.e. line-side tap, AC Disconnect > 10 ft from PG&E meter. (See Part III Section B for information on submitting Variance Request)

- The project meets the DIH and Greenbook Requirements and does not require a Variance Request.
- The project deviates from the DIH and Greenbook Requirements and I will include a Variance Request.

<sup>1</sup>Building Size Calculation: Sq Ft X 3.23. Note: 2 watts/sq ft x 1/1,000 watts x 8,760 hrs/yr x 0.19 solar capacity factor = 3.32



# APPLICATION

## Net Energy Metering Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

Note: Customers with Non-certified inverters or whose aggregate Generating Facility capacity exceeds 15% of the peak load on the distribution line section (or do not meet other Initial Review screens as described in Electric Rule 21) require a Supplemental Review which may result in further study, additional equipment, and/or other requirements. Customers will be notified if a Supplemental Review is required.

### Part II – Description of the Generating Facilities – Continued

#### B. Photovoltaic (PV) Generating Facility Information

To avoid application processing delays, the manufacturer and model numbers provided should be the same as they appear on the Go Solar California website: [http://www.gosolarcalifornia.ca.gov/links/equipment\\_links.php](http://www.gosolarcalifornia.ca.gov/links/equipment_links.php).

**B.1 Mounting Method:**     Rooftop     Ground     Mixed

**B.2 Tracking Type:**     Fixed     Single-Axis     Dual-Axis     Mixed

If fixed,  
please indicate:

Tilt: \_\_\_\_\_ degrees    Azimuth: \_\_\_\_\_ degrees

**B.3 Are Performance Monitoring and Reporting Services (PMRS) being utilized?**     Yes     No

Who is receiving the data (check all that apply):     Customer

Third Party (list name) \_\_\_\_\_

#### B.4 Photovoltaic Generator 1:

Inverter Manufacturer	Model Number	Nameplate Rating kW/unit	CEC <sup>B</sup> Rating kW/unit	Output Voltage	1 or 3 Phase	Qty
PV Panel Manufacturer	Model Number	Nameplate Rating kW/unit	PTC <sup>C</sup> Rating kW/unit	Total Nameplate Capacity kW		Qty

#### B.4 Photovoltaic Generator 2:

Inverter Manufacturer	Model Number	Nameplate Rating kW/unit	CEC Rating kW/unit	Output Voltage	1 or 3 Phase	Qty
PV Panel Manufacturer	Model Number	Nameplate Rating kW/unit	PTC Rating kW/unit	Total Nameplate Capacity kW		Qty

<sup>A</sup> California Energy Commission (CEC) ratings are available at [www.consumerenergycenter.org](http://www.consumerenergycenter.org)

<sup>C</sup> PTC: PVUSA Test Conditions. PTC ratings are available at [www.consumerenergycenter.org](http://www.consumerenergycenter.org)

**Please complete this agreement in its entirety**



# APPLICATION

## Net Energy Metering Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

**C. Wind Turbine Generating Facility Information**

Check this box if the inverter is incorporated in the wind turbine. Then complete the Wind Turbine information below and identify the following: Output Voltage: \_\_\_\_\_(volts); Phase Type:  1  3

**Part II – Description of the Generating Facilities – Continued**

Inverter Manufacturer	Model Number	Nameplate Rating kW/unit	CEC Rating kW/unit	Output Voltage	1 or 3 Phase	Qty
Wind Turbine Manufacturer	Model Number	Nameplate Rating kW/unit	CEC Rating kW/unit	Total Nameplate Capacity kW		Qty

**D. AC Disconnect Switch**

Check this box if no A/C Disconnect Switch is applicable. See Part III, Section C for requirements.

AC Disconnect Manufacturer	Model Number	Rating (amps)	Qty

If applicable, is/are the AC Disconnect(s) less than 10 ft. of the PG&E electric meter?  Yes  No

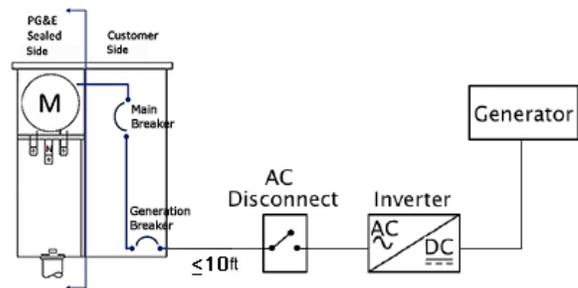
Note: PG&E’s Electric and Gas Service Requirements, also known as the “Greenbook” requires the AC Disconnect Switch to be located 10 feet or less from PG&E’s electric revenue meter at the point of common coupling or interconnection and easily seen from the panel. If the AC Disconnect Switch is greater than 10 feet or there is more than one AC Disconnect, a variance request must be submitted as outlined in Part II, Section A.

**E. Basic Single-Line Diagram (SLD) for Solar Projects** (check one):

I certify that the SLD below and the PV equipment information in Part II accurately represent the Customer’s service, the Generating Facility (there are no other Generator Facility(ies) connected to the service, and the project does not require a Variance Request.

**Utility Service:** (if using the SLD to the right)

Panel Voltage (volts)	Main Breaker (amps)	PV Breaker Size (amps)



I will submit a custom SLD for one or more of the following reasons: there is/are existing Generating Facility(ies) connected to the service, I am modifying an existing Generating Facility, the Basic SLD does not accurately reflect the project, or I am submitting a Variance Request. (See Part III Section D for Custom SLD details.)

**F. Service Panel Short Circuit Interrupting Rating (SCIR)** (for total inverter nameplate ratings larger than 11 kW):

SCIR of the service panel connected to this Generating Facility: \_\_\_\_\_ watts

Please complete this agreement in its entirety



# APPLICATION

## Net Energy Metering Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

### Part III – Interconnection Guidelines and Document Information

Note: 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 Electric Generation Interconnection department at 415-972-5676 or email [gen@pge.com](mailto:gen@pge.com) if the proposed installation is in San Francisco where the zip code is 94102, 94103, 94104, 94105, 94107, 94108, 94109, 94111 or 94133 or in Oakland where the zip code is 94607 or 94612.

#### A. Documents

In addition to this NEM Interconnection Application, the documents listed below 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 on PG&E's website at [www.pge.com/standardnem](http://www.pge.com/standardnem).

##### Required Documents

- Net Energy Metering (NEM) Interconnection Agreement for Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less and Customer Authorization Form 79-1151A.
- Copy of the final, signed, jurisdiction approval (building permit) for Customer's Generating Facility.

##### Additional Documents (if applicable)

- Variance Request (if project deviates from requirements in Part II Section A).
- Custom Single-Line Diagram (SLD) (if project does not meet Part II Section E basic SLD requirements).

Documents and requirements other than those listed above and/or fees *may* be required depending on the specifics of the planned Generating Facility.

#### B. Variance Request (if applicable)

The Customer or the Customer's Contractor can request a Variance Request review from PG&E if the project is unable to meet the requirements described in the Distribution Interconnection Handbook and Greenbook, available at [www.pge.com/dih](http://www.pge.com/dih) and [www.pge.com/greenbook](http://www.pge.com/greenbook). The Variance Request must be submitted with the Interconnection Application and include the following.

1. Description of the proposal for which the Customer is requesting approval.
2. Customer name and project address.
3. Copy of the Custom Single Line Diagram or electrical drawings (Include the equipment, location, and/or distances for the proposed work).
4. Color photos of the Customer's area or section for the proposed work.
5. Manufacturer specification drawings for unapproved equipment that the Customer is requesting an approval.

#### C. AC Disconnect Switch Guidelines

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.

Customers **are not required** to include an AC Disconnect Switch when the facility has a single-phase self-contained electric revenue meter (i.e. 0-320 amp panel). However, if the Customer does not install an AC Disconnect Switch, the revenue meter may be temporarily removed by PG&E due to an emergency or maintenance on PG&E's system to isolate the Customer's generator from the electric distribution system. Removal of the revenue meter will result in loss of electrical service to the Customer's facility or residence.

An AC Disconnect Switch **is required** for a Customer with:

- Inverter-based interconnections having a three-phase self-contained meter or 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.



# APPLICATION

## Net Energy Metering Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

- Inverter and non-inverter based generators that do not have overcurrent protection at the point of interconnection.

### Part III – Interconnection Guidelines and Document Information – Continued

#### D. Custom Single-line Diagram (SLD) (if applicable)

The Custom SLD must include the information below for identified equipment.

1. Manufacturer, model number, nameplate rating, quantity:
  - a) Inverter(s), PV or wind turbine generators, AC Disconnect Switch, generation output meter and instrument transformers.
2. Electrical rating and operating voltages:
  - a) Service panel, circuit breaker, and other Generating Facility protective devices
3. Location of:
  - a) Customer's loads relative to the Generating Facility, and the interconnection with PG&E's Distribution System.
  - b) AC Disconnect Switch.
4. 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 based on the total nameplate rating of the inverter.

**E. Governing Authority.** This form at all times shall be subject to such modifications as the California Public Utilities Commission may direct from time to time in the exercise of its jurisdiction.

Please submit the Agreement and Customer Authorization and Application online at [www.pge.com/standardnem](http://www.pge.com/standardnem).



**Electric Sample Form No. 79-1151B-02**

Sheet 1

Application - Net Energy Metering (NEM2) Interconnection For Solar And/Or  
Wind Electric Generating Facilities Of 30 Kilowatts Or Less

**Please Refer to Attached  
Sample Form**



# APPLICATION

## Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

**IMPORTANT NOTES:**

- Customers may not operate their Generating Facility while interconnected to the PG&E system until they receive written permission from PG&E.
- For a non-exporting Generating Facility, RES-BCT facility, or NEM2 Generating technologies other than 30 kW or less solar or wind, Customers must submit the online Form 79-1174-02 available at [yourprojects.pge.com](http://yourprojects.pge.com).

**Part I – Generating Facility Information and Responsible Parties**

**A. Customer and Generating Facility Information** (\*as it appears on the PG&E bill):

\_\_\_\_\_ Electric Service Agreement ID\*      \_\_\_\_\_ Meter Number\*

**B. Interconnection Application Type** (check one):

- New NEM2 Generating Facility interconnection at an existing PG&E service.
- Modify existing PG&E approved Generating Facility interconnection (adding/removing/replacing equipment).
  - Must provide a Custom Single-Line Drawing (SLD) showing the original system and the modified system.

**C. System Owner** (check one):

- PG&E Customer Owned

If PG&E Customer Owned, please answer the following:

Property Assessed Clean Energy (PACE) Financed?       Yes       No

PACE financed by which entity? \_\_\_\_\_

Indicate the System Cost paid by Customer: \$ \_\_\_\_\_

- Third Party Owned

If Third Party Owned, please answer the following:

Claimed Federal Investment Tax Credit (ITC) Cost Basis: \$ \_\_\_\_\_

Name of Developer at the time of sale: \_\_\_\_\_

Contract Type:       PPA       Lease       Pre-Paid Lease       Other \_\_\_\_\_

**D. Rebate Information:**

Did the Customer participate in a California rebate program?       Yes       No

Please indicate the rebate program that you participated in: \_\_\_\_\_

Rebate Amount: \$ \_\_\_\_\_

**Please complete this agreement in its entirety**

† Information collected on this form is used in accordance with PG&E's Privacy Policy.  
The Privacy Policy is available at [pge.com/privacy](http://pge.com/privacy).



# APPLICATION

## Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

### Part I – Generating Facility Information and Responsible Parties – Continued

**E. Contractor Information** (List who is installing the system):  Check this box if self-installed

Company Name	California Contractors State License Number		
Street Address	City	State	Zip
Email	Phone Number		

**F. Preparer of this Application** (if not the PG&E Customer, the Preparer must be authorized to act on behalf of the Customer on the Interconnection Agreement and Customer Authorization Form 79-1151-02A):

Company Name	Preparer Name	Date Prepared
--------------	---------------	---------------

### Part II – Description of the Generating Facilities

**A. Variances from Distribution Interconnection Handbook (DIH) and Greenbook Requirements** (check one):  
Generating Facilities must meet the DIH and Greenbook requirements, available at [www.pge.com/dih](http://www.pge.com/dih) and [www.pge.com/greenbook](http://www.pge.com/greenbook). A Variance Request must be submitted with the application for deviations, i.e. line-side tap, AC Disconnect > 10 ft from PG&E meter. (See Part III Section B for information on submitting Variance Request)

- The project meets the DIH and Greenbook Requirements and does not require a Variance Request.
- The project deviates from the DIH and Greenbook Requirements and I will include a Variance Request.

**B. Photovoltaic (PV) Generating Facility Information**

To avoid application processing delays, the manufacturer and model numbers provided should be the same as they appear on the Go Solar California website: [http://www.gosolarcalifornia.ca.gov/links/equipment\\_links.php](http://www.gosolarcalifornia.ca.gov/links/equipment_links.php).

- B.1 Mounting Method:**     Rooftop     Ground     Mixed
- B.2 Tracking Type:**     Fixed     Single-Axis     Dual-Axis     Mixed

If fixed,  
please indicate:

Tilt: \_\_\_\_\_ degrees    Azimuth: \_\_\_\_\_ degrees

**B.3 Are Performance Monitoring and Reporting Services (PMRS) being utilized?**     Yes     No

Who is receiving the data (check all that apply):     Customer

Third Party (list name) \_\_\_\_\_



# APPLICATION

## Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

### Part II – Description of the Generating Facilities – Continued

#### B.4 Photovoltaic Generator 1:

Inverter Manufacturer	Model Number	Nameplate Rating kW/unit	CEC <sup>A</sup> Rating kW/unit	Output Voltage	1 or 3 Phase	Qty
PV Panel Manufacturer	Model Number	Nameplate Rating kW/unit	PTC <sup>B</sup> Rating kW/unit	Total Nameplate Capacity kW		Qty

#### B.4 Photovoltaic Generator 2:

Inverter Manufacturer	Model Number	Nameplate Rating kW/unit	CEC Rating kW/unit	Output Voltage	1 or 3 Phase	Qty
PV Panel Manufacturer	Model Number	Nameplate Rating kW/unit	PTC Rating kW/unit	Total Nameplate Capacity kW		Qty

#### C. Wind Turbine Generating Facility Information

Check this box if the inverter is incorporated in the wind turbine. Then complete the Wind Turbine information below and identify the following: Output Voltage: \_\_\_\_\_(volts); Phase Type:  1  3

Inverter Manufacturer	Model Number	Nameplate Rating kW/unit	CEC Rating kW/unit	Output Voltage	1 or 3 Phase	Qty
Wind Turbine Manufacturer	Model Number	Nameplate Rating kW/unit	CEC Rating kW/unit	Total Nameplate Capacity kW		Qty

#### D. AC Disconnect Switch

Check this box if no A/C Disconnect Switch is applicable. See Part III, Section C for requirements.

AC Disconnect Manufacturer	Model Number	Rating (amps)	Qty

If applicable, is/are the AC Disconnect(s) within 10 ft. of the PG&E electric meter?  Yes  No

Note: PG&E's Electric and Gas Service Requirements, also known as the "Greenbook" requires the AC Disconnect Switch to be located 10 feet or less from PG&E's electric revenue meter at the point of common coupling or interconnection and easily seen from the panel. If the AC Disconnect Switch is greater than 10 feet or there is more than one AC Disconnect, a variance request must be submitted as outlined in Part II, Section A.

<sup>A</sup> California Energy Commission (CEC) ratings are available at [www.consumerenergycenter.org](http://www.consumerenergycenter.org)

<sup>B</sup> PTC: PVUSA Test Conditions. PTC ratings are available at [www.consumerenergycenter.org](http://www.consumerenergycenter.org)

**Please complete this agreement in its entirety**

# APPLICATION

## Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

### Part II – Description of the Generating Facilities – Continued

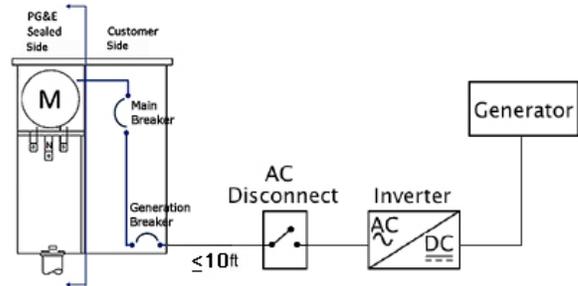
**E. Basic Single-Line Diagram (SLD) for Solar Projects** (check one):

I certify the following:

- 1) SLD below and the PV equipment information in Part II accurately represent the Customer's service,
- 2) the Generating Facility (there are no other Generator Facility(ies) connected to the service, and
- 3) the project does not require a Variance Request.

**Utility Service:** (if using the SLD to the right)

Panel Voltage (volts)	Main Breaker (amps)	PV Breaker Size (amps)



I will submit a custom SLD for one or more of the following reasons: there is/are existing Generating Facility(ies) connected to the service, I am modifying an existing Generating Facility, the Basic SLD does not accurately reflect the project, or I am submitting a Variance Request. (See Part III Section D for Custom SLD details.)

**F. Service Panel Short Circuit Interrupting Rating (SCIR)** (for total inverter nameplate ratings larger than 11 kW):

SCIR of the service panel connected to this Generating Facility: \_\_\_\_\_ amps

**G. Customer Impacted by a Natural or Man-Made Disaster**

Customers who were taking service on the NEM 2 tariff prior to the total or partial destruction of their system have the option to resume service on the same NEM tariff if a request for reapplication is received within two years from the date of destruction. To be eligible for this provision, all the following must be true:

1. You are the same PG&E customer of record pre-system destruction
2. You are now reapplying with a system that is sized to your most recent 12 months usage, or estimated usage that is determined by building size<sup>c</sup> (if applicable)
3. You are not operating the new (either completely new or partially new) system without written permission from PG&E
4. Your NEM Transition Period has not expired at the time of reapplication (see NEM 2 Tariff)

Based on the above, select the appropriate box:

I am a Customer who was impacted by a Natural or Man-Made Disaster as described in the NEM Tariffs and the above statements are true. I will submit my application online at [yourprojects.pge.com](http://yourprojects.pge.com) and will include the complete system currently onsite on the single line diagram. If my previous system was destroyed, I will also state this on the single line diagram.

I am either ineligible for this provision or this provision does not apply to my application. In either case, I will submit my application online at [yourprojects.pge.com](http://yourprojects.pge.com).

<sup>c</sup>Building Size Calculation: Sq Ft X 3.23. Note: 2 watts/sq ft x 1/1,000 watts x 8,760 hrs/yr x 0.19 solar capacity factor = 3.32

**Please complete this agreement in its entirety**



# APPLICATION

## Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

### Part III – Interconnection Guidelines and Document Information

Note: 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 NEM2 customers. Please contact PG&E's Solar Customer Service Center at 877-743-4112, or email [SNEMHelp@pge.com](mailto:SNEMHelp@pge.com) if the proposed installation is in San Francisco where the zip code is 94102, 94103, 94104, 94105, 94107, 94108, 94109, 94111 or 94133 or in Oakland where the zip code is 94607 or 94612.

#### A. Documents

In addition to this NEM2 Interconnection Application, the documents listed below are needed to ensure safe and reliable operation of PG&E's Electric System and to confirm that Customer's interconnection has been performed in accordance with PG&E's tariffs. Additional forms are available on PG&E's website at [www.pge.com/standardnem](http://www.pge.com/standardnem).

##### Required Documents

- Net Energy Metering (NEM2) Interconnection Agreement for Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less and Customer Authorization Form 79-1151-02A.
- Copy of the final, signed, jurisdiction approval (building permit) for Customer's Generating Facility.

##### Additional Documents (if applicable)

- Variance Request (if project deviates from requirements in Part II Section A).
- Custom Single-Line Diagram (SLD) (if project does not meet Part II Section E basic SLD requirements).

Documents and requirements other than those listed above and/or fees *may* be required depending on the specifics of the planned Generating Facility.

#### B. Variance Request (if applicable)

The Customer or the Customer's Contractor can request a Variance Request review from PG&E if the project is unable to meet the requirements described in the Distribution Interconnection Handbook and Greenbook, available at [www.pge.com/dih](http://www.pge.com/dih) and [www.pge.com/greenbook](http://www.pge.com/greenbook). The Variance Request must be submitted with the Interconnection Application and include the following.

1. Description of the proposal for which the Customer is requesting approval.
2. Customer name and project address.
3. Copy of the Custom Single Line Diagram or electrical drawings (Include the equipment, location, and/or distances for the proposed work).
4. Color photos of the Customer's area or section for the proposed work.
5. Manufacturer specification drawings for unapproved equipment that the Customer is requesting an approval.

#### C. AC Disconnect Switch Guidelines

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 Electric System without having to interrupt service to the customer's facility or residence.

Customers **are not required** to include an AC Disconnect Switch when the facility has a single-phase self-contained electric revenue meter (i.e. 0-320 amp panel). However, if the Customer does not install an AC Disconnect Switch, the revenue meter may be temporarily removed by PG&E due to an emergency or maintenance on PG&E's system to isolate the Customer's generator from the electric distribution system. Removal of the revenue meter will result in loss of electrical service to the Customer's facility or residence.

An AC Disconnect Switch **is required** for a Customer with:

- Inverter-based interconnections having a three-phase self-contained meter or 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.
-



# APPLICATION

## Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

### Part III – Interconnection Guidelines and Document Information - Continued

- Inverter and non-inverter based generators that do not have overcurrent protection at the point of interconnection.

#### D. Custom Single-line Diagram (SLD) (if applicable)

The Custom SLD must include the information below for identified equipment.

1. Manufacturer, model number, nameplate rating, quantity:
  - a) Inverter(s), PV or wind turbine generators, AC Disconnect Switch, generation output meter and instrument transformers.
2. Electrical rating and operating voltages:
  - a) Service panel, circuit breaker, and other Generating Facility protective devices
3. Location of:
  - a) Customer's loads relative to the Generating Facility, and the interconnection with PG&E's Electric System.
  - b) AC Disconnect Switch.
4. 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 based on the total nameplate rating of the inverter.

**E. Governing Authority.** This agreement at all times shall be subject to such modifications as the California Public Utilities Commission may direct from time to time in the exercise of its jurisdiction.

Please submit the Agreement and Customer Authorization and Application online at [www.pge.com/standardnem](http://www.pge.com/standardnem).



**Electric Sample Form No. 79-1174-02A**  
Rule 21 Generator Interconnection Application - Attachment A

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6270-E  
*Decision*

*Issued by*  
**Robert S. Kenney**  
*Vice President, Regulatory Affairs*

*Submitted* July 23, 2021  
*Effective* \_\_\_\_\_  
*Resolution* \_\_\_\_\_



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT A

### CUSTOMER AND PROJECT INFORMATION

#### Part I - Selecting the Study Process

Please check one:

- Fast Track Process<sup>1</sup>.
- Detailed Study
  - Will be either an Independent Study Process, Distribution Group Study Process or Transmission Cluster Study Process, dependent upon the Electrical Independence Tests.

#### Part II – Identifying the Generating Facility Location and Responsible Parties

*Project Name:*

**A. Generating Facility Account Information** (What electric service will the Generating Facility be interconnected for parallel operation with PG&E? For aggregated electric accounts provide the primary account and meter information).

Name shown on PG&E service account	Electric Service Agreement ID number - 10-digits	Electric Badge (Meter) Number - 6-10 digits (alpha numeric)

**NOTE: Customer Electric account must match the customer's utility bill account information.**

		CA	
Meter Location Street Address	City	State	Zip - 5-digits

**Please check all that apply:**

- A New Generating Facility interconnection (at an existing service).
- Upgrade existing Generating Facility with previous approval by PG&E (adding PV panels, adding energy storage as an addition or enhancement, changing inverters/turbines or changing load and/or operations).
- A New Generating Facility and New Load 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 or Rule21Gen@pge.com.
- A New Generating Facility with no existing electric service and no load.
- An Interconnection under Direct Access (DA).
  - Customers applying for interconnection who are served under Direct Access by an Electric Service Provider (ESP) must contact their ESP directly for information regarding the options available under their Direct Access contract.

<sup>1</sup> See Electric Rule 21 for FAST TRACK requirements.



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT A

### CUSTOMER AND PROJECT INFORMATION

- An Interconnection under Community Choice Aggregation Service (CCA Service).
- Customers applying for interconnection who are served under Community Choice Aggregation Service (CCA Service) by a Community Choice Aggregator (CCA) must contact their CCA directly for information regarding the options available under their CCA Service Program.

**B. Customer Account Contact Information -**

Mailing Address			
City	State	Zip - 5-digits	
( ) - _____	( ) - _____	Fax	Email
Business Phone	Home Phone		

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

Contact	Company Name		
Mailing Address			
City	State	Zip - 5-digits	
( ) - _____	( ) - _____	Email	
Business Phone	Fax		
<input type="checkbox"/> Yes <input type="checkbox"/> No			
Does Contractor have Contractors State License Board (CSLB) Number?	Contractors State License Board Number		

**D. Project Contact Information (Who is the project manager for this Generating Facility?)**

Contact	Company Name		
Mailing Address			
City	State	Zip - 5-digits	



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT A

### CUSTOMER AND PROJECT INFORMATION

( ) -	( ) -	
Business Phone	Fax	Email

What is the <b>maximum 3-phase fault current</b> that will be contributed by the Generating Facility to a 3-phase fault at the Point of Common Coupling (PCC)? (If the Generating Facility is single phase in design, please provide the contribution for a line-to-line fault).	_____ Amps
Please indicate the <b>short circuit interrupting rating</b> of the host Customer facility's service panel:	_____ Amps

Refer to PG&E's Rule 21, Section G, for significance and additional information. To determine this value, any transformers and/or significant lengths of interconnecting conductor used between each of the Generators (if there are more than one) that make up the Generating Facility and the PCC must be taken into account. The details, impedance, and arrangement of such transformers and interconnecting conductors should be shown on the single-line diagram that is provided. Consult an electrical engineer or the equipment supplier if assistance is needed in answering this question.

It is expected that most Applicants will want to reserve the flexibility to operate any or all of their Generators in parallel. If the design of the proposed Generating Facility limits the amount of generation that may be interconnected at any time to PG&E's Electric System, please describe the assumptions used in calculating the maximum fault current contribution value.

For Customer applying for interconnection under Schedules

- i) NEM2 – Net Energy Metering Service (including NEM2A – Load Aggregation, Or NEM2MT- Multiple Tariff- with a NEM2 eligible generator), or
  - ii) NEM2V – Virtual Net Energy Metering Service, or
  - iii) NEM2VMS- Virtual Net Energy Metering For Multifamily Affordable Housing (MASH/NSHP) With Solar Generator(s),
- please note, pursuant to California Public Utilities Commission Decision (D.) 16-01-044:

**CEC Listed**

In order to promote the safety and reliability of the customer's Generating Facility, the applicant certifies that as a part its request for NEM2, that all major solar system components are on the verified equipment list maintained by the California Energy Commission and certifies that other equipment, as determined by PG&E, has safety certification from a nationally recognized testing laboratory.

**Warranties or Service Agreements**

Applicant certifies as a part of its interconnection request for NEM2 that:

- (i) a warranty of at least 10 years has been provided on all equipment and on its installation, or
- (ii) a 10-year service warranty or executed "agreement" has been provided ensuring proper maintenance and continued system performance.

**Interconnection Fees**

Customers on this tariff must pay for the interconnection of their Generation Facilities as provided in Electric Rule 21.



**Electric Sample Form No. 79-1174-02B**  
Rule 21 Generator Interconnection Application - Attachment B

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6270-E  
*Decision*

*Issued by*  
**Robert S. Kenney**  
*Vice President, Regulatory Affairs*

*Submitted* July 23, 2021  
*Effective* \_\_\_\_\_  
*Resolution* \_\_\_\_\_



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT B

### NON-EXPORT

#### Operating Mode

Please select one option below:

- Parallel Operation (no export):** The Generating Facility will interconnect and operate “in parallel” with PG&E’s Electric System for more than one (1) second.

Please supply all of the information requested for the Generating Facility. Be sure to supply adequate information including diagrams and written descriptions regarding the protective relays that will be used to detect faults or abnormal operating conditions on PG&E’s Electric System.

- Inadvertent Export:** The Generating Facility will interconnect and operate, providing unscheduled and uncompensated export of real power for a duration exceeding two (2) seconds but fewer than sixty (60) seconds. The expected frequency of “inadvertent export” occurrences should be less than two occurrences per 24-hour period. Protective Functions, technical requirements and operational limitations are described in Rule 21, Section M.

Be sure to supply adequate information including diagrams and written descriptions regarding the switching device or scheme that will be used to limit the parallel operation period to one second or less. Please also describe the back up or protective device and controls that will trip the Generating Facility should the transfer switch or scheme not complete the transfer in one second or less.

- Uncompensated Export:** A Generating Facility Interconnection Export Addendum that provides for parallel operation of the Generating Facility and the occasional, continuous, non-compensated, export of generator facilities sized 2 MW or less to PG&E’s Electric System. Continuous export is export greater than 60 seconds in duration. This addendum must be executed in concert with the generating facility interconnection agreement.

- Momentary Parallel Operation (Make Before Break):** The Generating Facility will interconnect and operate on a “momentary parallel” basis with PG&E’s Electric System for a duration of one (1) second or less through transfer switches or operating schemes specifically designed and engineered for such operation.

Be sure to supply adequate information including diagrams and written descriptions regarding the switching device or scheme that will be used to limit the parallel operation period to one second or less. Please also describe the back up or protective device and controls that will trip the Generating Facility should the transfer switch or scheme not complete the transfer in one second or less.

- Isolated Operation (Break Before Make):** The Generating Facility will be “isolated” and prevented from becoming interconnected with PG&E’s Electric System through a transfer switch or operating scheme specifically designed and engineered for such operation.

Be sure to supply adequate information including diagrams and written descriptions regarding the isolating switching device or scheme that will be used to prevent the Generating Facility from operating in parallel with PG&E’s Electric System.

Note: There is no application fee for Generating Facilities employing Isolated Operation mode, however, an application is needed to satisfy PG&E’s notice requirements for operating an isolated Generating Facility as per California Health and Safety Code Section 119085 (b)



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT B

### NON-EXPORT

#### Protection Options

##### Parallel Only:

Please select one Rule 21 Screen I option below:

- Reverse Power (Option 1): A **reverse-power protection device** will be installed to measure any export of power and trip the Generating Facility or open an intertie breaker to isolate the Generating Facility if limits are exceeded.
- Under Power (Option 2): An **under-power protection device** will be installed to measure the inflow of power and trip or reduce the output of the Generating Facility if limits are not maintained.
- Non-Islanding (Option 3): The Generating Facility Interconnection Facility equipment has been **certified as non-islanding and the incidental export of power will be limited by the design of the interconnection**. If this option is to be used, the nominal ampere rating of the service entrance equipment (service panel rating) that is used by the host Customer facility is:  
\_\_\_\_\_.
- Gross Nameplate 50% or Less (Option 4): The **Gross Nameplate Rating of the Generating Facility will not exceed 50% of the host Customer facility's minimum electrical load over the past 12 months**. If this option is to be used, the minimum load of the host Customer facility must be stated in the space provided above.
- AC/DC Converter (Option 7): An AC/DC Converter is employed to prevent export by only allowing one way power flow.
- Power Control System (PCS) Non-Export (Option 8): A PCS is employed to prevent export. For this option, the open loop response time of the PCS must be less than 2 seconds.

Please indicate:

- Qualifying Facility (QF) Status will be obtained from the FERC for this Generating Facility.

Instructions and Notes: Parties operating Generating Facilities (QF) complying with all of the requirements for qualification as either a small power production facility or cogeneration facility pursuant to the regulations of the FERC (18 Code of Federal Regulations Part 292, Section 292.203 et seq.) implementing the Public Utility Regulatory Policies Act of 1978 (16 U.S.C.A. Section 796, et seq.), or any successor requirements for Qualifying Facilities, may seek certification from FERC to have the Generating Facility designated as a Qualifying Facility or "QF." In summary, QFs are Generating Facilities using renewable or alternative fuels as a primary energy source or facilities that utilize the thermal energy given off by the generation process for some other useful purpose. QFs enjoy certain rights and privileges not available to non-QF Generating Facilities.

QF status is not required to interconnect and operate in parallel with PG&E's Electric System.



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT B

### NON-EXPORT

---

#### Inadvertent Export:

The Generating Facility **completely offsets their facility load** by being (a) optimally sized to meet their peak demand with load following functionality on the Generator controls and (b) ensuring conditional (inadvertent) export of electric power from the Generation Facility to Distribution Provider's Distribution or Transmission System occurs no more frequently than twice in any 24 hour period and the exports are greater than 2 seconds but no more than more than 60 seconds.

Please select one Rule 21 Screen I option below:

- Reverse Power (Option 5): Two **reverse-power protection devices** will be installed to measure any export of power and trip the Generating Facility or open an intertie breaker to isolate the Generating Facility if limits are exceeded.
- Under Power (Option 5): A **reverse-power protection devices** will be installed to measure any export of power and trip the Generating Facility or open an intertie breaker to isolate the Generating Facility if limits are exceeded; AND an **under-power protection device** will be installed to measure the inflow of power and trip or reduce the output of the Generating Facility if limits are not maintained.
- Non-islanding Inverters (Option 6): Designed to detect and disconnect from a stable Unintended Island with matched load and generation.
- Power Control System (PCS) Inadvertent/Limited Export (Option 9): A PCS is employed to allow inadvertent/limited export. For this option, the open loop response time of the PCS must be less than 2 seconds for limited export and less than or equal to 10 seconds for inadvertent export.

Please indicate:

- Qualifying Facility (QF) Status will be obtained from the FERC for this Generating Facility.  
Instructions and Notes: Parties operating Generating Facilities (QF) complying with all of the requirements for qualification as either a small power production facility or cogeneration facility pursuant to the regulations of the FERC (18 Code of Federal Regulations Part 292, Section 292.203 et seq.) implementing the Public Utility Regulatory Policies Act of 1978 (16 U.S.C.A. Section 796, et seq.), or any successor requirements for Qualifying Facilities, may seek certification from FERC to have the Generating Facility designated as a Qualifying Facility or "QF." In summary, QFs are Generating Facilities using renewable or alternative fuels as a primary energy source or facilities that utilize the thermal energy given off by the generation process for some other useful purpose. QFs enjoy certain rights and privileges not available to non-QF Generating Facilities.

QF status is not required to interconnect and operate in parallel with PG&E's Electric System.

#### Uncompensated Export:

Please provide Maximum Expected Facility Net Export (kW): \_\_\_\_\_



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT B

### **NON-EXPORT**

---

With the approval of PG&E, a Producer that wishes to retain the option to export power from a Generating Facility to PG&E's Electric System may use a different protection scheme that provides for the detection of faults and other abnormal operating conditions.



**Electric Sample Form No. 79-1174-02D**  
Rule 21 Generator Interconnection Application - Attachment D

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6270-E  
*Decision*

*Issued by*  
**Robert S. Kenney**  
*Vice President, Regulatory Affairs*

*Submitted* July 23, 2021  
*Effective* \_\_\_\_\_  
*Resolution* \_\_\_\_\_



# INTERCONNECTION APPLICATION (Form 79-1174-02) ATTACHMENT D

## SOLAR (PV) TECHNOLOGY

### Part I - Describing the Generating Facility and Host Customer's Electrical Facilities

Please complete the following table for the specific generator technology indicated.

Instructions				
Inverter	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p>Please indicate the number of each <b>"type"</b> and <b>quantity</b> of Generator being installed</p> <p>Be sure all Generators classified as one "type" are identical in all respects.</p> <p>If only one type of Generator is to be used, only one column needs to be completed.</p>				
<p>A - Generator/Inverter Manufacturer</p> <p>Enter the brand name of the Generator.</p>				
<p>B - Generator/Inverter Model</p> <p>Enter the model name or number assigned by the manufacturer of the Generator.</p>				
<p>C - Generator/Inverter Software Version</p> <p>If this Generator's control and or protective functions are dependent on a software program supplied by the manufacturer of the equipment, please provide the version or release number for the software that will be used.</p>				
<p>D - Is the Generator/Inverter certified?</p> <p>Applicant has verified that all major solar system components are on the verified equipment list maintained by the California Energy Commission and other equipment, as determined by PG&amp;E, has been verified by the customer as having safety certification from a nationally recognized testing laboratory.</p> <p>See PG&amp;E's Rule 21, Section L for additional information regarding Generator certification.</p>	<p style="text-align: center;">___ Yes</p> <p style="text-align: center;">___ No</p>	<p style="text-align: center;">___ Yes</p> <p style="text-align: center;">___ No</p>	<p style="text-align: center;">___ Yes</p> <p style="text-align: center;">___ No</p>	<p style="text-align: center;">___ Yes</p> <p style="text-align: center;">___ No</p>



# INTERCONNECTION APPLICATION (Form 79-1174-02) ATTACHMENT D

## SOLAR (PV) TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
E - Modules.	<p>_____ Manufacturer</p> <p>_____ Model #.</p> <p>_____ Quantity</p>			
<p>F - Gross Nameplate Rating (kVA)</p> <p>This is the capacity value normally supplied by the manufacturer and stamped on the Generator's nameplate.</p> <p>This value is not required where the manufacturer provides only a kW rating. However, where both kVA and kW values are available, please indicate both.</p>				
<p>G - Operating Voltage</p> <p>This value should be the voltage rating designated by the manufacturer and used in this Generating Facility.</p> <p>Please indicate phase-to-phase voltages for 3-phase installations.</p> <p>See PG&amp;E's Rule 21, Section H.2.b. and Table H.1., for additional information.</p>				
<p>H - Power Factor Rating</p> <p>This value should be the nominal power factor rating designated by the manufacturer for the Generator.</p> <p>See PG&amp;E's Rule 21, Section H.2.i. for additional information.</p>				
<p>I - PF Adjustment Range</p> <p>Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values.</p> <p>See PG&amp;E's Rule 21, Section H.2.i.</p>				
<p>J - Wiring Configuration</p> <p>Please indicate whether the Generator is a single-phase or three-phase device. See PG&amp;E's Rule 21, Section H.3.</p>				



# INTERCONNECTION APPLICATION (Form 79-1174-02) ATTACHMENT D

## SOLAR (PV) TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<b>K - AC Disconnect</b> For systems requiring an AC Disconnect only, please include the requested information about the AC Disconnect.  See PG&E's Rule 21, Section H.1.d  Located within 10 feet of the PG&E meter?	_____ Manufacturer  _____ Model #  _____ Rating (amps)  ____ Yes ____ No			
<b>L - Lineside Tap</b> Where is the point of interconnection in relation to the main breaker?  PG&E has special requirements for a lineside tap. Contact PG&E at: <a href="mailto:Rule21Gen@PGE.com">Rule21Gen@PGE.com</a> for more information.	_____ Customer side  ____ PG&E side			
<b>N - Warranty or Service Agreement</b> Applicant has verified that (i) a warranty of at least 10 years has been provided on all equipment and on its installation, or (ii) have a 10-year service warranty or executed "agreement" ensuring proper maintenance and continued system performance.	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No
<b>O - Solar Ready Electric Panel</b> Is the Generating Facility connecting to a circuit breaker on the supply side of the main breaker?	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No
<b>P - Green Meter Adapter (GMA)</b> Will a GMA be installed?	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No
<b>Q - Distribution Interconnect Handbook (DIH) and Greenbook Requirements</b> Does this interconnection meet the DIH and Greenbook Requirements	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No
<b>R - Gas Clearance Requirements</b> Certify that this interconnection meets Greenbook Gas Clearance Requirements?	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No



# INTERCONNECTION APPLICATION (Form 79-1174-02) ATTACHMENT D

## SOLAR (PV) TECHNOLOGY

<p>S - Basic Single Line Diagram (SLD)</p> <p>If the interconnection is eligible to use a Basic SLD, please include the requested information.</p>	<p>Panel Voltage (Volts)</p> <hr/> <p>Main Breaker (Amps)</p> <hr/> <p>PV Breaker Size (Amps)</p>	<p>Panel Voltage (Volts)</p> <hr/> <p>Main Breaker (Amps)</p> <hr/> <p>PV Breaker Size (Amps)</p>	<p>Panel Voltage (Volts)</p> <hr/> <p>Main Breaker (Amps)</p> <hr/> <p>PV Breaker Size (Amps)</p>	<p>Panel Voltage (Volts)</p> <hr/> <p>Main Breaker (Amps)</p> <hr/> <p>PV Breaker Size (Amps)</p>
<p>T - Back-up Generator Operation</p> <p>Will the generator be operated as a back-up?</p> <p>If yes, please indicate the control device that will be used.</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor</p> <p><input type="checkbox"/> Breaker</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor</p> <p><input type="checkbox"/> Breaker</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor</p> <p><input type="checkbox"/> Breaker</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor</p> <p><input type="checkbox"/> Breaker</p>
<p>U - Limited Export</p> <p>Will the generator export be limited?</p> <p>If yes, please indicate how export will be limited.</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Power Control System (PCS)</p> <p><input type="checkbox"/> Relay</p> <p><input type="checkbox"/> Derated Inverter</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Power Control System (PCS)</p> <p><input type="checkbox"/> Relay</p> <p><input type="checkbox"/> Derated Inverter</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Power Control System (PCS)</p> <p><input type="checkbox"/> Relay</p> <p><input type="checkbox"/> Derated Inverter</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Power Control System (PCS)</p> <p><input type="checkbox"/> Relay</p> <p><input type="checkbox"/> Derated Inverter</p>

### Part II Solar Statistics Data Fields

Per Appendix A of CPUC D. 14-11-001, the following data fields must all be completed, in their entirety, in order to initiate PG&E's interconnection review of the proposed Generating Facility. *Only complete Part II if the solar generating facility is serving as part of a Net Energy Metering (NEM2) arrangement.*

**A. Customer Sector (Check one)**

- |   |                                      |                                     |
|---|--------------------------------------|-------------------------------------|
| <input type="checkbox"/> Residential      | <input type="checkbox"/> Educational | <input type="checkbox"/> Industrial |
| <input type="checkbox"/> Commercial       | <input type="checkbox"/> Military    | <input type="checkbox"/> Non-Profit |
| <input type="checkbox"/> Other Government |                                      |                                     |



INTERCONNECTION APPLICATION (Form 79-1174-02)
ATTACHMENT D

SOLAR (PV) TECHNOLOGY

B. Are Performance Monitoring and Reporting Services (PMRS) being utilized?

Yes No

If yes, please indicate who is receiving the data? (check all that apply)

Customer

3rd Party (list name)

C. Are there electric vehicles charging on site at the above generating facility address?

Yes No

If yes, please indicate how many electric vehicles

D. System Ownership and Financing

i. System Owner (check one):

PG&E Customer Owned

If PG&E Customer Owned, please answer the following:

Indicate the System Cost paid by Customer: \$

Property Assessed Clean Energy (PACE) Financed?

Yes No

If Yes, PACE financed by which entity?

Third Party Owned

If Third Party Owned, please answer the following:

Claimed Federal Investment Tax Credit (ITC) Cost Basis: \$

Name of Developer at the time of sale:

Contract Type: PPA Lease Pre-Paid Lease Other

ii. Rebate Information:

Did you participate in a California rebate program? Yes No

Please indicate the rebate program that you participated in:

Rebate Amount: \$

If you are participating in the Single-family Affordable Solar Home (SASH) program, please provide SASH project number:

E. Additional Generating Facility Information (Solar PV Only)

i. Mounting Method: Rooftop Ground Mixed

ii. Tracking Type: Fixed Single-Axis Dual-Axis Mixed

If fixed, please indicate: Tilt: degrees Azimuth: degrees

F. Installer's/Vendor's California State Contractor License Number:



**Electric Sample Form No. 79-1174-02E**  
Rule 21 Generator Interconnection Application - Attachment E

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6270-E  
*Decision*

*Issued by*  
**Robert S. Kenney**  
*Vice President, Regulatory Affairs*

*Submitted* July 23, 2021  
*Effective* \_\_\_\_\_  
*Resolution* \_\_\_\_\_



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT E

### WIND TURBINE TECHNOLOGY

Please complete the following table for the specific generator technology indicated.

Instructions				
Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p>Please indicate the number of each <b>“type”</b> and <b>quantity</b> of Generator being installed</p> <p>Be sure all Generators classified as one “type” are identical in all respects.</p> <p>If only one type of Generator is to be used, only one column needs to be completed.</p>	Type: _____ Qty.: _____	Type: _____ Qty.: _____	Type: _____ Qty.: _____	Type: _____ Qty.: _____
A - Generator/Inverter Manufacturer Enter the brand name of the Generator.				
B - Generator/Inverter Model Enter the model name or number assigned by the manufacturer of the Generator.				
C - Generator/Inverter Software Version If this Generator’s control and or protective functions are dependent on a software program supplied by the manufacturer of the equipment, please provide the version or release number for the software that will be used.				
D - Is the Inverter certified?  Applicant has verified that all major solar system components are on the verified equipment list maintained by the California Energy Commission and other equipment, as determined by PG&E, has been verified by the customer as having safety certification from a nationally recognized testing laboratory.  See PG&E’s Rule 21, Section L for additional information regarding Generator certification.	<input type="checkbox"/> Yes <input type="checkbox"/> No			
E - Generator Design  Please indicate the design of each Generator.  Designate “Inverter” anytime an inverter is used as the interface between the Generator and the electric system regardless of the primary power production/storage device used.	<input type="checkbox"/> Synch <input type="checkbox"/> Induct. <input type="checkbox"/> Inverter			



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT E

### WIND TURBINE TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p><b>F - Gross Nameplate Rating (kVA)</b></p> <p>This is the capacity value normally supplied by the manufacturer and stamped on the Generator's nameplate.</p> <p>This value is not required where the manufacturer provides only a kW rating. However, where both kVA and kW values are available, please indicate both.</p>				
<p><b>G - Operating Voltage</b></p> <p>This value should be the voltage rating designated by the manufacturer and used in this Generating Facility.</p> <p>Please indicate phase-to-phase voltages for 3-phase installations.</p> <p>See PG&amp;E's Rule 21, Section H.2.b. and Table H.1., for additional information.</p>				
<p><b>H - Power Factor Rating</b></p> <p>This value should be the nominal power factor rating designated by the manufacturer for the Generator.</p> <p>See PG&amp;E's Rule 21, Section H.2.i. for additional information.</p>				
<p><b>I - PF Adjustment Range</b></p> <p>Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values.</p> <p>See PG&amp;E's Rule 21, Section H.2.i.</p>				
<p><b>J - Wiring Configuration</b></p> <p>Please indicate whether the Generator is a single-phase or three-phase device. See PG&amp;E's Rule 21, Section H.3.</p>				
<p><b>K - (MP) 3-Phase Winding Configuration</b></p> <p>(Choose One)</p> <p>For three-phase generating units, please indicate the configuration of the Generator's windings or inverter systems.</p>	<p><input type="checkbox"/> 3 Wire Delta</p> <p><input type="checkbox"/> 3 Wire Wye</p> <p><input type="checkbox"/> 4 Wire Wye</p>	<p><input type="checkbox"/> 3 Wire Delta</p> <p><input type="checkbox"/> 3 Wire Wye</p> <p><input type="checkbox"/> 4 Wire Wye</p>	<p><input type="checkbox"/> 3 Wire Delta</p> <p><input type="checkbox"/> 3 Wire Wye</p> <p><input type="checkbox"/> 4 Wire Wye</p>	<p><input type="checkbox"/> 3 Wire Delta</p> <p><input type="checkbox"/> 3 Wire Wye</p> <p><input type="checkbox"/> 4 Wire Wye</p>



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT E

### WIND TURBINE TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p>L - (MP) Neutral Grounding System Used (Choose One)</p> <p>Wye connected generating units are often grounded – either through a resistor or directly, depending upon the nature of the electrical system to which the Generator is connected.</p> <p>If the grounding method used at this facility is not listed, please attach additional descriptive information.</p>	<p>___ Ungrounded</p> <p>___ Solidly Grounded</p> <p>___ Ground Resistor</p> <p>___ Ohms</p>	<p>___ Ungrounded</p> <p>___ Solidly Grounded</p> <p>___ Ground Resistor</p> <p>___ Ohms</p>	<p>___ Ungrounded</p> <p>___ Solidly Grounded</p> <p>___ Ground Resistor</p> <p>___ Ohms</p>	<p>___ Ungrounded</p> <p>___ Solidly Grounded</p> <p>___ Ground Resistor</p> <p>___ Ohms</p>
<p>M - Induction Generators Only:</p> <p style="padding-left: 40px;">Locked Rotor Current: _____ (Amps)</p> <p style="padding-left: 40px;"><b>Stator Resistance:</b> _____ (%)</p> <p style="padding-left: 40px;">Stator Leakage Reactance: _____ (%)</p> <p style="padding-left: 40px;">Rotor Resistance: _____ (%)</p> <p style="padding-left: 40px;">Rotor Leakage Reactance: _____ (%)</p> <p>If the Generator is of an induction design, please provide the “locked rotor current” value supplied by the manufacturer.</p> <p>If this value is not available, the stator resistance, stator leakage reactance, rotor resistance, rotor leakage reactance values supplied by the manufacturer may be used to determine the locked rotor current.</p> <p>If the Generator’s Gross Nameplate Capacity is 10 MW or greater, PG&amp;E may request additional data to better model the nature and behavior of the Generator with relation to its Electric System.</p>	<p>_____ (Amps)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p>	<p>_____ (Amps)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p>	<p>_____ (Amps)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p>	<p>_____ (Amps)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p>
<p>N - Short Circuit Current Produced by Generator</p>	<p>_____ (Amps)</p>	<p>_____ (Amps)</p>	<p>_____ (Amps)</p>	<p>_____ (Amps)</p>
<p>O - AC Disconnect</p> <p>For systems requiring an AC Disconnect only, please include the requested information about the AC Disconnect.</p> <p>See PG&amp;E’s Rule 21, Section H.1.d</p> <p>Located within 10 feet of the PG&amp;E meter?</p>	<p>_____ Manufacturer</p> <p>_____ Model #</p> <p>_____ Rating (amps)</p> <p>___ Yes</p> <p>___ No</p>	<p>_____ Manufacturer</p> <p>_____ Model #</p> <p>_____ Rating (amps)</p> <p>___ Yes</p> <p>___ No</p>	<p>_____ Manufacturer</p> <p>_____ Model #</p> <p>_____ Rating (amps)</p> <p>___ Yes</p> <p>___ No</p>	<p>_____ Manufacturer</p> <p>_____ Model #</p> <p>_____ Rating (amps)</p> <p>___ Yes</p> <p>___ No</p>
<p>P - Lineside Tap</p> <p>Where is the point of interconnection in relation to the main breaker?</p> <p>PG&amp;E has special requirements for a lineside tap.</p> <p>Contact PG&amp;E at: <a href="mailto:Rule21Gen@PGE.com">Rule21Gen@PGE.com</a> for more information.</p>	<p>_____ Customer side</p> <p>_____ PG&amp;E side</p>			



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT E

### WIND TURBINE TECHNOLOGY

<b>Q – Warranty or Service Agreement</b> Applicant has verified that (i) a warranty of at least 10 years has been provided on all equipment and on its installation, or (ii) have a 10-year service warranty or executed “agreement” ensuring proper maintenance and continued system performance.	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No
<b>R - Distribution Interconnect Handbook (DIH) and Greenbook Requirements</b> Does this interconnection meet the DIH and Greenbook Requirements	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No
<b>S - Gas Clearance Requirements</b> Certify that this interconnection meets Greenbook Gas Clearance Requirements?	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No
<b>T - Back-up Generator Operation</b> Will the generator be operated as a back-up?  If yes, please indicate control device.	___ Yes ___ No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	___ Yes ___ No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	___ Yes ___ No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	___ Yes ___ No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker
<b>U - Limited Export</b> Will the generator export be limited?  If yes, please indicate how export will be limited.	___ Yes ___ No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	___ Yes ___ No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	___ Yes ___ No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	___ Yes ___ No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter



**Electric Sample Form No. 79-1174-02F**  
Rule 21 Generator Interconnection Application - Attachment F

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6270-E  
*Decision*

*Issued by*  
**Robert S. Kenney**  
*Vice President, Regulatory Affairs*

*Submitted* July 23, 2021  
*Effective* \_\_\_\_\_  
*Resolution* \_\_\_\_\_



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT F

### **MACHINE-BASED TECHNOLOGY**

Please complete the following table for the specific generator technology indicated.

Instructions				
Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p>Please indicate the number of each <b>“type”</b> and <b>quantity</b> of Generator being installed.</p> <p>Be sure all Generators classified as one “type” are identical in all respects.</p> <p>If only one type of Generator is to be used, only one column needs to be completed.</p>				
<p>A - Generator/Inverter Manufacturer Enter the brand name of the Generator.</p>				
<p>B - Generator/Inverter Model Enter the model name or number assigned by the manufacturer of the Generator.</p>				
<p>C - Generator/Inverter Software Version If this Generator’s control and or protective functions are dependent on a software program supplied by the manufacturer of the equipment, please provide the version or release number for the software that will be used.</p>				
<p>D - Is the Generator/Inverter certified? Applicant has verified that all major solar system components are on the verified equipment list maintained by the California Energy Commission and other equipment, as determined by PG&amp;E, has been verified by the customer as having safety certification from a nationally recognized testing laboratory. See PG&amp;E’s Rule 21, Section L for additional information regarding Generator certification.</p>	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No
<p>F - Gross Nameplate Rating (kVA) This is the capacity value normally supplied by the manufacturer and stamped on the Generator’s nameplate.  This value is not required where the manufacturer provides only a kW rating. However, where both kVA and kW values are available, please indicate both.</p>				



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT F

### MACHINE-BASED TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p><b>G - Operating Voltage</b></p> <p>This value should be the voltage rating designated by the manufacturer and used in this Generating Facility.</p> <p>Please indicate phase-to-phase voltages for 3-phase installations.</p> <p>See PG&amp;E's Rule 21, Section H.2.b. and Table H.1., for additional information.</p>				
<p><b>H - Power Factor Rating</b></p> <p>This value should be the nominal power factor rating designated by the manufacturer for the Generator.</p> <p>See PG&amp;E's Rule 21, Section H.2.i. for additional information.</p>				
<p><b>I - PF Adjustment Range</b></p> <p>Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values.</p> <p>See PG&amp;E's Rule 21, Section H.2.i.</p>				
<p><b>J - Wiring Configuration</b></p> <p>Please indicate whether the Generator is a single-phase or three-phase device. See PG&amp;E's Rule 21, Section H.3.</p>				
<p><b>K - (MP) 3-Phase Winding Configuration (Choose One)</b></p> <p>For three-phase generating units, please indicate the configuration of the Generator's windings or inverter systems.</p>	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye
<p><b>L - (MP) Neutral Grounding System Used (Choose One)</b></p> <p>Wye connected generating units are often grounded – either through a resistor or directly, depending upon the nature of the electrical system to which the Generator is connected.</p> <p>If the grounding method used at this facility is not listed, please attach additional descriptive information.</p>	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT F

### MACHINE-BASED TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p><b>M – Synchronous Generators Only:</b> If the Generator is of a synchronous design, please provide the synchronous reactance, transient reactance, and subtransient reactance values supplied by the manufacturer. This information is necessary to determine the short circuit contribution of the Generator and as data in load flow and short circuit computer models of PG&amp;E's Electric System. If the Generator's Gross Nameplate Capacity is 10 MW or greater, PG&amp;E may request additional data to better model the nature and behavior of the Generator with relation to its Electric System.</p> <p style="margin-left: 40px;">Synchronous Reactance: _____ (Xd %)</p> <p style="margin-left: 40px;">Transient Reactance: _____ (Xd %)</p> <p style="margin-left: 40px;">Subtransient Reactance: _____ (Xd %)</p>	<p>_____ (Xd %)</p> <p>_____ (Xd %)</p> <p>_____ (Xd %)</p>	<p>_____ (Xd %)</p> <p>_____ (Xd %)</p> <p>_____ (Xd %)</p>	<p>_____ (Xd %)</p> <p>_____ (Xd %)</p> <p>_____ (Xd %)</p>	<p>_____ (Xd %)</p> <p>_____ (Xd %)</p> <p>_____ (Xd %)</p>
<p><b>N - Induction Generators Only:</b></p> <p style="margin-left: 40px;">Locked Rotor Current: _____ (Amps)</p> <p style="margin-left: 40px;"><b>Stator Resistance:</b> _____ (%)</p> <p style="margin-left: 40px;">Stator Leakage Reactance: _____ (%)</p> <p style="margin-left: 40px;">Rotor Resistance: _____ (%)</p> <p style="margin-left: 40px;">Rotor Leakage Reactance: _____ (%)</p> <p>If the Generator is of an induction design, please provide the "locked rotor current" value supplied by the manufacturer.</p> <p>If this value is not available, the stator resistance, stator leakage reactance, rotor resistance, rotor leakage reactance values supplied by the manufacturer may be used to determine the locked rotor current.</p> <p>If the Generator's Gross Nameplate Capacity is 10 MW or greater, PG&amp;E may request additional data to better model the nature and behavior of the Generator with relation to its Electric System.</p>	<p>_____ (Amps)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p>	<p>_____ (Amps)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p>	<p>_____ (Amps)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p>	<p>_____ (Amps)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p>
<p><b>O - Short Circuit Current Produced by Generator</b></p>	<p>_____ (Amps)</p>	<p>_____ (Amps)</p>	<p>_____ (Amps)</p>	<p>_____ (Amps)</p>



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT F

### MACHINE-BASED TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p><b>P – For Generators that are Started as a “Motor” Only:</b> This information is needed only for Generators that are started by “motoring” the generator.</p> <p>See PG&amp;E’s Rule 21, Sections L.3.d. and L.7.b. for significance and additional information.</p> <p>If this question was answered in Part IV, question C of this Application, it need not be answered here.</p> <p>1. In-Rush Current:</p> <p>2. Host Customer’s Service Entrance Panel (Main Panel) Continuous Current Rating:</p>	_____ (Amps)	_____ (Amps)	_____ (Amps)	_____ (Amps)
<p><b>Q – Prime Mover Type</b></p> <p>Please indicate the type and fuel used as the prime mover or source of energy for the Generator.</p> <p>1 = Natural Gas 2 = Diesel Fueled 3 = Other Fuel</p>	1   2   3	1   2   3	1   2   3	1   2   3
<p><b>R - AC Disconnect</b></p> <p>For systems requiring an AC Disconnect only, please include the requested information about the AC Disconnect.</p> <p>See PG&amp;E’s Rule 21, Section H.1.d</p> <p>Located within 10 feet of the PG&amp;E meter?</p>	_____ Manufacturer  _____ Model #  _____ Rating (amps)  <input type="checkbox"/> Yes <input type="checkbox"/> No			
<p><b>S - Lineside Tap</b></p> <p>Where is the point of interconnection in relation to the main breaker?</p> <p>PG&amp;E has special requirements for a lineside tap.</p> <p>Contact PG&amp;E at: <a href="mailto:Rule21Gen@PGE.com">Rule21Gen@PGE.com</a> for more information.</p>	_____ Customer side  <input type="checkbox"/> PG&E side	_____ Customer side  <input type="checkbox"/> PG&E side	_____ Customer side  <input type="checkbox"/> PG&E side	<input type="checkbox"/> Customer side  <input type="checkbox"/> PG&E side
<p><b>T – Warranty or Service Agreement</b></p> <p>Applicant has verified that (i) a warranty of at least 10 years has been provided on all equipment and on its installation, or (ii) have a 10-year service warranty or executed</p>	<input type="checkbox"/> Yes  <input type="checkbox"/> No			



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT F

### **MACHINE-BASED TECHNOLOGY**

“agreement” ensuring proper maintenance and continued system performance.				
<b>U - Cogeneration</b> Please indicate whether this Generating Facility meets the definition of cogeneration in PUC 216.6 (5% useful thermal and 42.5% efficient):	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No
<b>V - Distribution Interconnect Handbook (DIH) and Greenbook Requirements</b> Does this interconnection meet the DIH and Greenbook Requirements	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No
<b>W - Gas Clearance Requirements</b> Certify that this interconnection meets Greenbook Gas Clearance Requirements?	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No
<b>X - Back-up Generator Operation</b> Will the generator be operated as a back-up?  If yes, please indicate control device.	___ Yes ___ No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	___ Yes ___ No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	___ Yes ___ No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	___ Yes ___ No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker
<b>Y - Limited Export</b> Will the generator export be limited?  If yes, please indicate how export will be limited.	___ Yes ___ No  <input type="checkbox"/> Power Control System (PCS) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter	___ Yes ___ No  <input type="checkbox"/> Power Control System (PCS) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter	___ Yes ___ No  <input type="checkbox"/> Power Control System (PCS) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter	___ Yes ___ No  <input type="checkbox"/> Power Control System (PCS) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter



**Electric Sample Form No. 79-1174-02G**  
Rule 21 Generator Interconnection Application - Attachment G

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6270-E  
*Decision*

*Issued by*  
**Robert S. Kenney**  
*Vice President, Regulatory Affairs*

*Submitted* July 23, 2021  
*Effective* \_\_\_\_\_  
*Resolution* \_\_\_\_\_



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT G

### FUEL CELL TECHNOLOGY

Please complete the following table for the specific generator technology indicated.

Instructions				
Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p>Please indicate the number of each <b>“type” and quantity</b> of Generator being installed.</p> <p>Be sure all Generators classified as one “type” are identical in all respects.</p> <p>If only one type of Generator is to be used, only one column needs to be completed.</p>				
<p>A - Generator/Inverter Manufacturer</p> <p>Enter the brand name of the Generator.</p>				
<p>B - Generator/Inverter Model</p> <p>Enter the model name or number assigned by the manufacturer of the Generator.</p>				
<p>C - Generator/Inverter Software Version</p> <p>If this Generator’s control and or protective functions are dependent on a software program supplied by the manufacturer of the equipment, please provide the version or release number for the software that will be used.</p>				
<p>D - Is the Generator/Inverter certified?</p> <p>Applicant has verified that all major solar system components are on the verified equipment list maintained by the California Energy Commission and other equipment, as determined by PG&amp;E, has been verified by the customer as having safety certification from a nationally recognized testing laboratory.</p> <p>See PG&amp;E’s Rule 21, Section L for additional information regarding Generator certification.</p>	<input type="checkbox"/> Yes  <input type="checkbox"/> No			



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT G

### FUEL CELL TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<b>E - Generator Design</b> Please indicate the design of each Generator. Designate "Inverter" anytime an inverter is used as the interface between the Generator and the electric system regardless of the primary power production/storage device used.	___ Synch ___ Induct. ___ Inverter			
<b>F - Gross Nameplate Rating (kVA)</b> This is the capacity value normally supplied by the manufacturer and stamped on the Generator's nameplate. This value is not required where the manufacturer provides only a kW rating. However, where both kVA and kW values are available, please indicate both.				
<b>G - Operating Voltage</b> This value should be the voltage rating designated by the manufacturer and used in this Generating Facility. Please indicate phase-to-phase voltages for 3-phase installations. See PG&E's Rule 21, Section H.2.b. and Table H.1., for additional information.				
<b>H - Power Factor Rating</b> This value should be the nominal power factor rating designated by the manufacturer for the Generator. See PG&E's Rule 21, Section H.2.i. for additional information.				
<b>I - PF Adjustment Range</b> Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values. See PG&E's Rule 21, Section H.2.i.				
<b>J - Wiring Configuration</b> Please indicate whether the Generator is a single-phase or three-phase device. See PG&E's Rule 21, Section H.3.				
<b>K - (MP) 3-Phase Winding Configuration (Choose One)</b> For three-phase generating units, please indicate the configuration of the Generator's windings or inverter systems.	___ 3 Wire Delta ___ 3 Wire Wye ___ 4 Wire Wye	___ 3 Wire Delta ___ 3 Wire Wye ___ 4 Wire Wye	___ 3 Wire Delta ___ 3 Wire Wye ___ 4 Wire Wye	___ 3 Wire Delta ___ 3 Wire Wye ___ 4 Wire Wye



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT G

### FUEL CELL TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p>L - (MP) Neutral Grounding System Used (Choose One)</p> <p>Wye connected generating units are often grounded – either through a resistor or directly, depending upon the nature of the electrical system to which the Generator is connected.</p> <p>If the grounding method used at this facility is not listed, please attach additional descriptive information.</p>	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms
M - Short Circuit Current Produced by Generator	_____ (Amps)	_____ (Amps)	_____ (Amps)	_____ (Amps)
<p>N – Prime Mover Type</p> <p>Please indicate the type and fuel used as the prime mover or source of energy for the Generator.</p> <p>1 = Natural Gas            2 = Diesel Fueled            3 = Other Fuel</p>	1   2   3	1   2   3	1   2   3	1   2   3
<p>O - AC Disconnect</p> <p>For systems requiring an AC Disconnect only, please include the requested information about the AC Disconnect.</p> <p>See PG&amp;E's Rule 21, Section H.1.d</p> <p>Located within 10 feet of the PG&amp;E meter?</p>	_____ Manufacturer _____ Model # _____ Rating (amps)	_____ Manufacturer _____ Model # _____ Rating (amps)	_____ Manufacturer _____ Model # _____ Rating (amps)	_____ Manufacturer _____ Model # _____ Rating (amps)
<p>P - Lineside Tap</p> <p>Where is the point of interconnection in relation to the main breaker?</p> <p>PG&amp;E has special requirements for a lineside tap.</p> <p>Contact PG&amp;E at: <a href="mailto:Rule21Gen@PGE.com">Rule21Gen@PGE.com</a> for more information.</p>	_____ Customer side _____ PG&E side			
<p>Q – Warranty or Service Agreement</p> <p>Applicant has verified that (i) a warranty of at least 10 years has been provided on all equipment and on its installation, or (ii) have a 10-year service warranty or executed "agreement" ensuring proper maintenance and continued system performance.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No			



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT G

### FUEL CELL TECHNOLOGY

<b>R - Cogeneration</b> Please indicate whether this Generating Facility meets the definition of cogeneration in PUC 216.6 (5% useful thermal and 42.5% efficient):	<input type="checkbox"/> Yes <input type="checkbox"/> No			
<b>S - Distribution Interconnect Handbook (DIH) and Greenbook Requirements</b> Does this interconnection meet the DIH and Greenbook Requirements	<input type="checkbox"/> Yes <input type="checkbox"/> No			
<b>T - Gas Clearance Requirements</b> Certify that this interconnection meets Greenbook Gas Clearance Requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No			
<b>U - Back-up Generator Operation</b> Will the generator be operated as a back-up?  If yes, please indicate control device.	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker
<b>V - Limited Export</b> Will the generator export be limited?  If yes, please indicate how export will be limited.	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter



**Electric Sample Form No. 79-1174-02H**  
Rule 21 Generator Interconnection Application - Attachment H

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6270-E  
*Decision*

*Issued by*  
**Robert S. Kenney**  
*Vice President, Regulatory Affairs*

*Submitted* July 23, 2021  
*Effective* \_\_\_\_\_  
*Resolution* \_\_\_\_\_



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT H

### **ENERGY STORAGE TECHNOLOGY**

Please complete the following table for the specific generator technology indicated.

Instructions				
Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p>Please indicate the number of each <b>“type” and quantity</b> of Generator being installed.</p> <p>Be sure all Generators classified as one “type” are identical in all respects.</p> <p>If only one type of Generator is to be used, only one column needs to be completed.</p>				
<p>A - Generator/Inverter Manufacturer</p> <p>Enter the brand name of the Generator.</p>				
<p>B - Generator/Inverter Model</p> <p>Enter the model name or number assigned by the manufacturer of the Generator.</p>				
<p>C - Generator/Inverter Software Version</p> <p>If this Generator’s control and or protective functions are dependent on a software program supplied by the manufacturer of the equipment, please provide the version or release number for the software that will be used.</p>				
<p>D - Is the Generator/Inverter certified?</p> <p>Applicant has verified that all major solar system components are on the verified equipment list maintained by the California Energy Commission and other equipment, as determined by PG&amp;E, has been verified by the customer as having safety certification from a nationally recognized testing laboratory.</p> <p>See PG&amp;E’s Rule 21, Section L for additional information regarding Generator certification.</p>	<input type="checkbox"/> Yes  <input type="checkbox"/> No			
<p>E - Generator Design</p> <p>Please indicate the design of each Generator.</p> <p>Designate “Inverter” anytime an inverter is used as the interface between the Generator and the electric system regardless of the primary power production/storage device used.</p>	<input type="checkbox"/> Synch  <input type="checkbox"/> Induct.  <input type="checkbox"/> Inverter			



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT H

### ENERGY STORAGE TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p><b>F - Gross Nameplate Rating (kVA)</b></p> <p>This is the capacity value normally supplied by the manufacturer and stamped on the Generator's nameplate.</p> <p>This value is not required where the manufacturer provides only a kW rating. However, where both kVA and kW values are available, please indicate both.</p>				
<p><b>G - Energy Storage Electrical Source Function</b> (in addition, please complete section: "Additional Information Required for Energy Storage")</p>	<p>Max kWh Capacity:</p> <hr/> <p>Rated kW Discharge:</p> <hr/>	<p>Max kWh Capacity:</p> <hr/> <p>Rated kW Discharge:</p> <hr/>	<p>Max kWh Capacity:</p> <hr/> <p>Rated kW Discharge:</p> <hr/>	<p>Max kWh Capacity:</p> <hr/> <p>Rated kW Discharge:</p> <hr/>
<p><b>H - Operating Voltage</b></p> <p>This value should be the voltage rating designated by the manufacturer and used in this Generating Facility.</p> <p>Please indicate phase-to-phase voltages for 3-phase installations.</p> <p>See PG&amp;E's Rule 21, Section H.2.b. and Table H.1., for additional information.</p>				
<p><b>I - Power Factor Rating</b></p> <p>This value should be the nominal power factor rating designated by the manufacturer for the Generator.</p> <p>See PG&amp;E's Rule 21, Section H.2.i. for additional information.</p>				
<p><b>J - PF Adjustment Range</b></p> <p>Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values.</p> <p>See PG&amp;E's Rule 21, Section H.2.i.</p>				
<p><b>K - Wiring Configuration</b></p> <p>Please indicate whether the Generator is a single-phase or three-phase device. See PG&amp;E's Rule 21, Section H.3.</p>				



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT H

### ENERGY STORAGE TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<b>L - (MP) 3-Phase Winding Configuration (Choose One)</b> For three-phase generating units, please indicate the configuration of the Generator's windings or inverter systems.	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye
<b>M - (MP) Neutral Grounding System Used (Choose One)</b> Wye connected generating units are often grounded – either through a resistor or directly, depending upon the nature of the electrical system to which the Generator is connected. If the grounding method used at this facility is not listed, please attach additional descriptive information.	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms
<b>N - Short Circuit Current Produced by Generator:</b>	<input type="text"/> (Amps)	<input type="text"/> (Amps)	<input type="text"/> (Amps)	<input type="text"/> (Amps)
<b>O – Prime Mover Type</b> Please indicate the type and fuel used as the prime mover or source of energy for the Generator. 1 = Natural Gas 2 = Diesel Fueled 3 = Other Fuel	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
<b>P - AC Disconnect</b> For systems requiring an AC Disconnect only, please include the requested information about the AC Disconnect. See PG&E's Rule 21, Section H.1.d  Located within 10 feet of the PG&E meter?	<input type="text"/> Manufacturer  <input type="text"/> Model #  <input type="text"/> Rating (amps)  <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="text"/> Manufacturer  <input type="text"/> Model #  <input type="text"/> Rating (amps)  <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="text"/> Manufacturer  <input type="text"/> Model #  <input type="text"/> Rating (amps)  <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="text"/> Manufacturer  <input type="text"/> Model #  <input type="text"/> Rating (amps)  <input type="checkbox"/> Yes <input type="checkbox"/> No



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT H

### ENERGY STORAGE TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<b>Q - Energy Storage (ES) System</b> (For important sizing information related to DC-Coupled configurations, see sizing note below).	_____ Manufacturer  _____ Model #  _____ Quantity of Units	_____ Manufacturer  _____ Model #  _____ Quantity of Units	_____ Manufacturer  _____ Model #  _____ Quantity of Units	_____ Manufacturer  _____ Model #  _____ Quantity of Units
<b>R - Lineside Tap</b> Where is the point of interconnection in relation to the main breaker?  PG&E has special requirements for a lineside tap. Contact PG&E at: <a href="mailto:Rule21Gen@PGE.com">Rule21Gen@PGE.com</a> for more information.	_____ Customer side  _____ PG&E side	_____ Customer side  _____ PG&E side	_____ Customer side  _____ PG&E side	_____ Customer side  _____ PG&E side
<b>S – Warranty or Service Agreement</b> Applicant has verified that (i) a warranty of at least 10 years has been provided on all equipment and on its installation, or (ii) have a 10-year service warranty or executed “agreement” ensuring proper maintenance and continued system performance.	_____ Yes _____ No	_____ Yes _____ No	_____ Yes _____ No	_____ Yes _____ No
<b>T - Distribution Interconnect Handbook (DIH) and Greenbook Requirements</b> Does this interconnection meet the DIH and Greenbook Requirements	_____ Yes _____ No	_____ Yes _____ No	_____ Yes _____ No	_____ Yes _____ No
<b>U - Gas Clearance Requirements</b> Certify that this interconnection meets Greenbook Gas Clearance Requirements?	_____ Yes _____ No	_____ Yes _____ No	_____ Yes _____ No	_____ Yes _____ No
<b>V - Basic Single Line Diagram (SLD)</b> If the interconnection is eligible to use a Basic SLD, please include the requested information.   Can this system be used as a back-up	_____ Panel Voltage (Volts)  _____ Main Breaker (Amps)  _____ Storage Breaker Size (Amps)	_____ Panel Voltage (Volts)  _____ Main Breaker (Amps)  _____ Storage Breaker Size (Amps)	_____ Panel Voltage (Volts)  _____ Main Breaker (Amps)  _____ Storage Breaker	_____ Panel Voltage (Volts)  _____ Main Breaker (Amps)  _____ Storage Breaker Size (Amps)



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT H

### ENERGY STORAGE TECHNOLOGY

generator?  If so, please include the requested information for the back-up controller or other device.	<input type="checkbox"/> Yes <input type="checkbox"/> No  _____ Manufacturer  _____ Make  _____ Model No.	<input type="checkbox"/> Yes <input type="checkbox"/> No  _____ Manufacture r  _____ Make  _____ Model No.	Size (Amps)  <input type="checkbox"/> Yes <input type="checkbox"/> No  _____ Manufactur er  _____ Make  _____ Model No.	<input type="checkbox"/> Yes <input type="checkbox"/> No  _____ Manufacture r  _____ Make  _____ Model No.
<b>W - Back-up Generator Operation</b> Will the generator be operated as a back-up?  If yes, please indicate control device.	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker
<b>X - Limited Export</b> Will the generator export be limited?  If yes, please indicate how export will be limited.	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter

**Energy Storage Charging Function:**

Rated Charge Demand (Load): \_\_\_\_\_ kW

Estimated annual Net Energy Usage\* of the energy storage device(s): \_\_\_\_\_ kWh

\*Net Energy usage = (kWh input, including charging, storage device auxiliary loads and losses) – (kWh output including discharging)

Will the Distribution Grid be used to charge the storage device:       Yes       No

If no: Provide technical description of control systems including (e.g. Nationally-certified piece of equipment, Relays/metering): \_\_\_\_\_

Source of energy for Charging: \_\_\_\_\_

Mechanism to prevent charging from the Distribution System: \_\_\_\_\_



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT H

### **ENERGY STORAGE TECHNOLOGY**

---

If Yes: Will charging the storage device(s) increase the host facility's existing peak load demand:

Yes       No

If Yes: Provide the following loading information:

Amount of added peak demand: \_\_\_\_\_ kW

If no: Provide technical description of controls systems including:

Charging periods: \_\_\_\_\_

Mechanism to prevent charging from the Distribution System during host facility peak:

\_\_\_\_\_



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT H

### ENERGY STORAGE TECHNOLOGY

#### **Expedited Interconnection Process Selection for Non-Export Energy Storage:**

- This project meets the requirements identified in Rule 21 Section N and this process is being selected for expedited interconnection.

#### Note on Sizing (DC-Coupled Configurations)

The size of the storage system in DC-coupled NEM-eligible generator plus storage systems is the lesser of the shared inverter's (or inverters') nameplate capacity (capacities summed) and the storage device's (devices') maximum continuous discharge capacity (capacities summed) listed on the device's (devices') technical specifications sheets. A storage device's maximum continuous discharge capacity may be listed on technical specification sheets using different terminology. Note: PG&E will use common sense to determine whether a device's technical specification sheet includes the appropriate metric for purposes of determining system size, regardless of the terminology used. If that metric is not included, PG&E may rely on the inverter's nameplate rating.

For example:

- What is the maximum continuous discharge capability for each storage unit?  
\_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = . total \_\_\_\_\_
- What is each inverter's nameplate rating?  
\_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = . total \_\_\_\_\_



**ELECTRIC TABLE OF CONTENTS**

Sheet 1

**TABLE OF CONTENTS**

<b>SCHEDULE</b>	<b>TITLE OF SHEET</b>	<b>CAL P.U.C. SHEET NO.</b>	
Title Page.....		<b>50670-E</b>	(T)
Rate Schedules.....	50625,49732,50626,49701,50627,50628,50657,49654,49184-E		
Preliminary Statements.....	49185,48878,50629,50630,45904,49682,50008,50631-E		
Rules.....		50632,50633,50634-E	
Maps, Contracts and Deviations.....		50635-E	
Sample Forms.....	50636, <b>50671,50672</b> ,50638,50639, <b>50673</b> ,		(T)
.....	50640,50641,49307,50642,49309,49310,49311-E		

(Continued)

Advice 6270-E  
Decision

Issued by  
**Robert S. Kenney**  
Vice President, Regulatory Affairs

Submitted  
Effective  
Resolution

July 23, 2021



**ELECTRIC TABLE OF CONTENTS**

Sheet 24

<b>FORM</b>	<b>TITLE OF SHEET</b>	<b>CAL P.U.C. SHEET NO.</b>
<b>Sample Forms</b>		
<b>Rule 20 Replacement of Overhead with Underground Electric Facilities</b>		
79-1113	Agreement to Perform Tariff Schedule Related Work, Rule 20A Electric Panel Service Conversions .....	48602-E
<b>Sample Forms</b>		
<b>Rule 21 Generating Facility Interconnections</b>		
79-280	Agreement for Installation or Allocation of Special Facilities for Parallel Operation of Nonutility Owned Generation and/or Electrical Standby Service (Electric Rule 2 and 21) .....	48684-E
79-702	Agreement for Installation or Allocation of Special Facilities for Parallel Operation of Nonutility-Owned Generation and/or Electrical Standby Service (Electric Rule 2 and 21) – Appendix A, Detail of Special Facilities Charges .....	48686-E
79-973	Generating Facility Interconnection Agreement .....	50577-E
79-988	Generating Facility Interconnection Agreement Third Party Non-Exporting .....	50580-E
79-992	Generating Facility Interconnection Agreement Third Party Generation or Premise Non-Exporting .....	49236-E
79-1070	Addendum to Form 79-973 – Export Addendum for Generators Sized 2 Megawatts or Less .....	48582-E
79-1100	Electric Rule 21 – Agreement to Install Applicant Requested NGOM Special Facilities for Solar Performance Metering .....	48592-E
79-1136	PG&E Interconnection Agreement For An Existing Small Generating Facility Interconnecting to the Distribution System Under Rule 21 .....	48619-E
79-1145	Rule 21 Exporting Generator Interconnection Request .....	49768-E
79-1162	Rule 21 Detailed Study Agreement .....	48645-E

(D)  
-----  
(D)

(Continued)

Advice 6270-E  
Decision

Issued by  
**Robert S. Kenney**  
Vice President, Regulatory Affairs

Submitted  
Effective  
Resolution

July 23, 2021



**ELECTRIC TABLE OF CONTENTS**

Sheet 25

FORM	TITLE OF SHEET	CAL P.U.C. SHEET NO.
<b>Sample Forms</b>		
<b>Rule 21 Generating Facility Interconnections (Cont'd)</b>		
79-1174-02	Rule 21 Generator Interconnection Application.....	49266-E
79-1174-02A	Rule 21 Generator Interconnection Application – Attachment A .....	<b>50663-E</b> (T)
79-1174-02B	Rule 21 Generator Interconnection Application – Attachment B .....	<b>50664-E</b> (T)
79-1174-02C	Rule 21 Generator Interconnection Application – Attachment C .....	49269-E
79-1174-02D	Rule 21 Generator Interconnection Application – Attachment D .....	<b>50665-E</b> (T)
79-1174-02E	Rule 21 Generator Interconnection Application – Attachment E .....	<b>50666-E</b>
79-1174-02F	Rule 21 Generator Interconnection Application – Attachment F .....	<b>50667-E</b>
79-1174-02G	Rule 21 Generator Interconnection Application – Attachment G .....	<b>50668-E</b>
79-1174-02H	Rule 21 Generator Interconnection Application – Attachment H .....	<b>50669-E</b> (T)
79-1174-02I	Rule 21 Generator Interconnection Application – Attachment I.....	49275-E
79-1174-02J	Rule 21 Generator Interconnection Application – Attachment J.....	49276-E
79-1174-02K	Rule 21 Generator Interconnection Application – Attachment K .....	49277-E
79-1174-02L	Rule 21 Generator Interconnection Application – Attachment L.....	49278-E
79-1174-02M	Rule 21 Generator Interconnection Application – Attachment M.....	49279-E
79-1174-02N	Rule 21 Generator Interconnection Application – Attachment N .....	49280-E
79-1175	Rule 21 Consent to Assignment Form for Non-NEM Projects.....	48657-E
79-1181	Rule 21 Pre-Application Report Request .....	48663-E
79-1191	Generating Facility Interconnection Agreement For Local Government Renewable Energy Self-Generation Bill Credit Transfer (RES-BCT).....	49295-E
79-1197	Local Government Renewable Energy Self-Generation Bill Credit Transfer (RES-BCT) Re-Allocation Request .....	48676-E
79-1198-02	Interconnection Agreement for Net Energy Metering (NEM2) and Renewable Electrical Generating Facility Sized Greater than 1,000 kW .....	50574-E
79-1199	Agreement and Customer Authorization Non-Export Standalone Energy Storage of 30 Kilowatts or Less .....	48678-E
79-1200	Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities .....	48679-E
79-1204	Pilot Pedestal Program Application .....	48680-E
79-1211	Generating Facility Material Modification Notification Worksheet.....	50316-E
79-1212	Rule 21 Non-Export Generator Interconnection Notification .....	50658-E (P)
79-1213	Agreement and Customer Authorization Non-Export Generating Facility Sized 30 Kilowatts or Less .....	50558-E
79-1214	Notification-Only Pilot Program Developer Eligibility Application . .....	50559-E (P)

(Continued)



**ELECTRIC TABLE OF CONTENTS**

Sheet 28

<b>FORM</b>	<b>TITLE OF SHEET</b>	<b>CAL P.U.C. SHEET NO.</b>
<b>Sample Forms</b>		
<b>Net Energy Metering</b>		
79-978	Interconnection Agreement for NEM of Solar or Wind Electric Generating Facilities 1,000 kW or less, other than Residential or Small Commercial Facilities of 10 kW or Less .....	50578-E
79-978-02	Interconnection Agreement for Net Energy Metering (NEM2) of Solar or Wind Electric Generating Facilities of 1,000 Kilowatts or Less, Other than Facilities of 30 Kilowatts or Less .....	50579-E
79-997	Interconnection Agreement for Net Energy Metering of Biogas Digester Generating Facilities .....	50581-E
79-999	Agreement for Limited Optional Remote Metering Service .....	48710-E
79-1002	Customer Generation Departing Nonbypassable Charge.....	48556-E
79-1010	Interconnection Agreement for Net Energy Metering of Fuel Cell Generating Facilities .....	50565-E
79-1069	Generating Facility Interconnection Agreement (Eligible/Non-Eligible Net Generating Facility Export) .....	50567-E
79-1069-02	Generating Facility Interconnection Agreement (Multiple Tariff NEM2MT) .....	50568-E
79-1109	Net Energy Metering Application and Interconnection Agreement for the Building Owner of a Multifamily Affordable Solar Housing Facility with a Solar Generating Facility of 1 Megawatt or Less .....	48598-E
79-1109-02	NEM2VMSH Virtual NEM Application and Interconnection Agreement for the Building Owner of Multifamily Affordable Housing with a Solar Generating Facility of 1 Megawatt or Less .....	48599-E
79-1114	NEM 2010 Early True-up Request Form .....	48603-E
79-1124	Eligible Low Income Development Virtual NEM Application and Interconnection Agreement for Multi-Family Affordable Housing with Solar Generation Totaling 1 Megawatt or Less.....	48609-E
79-1124-02	Eligible Low Income Development Virtual NEM (NEM2VMSH) Application and Interconnection Agreement for Multifamily Affordable Housing with Solar Generation Totaling 1 MW or Less...	48610-E
79-1125	NEM / NEMVMASH Inspection Report.....	48611-E
79-1130	Customer Request Form not to Receive Net Surplus Compensation.....	48616-E
79-1131	NEM Application and Interconnection Agreement for an Eligible Generating Facility of 1MW or Less Serving Multiple Tenants .....	48617-E
79-1131-02	NEM2V Application and Interconnection Agreement for a Solar (PV) or Wind Generating Facility of 1 MW or Less.....	48618-E
79-1137	Interconnection Agreement for Net Metering for a Renewable Electrical Generation Facility of 1,000 Kilowatts or Less.....	50569-E
79-1137-02	Interconnection Agreement for Net Energy Metering (NEM2/NEM2V) for a Renewable Electricity Generation Facility of 1,000 Kilowatts or Less, Except Solar or Wind .....	50570-E
79-1142	NEMV Interconnection Application for a Renewable Electrical Generation Facility of 1 Megawatt or Less .....	48624-E
79-1151A	Agreement and Customer Authorization – Net Energy Metering Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less.....	49228-E
79-1151A-02	Agreement And Customer Authorization - Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less .....	49229-E
79-1151B	Application – Net Energy Metering Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less .....	<b>50661-E</b> (T)
79-1151B-02	Application - Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less .....	<b>50662-E</b> (T)
79-1153	NEM Load Aggregation Appendix .....	48635-E
79-1153-02	NEM2A Load Aggregation Appendix .....	49230-E
79-1155	Schedules NEM, NEMV, NEMVMASH, NSE Renewable Energy Credits Compensation .....	48638-E
79-1155-02	Schedules NEM2, NEM2V, NEM2VMSH, Net Surplus Electricity (NSE) Renewable Energy Credits Compensation.....	48639-E
79-1189	Eligible Low Income Development Virtual Net Energy Metering (NEM2VMSH) Interconnection Agreement for Multifamily Affordable Housing with Solar Generation Totaling 1 MW or Less...	48667-E

(Continued)

Advice 6270-E  
July 23, 2021

**Attachment 2**  
**Redline Tariff Revisions**



**Electric Sample Form 79-1151B**

Sheet 1

APPLICATION

Net Energy Metering Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30  
Kilowatts Or Less

**Please Refer to Attached  
Sample Form**



# APPLICATION

## Net Energy Metering Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

### IMPORTANT NOTES:

- Customers may not operate their Generating Facility while interconnected to the PG&E system until they receive written permission from PG&E.
- For a non-exporting Generating Facility, RES-BCT facility, or NEM Generating technologies other than 30 kW or less solar or wind, Customers must submit the online Form 79-974 available at [www.pge.com/gen](http://www.pge.com/gen).

### Part I – Generating Facility Information and Responsible Parties

#### A. Customer and Generating Facility Information (\*as it appears on the PG&E bill):

Electric Service Agreement ID\* \_\_\_\_\_

Meter Number\* \_\_\_\_\_

Is there an electric vehicle charging on site at the above service address?  Yes  No  
 If yes, please indicate how many electric vehicles \_\_\_\_\_

#### B. Interconnection Application Type (check one):

- New NEM Generating Facility interconnection at an existing PG&E service.
- Modify existing PG&E approved Generating Facility interconnection (adding/removing/replacing equipment).
  - Must provide a Custom Single-Line Drawing (SLD) showing the original system and the modified system.
- New interconnection in combination 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.
  - If this account will be established in a new subdivision, attach a list of lots/addresses and provide the following:

Developer Name \_\_\_\_\_

Development Name \_\_\_\_\_

#### C. System Owner (check one):

- PG&E Customer Owned

If PG&E Customer Owned, please answer the following:

Property Assessed Clean Energy (PACE) Financed?  Yes  No

Indicate the System Cost paid by Customer: \$ \_\_\_\_\_

PACE financed by which entity? \_\_\_\_\_

- Third Party Owned

If Third Party Owned, please answer the following:

Claimed Federal Investment Tax Credit (ITC) Cost Basis: \$ \_\_\_\_\_

Name of Developer at the time of sale: \_\_\_\_\_

Contract Type:  PPA  Lease  Pre-Paid Lease  Other \_\_\_\_\_

#### D. Rebate Information:

Did you participate in a California rebate program?  Yes  No

Please indicate the rebate program that you participated in: \_\_\_\_\_

Rebate Amount: \$ \_\_\_\_\_

**Please complete this agreement in its entirety**

† Information collected on this form is used in accordance with PG&E's Privacy Policy.  
The Privacy Policy is available at [pge.com/privacy](http://pge.com/privacy).



# APPLICATION

## Net Energy Metering Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

### Part I – Generating Facility Information and Responsible Parties – Continued

**E. Contractor Information** (List who is installing the system):  Check this box if self-installed

Company Name	California Contractors State License Number
Company Address	Phone Number
Email	

**F. Preparer of this Application** (if not the PG&E Customer, the Preparer must be authorized to act on behalf of the Customer on the Interconnection Agreement and Customer Authorization Form 79-1151A):

Company Name	Preparer Name	Date Prepared
--------------	---------------	---------------

**G. Customer Impacted by a Natural or Man-Made Disaster**

Customers who were taking service on the NEM tariff prior to the total or partial destruction of their system have the option to resume service on the same NEM tariff if a request for reapplication is received within two years from the date of destruction. To be eligible for this provision, all the following must be true:

1. You are the same PG&E customer of record pre-system destruction
2. You are now reapplying with a system that is sized to your most recent 12 months usage, or estimated usage that is determined by building size<sup>1</sup> (if applicable)
3. You are not operating the new (either completely new or partially new) system without written permission from PG&E
4. Your NEM Transition Period has not expired at the time of reapplication (see NEM Tariff)

Based on the above, select the appropriate box (check one):

I am a Customer who was impacted by a Natural or Man-Made Disaster as described in the NEM Tariffs and the above statements are true. I will submit my application online at [yourprojects.pge.com](https://www.egi-pge.com/yourprojects.pge.com) <https://www.egi-pge.com/> and will include the complete system currently onsite on the single line diagram. If my previous system was destroyed, I will also state this on the single line diagram.

I am either ineligible for this provision or this provision does not apply to my application. In either case, I will submit my application online at [yourprojects.pge.com](https://www.egi-pge.com/yourprojects.pge.com) <https://www.egi-pge.com/>.

### Part II – Description of the Generating Facilities

**A. Variances from Distribution Interconnection Handbook (DIH) and Greenbook Requirements** (check one):  
Generating Facilities must meet the DIH and Greenbook requirements, available at [www.pge.com/dih](http://www.pge.com/dih) and [www.pge.com/greenbook](http://www.pge.com/greenbook). A Variance Request must be submitted with the application for deviations, i.e. line-side tap, AC Disconnect > 10 ft from PG&E meter. (See Part III Section B for information on submitting Variance Request)

- The project meets the DIH and Greenbook Requirements and does not require a Variance Request.
- The project deviates from the DIH and Greenbook Requirements and I will include a Variance Request.

<sup>1</sup>Building Size Calculation: Sq Ft X 3.23. Note: 2 watts/sq ft x 1/1,000 watts x 8,760 hrs/yr x 0.19 solar capacity factor = 3.32



# APPLICATION

## Net Energy Metering Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

Note: Customers with Non-certified inverters or whose aggregate Generating Facility capacity exceeds 15% of the peak load on the distribution line section (or do not meet other Initial Review screens as described in Electric Rule 21) require a Supplemental Review which may result in further study, additional equipment, and/or other requirements. Customers will be notified if a Supplemental Review is required.

**Part II – Description of the Generating Facilities – Continued**

**B. Photovoltaic (PV) Generating Facility Information**

To avoid application processing delays, the manufacturer and model numbers provided should be the same as they appear on the Go Solar California website: [http://www.gosolarcalifornia.ca.gov/links/equipment\\_links.php](http://www.gosolarcalifornia.ca.gov/links/equipment_links.php).

**B.1 Mounting Method:**     Rooftop         Ground         Mixed

**B.2 Tracking Type:**         Fixed         Single-Axis     Dual-Axis     Mixed

If fixed,  
please indicate:

Tilt: \_\_\_\_\_ degrees    Azimuth: \_\_\_\_\_ degrees

**B.3 Are Performance Monitoring and Reporting Services (PMRS) being utilized?**     Yes     No

Who is receiving the data (check all that apply):     Customer

Third Party (list name) \_\_\_\_\_

**B.4 Photovoltaic Generator 1:**

Inverter Manufacturer	Model Number	Nameplate Rating kW/unit	CEC <sup>B</sup> Rating kW/unit	Output Voltage	1 or 3 Phase	Qty
PV Panel Manufacturer	Model Number	Nameplate Rating kW/unit	PTC <sup>C</sup> Rating kW/unit	Total Nameplate Capacity kW		Qty

**B.4 Photovoltaic Generator 2:**

Inverter Manufacturer	Model Number	Nameplate Rating kW/unit	CEC Rating kW/unit	Output Voltage	1 or 3 Phase	Qty
PV Panel Manufacturer	Model Number	Nameplate Rating kW/unit	PTC Rating kW/unit	Total Nameplate Capacity kW		Qty

<sup>A</sup> California Energy Commission (CEC) ratings are available at [www.consumerenergycenter.org](http://www.consumerenergycenter.org)  
<sup>C</sup> PTC: PVUSA Test Conditions. PTC ratings are available at [www.consumerenergycenter.org](http://www.consumerenergycenter.org)

**Please complete this agreement in its entirety**



# APPLICATION

## Net Energy Metering Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

**C. Wind Turbine Generating Facility Information**

Check this box if the inverter is incorporated in the wind turbine. Then complete the Wind Turbine information below and identify the following: Output Voltage: \_\_\_\_\_(volts); Phase Type:  1  3

**Part II – Description of the Generating Facilities – Continued**

Inverter Manufacturer	Model Number	Nameplate Rating kW/unit	CEC Rating kW/unit	Output Voltage	1 or 3 Phase	Qty
Wind Turbine Manufacturer	Model Number	Nameplate Rating kW/unit	CEC Rating kW/unit	Total Nameplate Capacity kW		Qty

**D. AC Disconnect Switch**

Check this box if no A/C Disconnect Switch is applicable. See Part III, Section C for requirements.

AC Disconnect Manufacturer	Model Number	Rating (amps)	Qty

If applicable, is/are the AC Disconnect(s) less than 10 ft. of the PG&E electric meter?  Yes  No

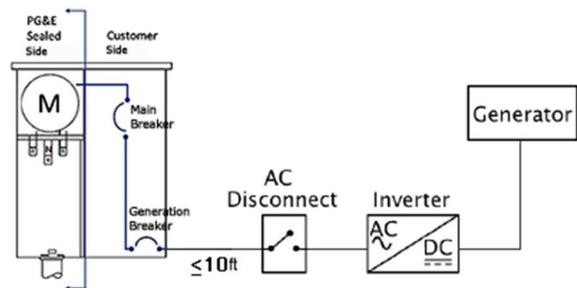
Note: PG&E’s Electric and Gas Service Requirements, also known as the “Greenbook” requires the AC Disconnect Switch to be located 10 feet or less from PG&E’s electric revenue meter at the point of common coupling or interconnection and easily seen from the panel. If the AC Disconnect Switch is greater than 10 feet or there is more than one AC Disconnect, a variance request must be submitted as outlined in Part II, Section A.

**E. Basic Single-Line Diagram (SLD) for Solar Projects (check one):**

I certify that the SLD below and the PV equipment information in Part II accurately represent the Customer’s service, the Generating Facility (there are no other Generator Facility(ies) connected to the service, and the project does not require a Variance Request.

**Utility Service:** (if using the SLD to the right)

Panel Voltage (volts)	Main Breaker (amps)	PV Breaker Size (amps)



I will submit a custom SLD for one or more of the following reasons: there is/are existing Generating Facility(ies) connected to the service, I am modifying an existing Generating Facility, the Basic SLD does not accurately reflect the project, or I am submitting a Variance Request. (See Part III Section D for Custom SLD details.)

**F. Service Panel Short Circuit Interrupting Rating (SCIR) (for total inverter nameplate ratings larger than 11 kW):**

SCIR of the service panel connected to this Generating Facility: \_\_\_\_\_ watts

**Please complete this agreement in its entirety**



# APPLICATION

## Net Energy Metering Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

### Part III – Interconnection Guidelines and Document Information

Note: 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 Electric Generation Interconnection department at 415-972-5676 or email [gen@pge.com](mailto:gen@pge.com) if the proposed installation is in San Francisco where the zip code is 94102, 94103, 94104, 94105, 94107, 94108, 94109, 94111 or 94133 or in Oakland where the zip code is 94607 or 94612.

#### A. Documents

In addition to this NEM Interconnection Application, the documents listed below 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 on PG&E's website at [www.pge.com/standardnem](http://www.pge.com/standardnem).

##### Required Documents

- Net Energy Metering (NEM) Interconnection Agreement for Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less and Customer Authorization Form 79-1151A.
- Copy of the final, signed, jurisdiction approval (building permit) for Customer's Generating Facility.

##### Additional Documents (if applicable)

- Variance Request (if project deviates from requirements in Part II Section A).
- Custom Single-Line Diagram (SLD) (if project does not meet Part II Section E basic SLD requirements).

Documents and requirements other than those listed above and/or fees *may* be required depending on the specifics of the planned Generating Facility.

#### B. Variance Request (if applicable)

The Customer or the Customer's Contractor can request a Variance Request review from PG&E if the project is unable to meet the requirements described in the Distribution Interconnection Handbook and Greenbook, available at [www.pge.com/dih](http://www.pge.com/dih) and [www.pge.com/greenbook](http://www.pge.com/greenbook). The Variance Request must be submitted with the Interconnection Application and include the following.

1. Description of the proposal for which the Customer is requesting approval.
2. Customer name and project address.
3. Copy of the Custom Single Line Diagram or electrical drawings (Include the equipment, location, and/or distances for the proposed work).
4. Color photos of the Customer's area or section for the proposed work.
5. Manufacturer specification drawings for unapproved equipment that the Customer is requesting an approval.

#### C. AC Disconnect Switch Guidelines

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.

Customers **are not required** to include an AC Disconnect Switch when the facility has a single-phase self-contained electric revenue meter (i.e. 0-320 amp panel). However, if the Customer does not install an AC Disconnect Switch, the revenue meter may be temporarily removed by PG&E due to an emergency or maintenance on PG&E's system to isolate the Customer's generator from the electric distribution system. Removal of the revenue meter will result in loss of electrical service to the Customer's facility or residence.

An AC Disconnect Switch **is required** for a Customer with:

- Inverter-based interconnections having a three-phase self-contained meter or 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.

**Please complete this agreement in its entirety**



# APPLICATION

## Net Energy Metering Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

- Inverter and non-inverter based generators that do not have overcurrent protection at the point of interconnection.

### Part III – Interconnection Guidelines and Document Information – Continued

#### D. Custom Single-line Diagram (SLD) (if applicable)

The Custom SLD must include the information below for identified equipment.

1. Manufacturer, model number, nameplate rating, quantity:
  - a) Inverter(s), PV or wind turbine generators, AC Disconnect Switch, generation output meter and instrument transformers.
2. Electrical rating and operating voltages:
  - a) Service panel, circuit breaker, and other Generating Facility protective devices
3. Location of:
  - a) Customer's loads relative to the Generating Facility, and the interconnection with PG&E's Distribution System.
  - b) AC Disconnect Switch.
4. 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 based on the total nameplate rating of the inverter.

**E. Governing Authority.** This form at all times shall be subject to such modifications as the California Public Utilities Commission may direct from time to time in the exercise of its jurisdiction.

Please submit the Agreement and Customer Authorization and Application online at [www.pge.com/standardnem](http://www.pge.com/standardnem).



**Electric Sample Form No. 79-1151B-02**

Sheet 1

Application - Net Energy Metering (NEM2) Interconnection For Solar And/Or  
Wind Electric Generating Facilities Of 30 Kilowatts Or Less

**Please Refer to Attached  
Sample Form**



# APPLICATION

## Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

**IMPORTANT NOTES:**

- Customers may not operate their Generating Facility while interconnected to the PG&E system until they receive written permission from PG&E.
- For a non-exporting Generating Facility, RES-BCT facility, or NEM2 Generating technologies other than 30 kW or less solar or wind, Customers must submit the online Form 79-1174-02 available at [yourprojects.pge.com/www.pge.com/gen\\_](http://yourprojects.pge.com/www.pge.com/gen_)

**Part I – Generating Facility Information and Responsible Parties**

**A. Customer and Generating Facility Information** (\*as it appears on the PG&E bill):

\_\_\_\_\_  
Electric Service Agreement ID\*

\_\_\_\_\_  
Meter Number\*

**B. Interconnection Application Type** (check one):

- New NEM2 Generating Facility interconnection at an existing PG&E service.
- Modify existing PG&E approved Generating Facility interconnection (adding/removing/replacing equipment).
  - Must provide a Custom Single-Line Drawing (SLD) showing the original system and the modified system.

**C. System Owner** (check one):

- PG&E Customer Owned

If PG&E Customer Owned, please answer the following:

Property Assessed Clean Energy (PACE) Financed?  Yes  No

PACE financed by which entity? \_\_\_\_\_

Indicate the System Cost paid by Customer: \$ \_\_\_\_\_

- Third Party Owned

If Third Party Owned, please answer the following:

Claimed Federal Investment Tax Credit (ITC) Cost Basis: \$ \_\_\_\_\_

Name of Developer at the time of sale: \_\_\_\_\_

Contract Type:  PPA  Lease  Pre-Paid Lease  Other \_\_\_\_\_

**D. Rebate Information:**

Did the Customer participate in a California rebate program?  Yes  No

Please indicate the rebate program that you participated in: \_\_\_\_\_

Rebate Amount: \$ \_\_\_\_\_

**Please complete this agreement in its entirety**

† Information collected on this form is used in accordance with PG&E's Privacy Policy.  
The Privacy Policy is available at [pge.com/privacy](http://pge.com/privacy).



# APPLICATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

## Part I – Generating Facility Information and Responsible Parties – Continued

E. **Contractor Information** (List who is installing the system):  Check this box if self-installed

Company Name _____		California Contractors State License Number _____	
Street Address _____	City _____	State _____	Zip _____
Email _____	Phone Number _____		

F. **Preparer of this Application** (if not the PG&E Customer, the Preparer must be authorized to act on behalf of the Customer on the Interconnection Agreement and Customer Authorization Form 79-1151-02A):

Company Name _____	Preparer Name _____	Date Prepared _____
--------------------	---------------------	---------------------

## Part II – Description of the Generating Facilities

A. **Variations from Distribution Interconnection Handbook (DIH) and Greenbook Requirements** (check one):  
Generating Facilities must meet the DIH and Greenbook requirements, available at [www.pge.com/dih](http://www.pge.com/dih) and [www.pge.com/greenbook](http://www.pge.com/greenbook). A Variance Request must be submitted with the application for deviations, i.e. line-side tap, AC Disconnect > 10 ft from PG&E meter. (See Part III Section B for information on submitting Variance Request)

- The project meets the DIH and Greenbook Requirements and does not require a Variance Request.
- The project deviates from the DIH and Greenbook Requirements and I will include a Variance Request.

### B. Photovoltaic (PV) Generating Facility Information

To avoid application processing delays, the manufacturer and model numbers provided should be the same as they appear on the Go Solar California website: [http://www.gosolarcalifornia.ca.gov/links/equipment\\_links.php](http://www.gosolarcalifornia.ca.gov/links/equipment_links.php).

- B.1 Mounting Method:**     Rooftop     Ground     Mixed
- B.2 Tracking Type:**     Fixed     Single-Axis     Dual-Axis     Mixed

If fixed,  
please indicate:

Tilt: \_\_\_\_\_ degrees    Azimuth: \_\_\_\_\_ degrees

**B.3 Are Performance Monitoring and Reporting Services (PMRS) being utilized?**     Yes     No

Who is receiving the data (check all that apply):     Customer  
 Third Party (list name) \_\_\_\_\_



# APPLICATION

## Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

**Part II – Description of the Generating Facilities – Continued**

**B.4 Photovoltaic Generator 1:**

Inverter Manufacturer	Model Number	Nameplate Rating kW/unit	CEC <sup>A</sup> Rating kW/unit	Output Voltage	1 or 3 Phase	Qty
PV Panel Manufacturer	Model Number	Nameplate Rating kW/unit	PTC <sup>B</sup> Rating kW/unit	Total Nameplate Capacity kW		Qty

**B.4 Photovoltaic Generator 2:**

Inverter Manufacturer	Model Number	Nameplate Rating kW/unit	CEC Rating kW/unit	Output Voltage	1 or 3 Phase	Qty
PV Panel Manufacturer	Model Number	Nameplate Rating kW/unit	PTC Rating kW/unit	Total Nameplate Capacity kW		Qty

**C. Wind Turbine Generating Facility Information**

Check this box if the inverter is incorporated in the wind turbine. Then complete the Wind Turbine information below and identify the following: Output Voltage: \_\_\_\_\_(volts); Phase Type:  1  3

Inverter Manufacturer	Model Number	Nameplate Rating kW/unit	CEC Rating kW/unit	Output Voltage	1 or 3 Phase	Qty
Wind Turbine Manufacturer	Model Number	Nameplate Rating kW/unit	CEC Rating kW/unit	Total Nameplate Capacity kW		Qty

**D. AC Disconnect Switch**

Check this box if no A/C Disconnect Switch is applicable. See Part III, Section C for requirements.

AC Disconnect Manufacturer	Model Number	Rating (amps)	Qty

If applicable, is/are the AC Disconnect(s) within 10 ft. of the PG&E electric meter?  Yes  No

Note: PG&E's Electric and Gas Service Requirements, also known as the "Greenbook" requires the AC Disconnect Switch to be located 10 feet or less from PG&E's electric revenue meter at the point of common coupling or interconnection and easily seen from the panel. If the AC Disconnect Switch is greater than 10 feet or there is more than one AC Disconnect, a variance request must be submitted as outlined in Part II, Section A.

<sup>A</sup> California Energy Commission (CEC) ratings are available at [www.consumerenergycenter.org](http://www.consumerenergycenter.org)

<sup>B</sup> PTC: PVUSA Test Conditions. PTC ratings are available at [www.consumerenergycenter.org](http://www.consumerenergycenter.org)

**Please complete this agreement in its entirety**

# APPLICATION

## Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

### Part II – Description of the Generating Facilities – Continued

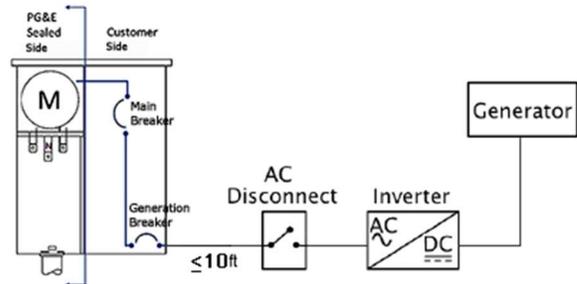
**E. Basic Single-Line Diagram (SLD) for Solar Projects** (check one):

I certify the following:

- 1) SLD below and the PV equipment information in Part II accurately represent the Customer's service,
- 2) the Generating Facility (there are no other Generator Facility(ies) connected to the service, and
- 3) the project does not require a Variance Request.

**Utility Service:** (if using the SLD to the right)

Panel Voltage (volts)	Main Breaker (amps)	PV Breaker Size (amps)



I will submit a custom SLD for one or more of the following reasons: there is/are existing Generating Facility(ies) connected to the service, I am modifying an existing Generating Facility, the Basic SLD does not accurately reflect the project, or I am submitting a Variance Request.  
(See Part III Section D for Custom SLD details.)

**F. Service Panel Short Circuit Interrupting Rating (SCIR)** (for total inverter nameplate ratings larger than 11 kW):

SCIR of the service panel connected to this Generating Facility: \_\_\_\_\_ amps

**G. Customer Impacted by a Natural or Man-Made Disaster**

Customers who were taking service on the NEM 2 tariff prior to the total or partial destruction of their system have the option to resume service on the same NEM tariff if a request for reapplication is received within two years from the date of destruction. To be eligible for this provision, all the following must be true:

1. You are the same PG&E customer of record pre-system destruction
2. You are now reapplying with a system that is sized to your most recent 12 months usage, or estimated usage that is determined by building size<sup>c</sup> (if applicable)
3. You are not operating the new (either completely new or partially new) system without written permission from PG&E
4. Your NEM Transition Period has not expired at the time of reapplication (see NEM 2 Tariff)

Based on the above, select the appropriate box:

I am a Customer who was impacted by a Natural or Man-Made Disaster as described in the NEM Tariffs and the above statements are true. I will submit my application online at [yourprojects.pge.com](https://yourprojects.pge.com) <https://www.egi-pge.com/> and will include the complete system currently onsite on the single line diagram. If my previous system was destroyed, I will also state this on the single line diagram.

I am either ineligible for this provision or this provision does not apply to my application. In either case, I will submit my application online at [yourprojects.pge.com](https://yourprojects.pge.com) <https://www.egi-pge.com/>.

<sup>c</sup>Building Size Calculation: Sq Ft X 3.23. Note: 2 watts/sq ft x 1/1,000 watts x 8,760 hrs/yr x 0.19 solar capacity factor = 3.32

**Please complete this agreement in its entirety**



# APPLICATION

## Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

### Part III – Interconnection Guidelines and Document Information

Note: 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 NEM2 customers. Please contact PG&E's Solar Customer Service Center at 877-743-4112, or email [SNEMHelp@pge.com](mailto:SNEMHelp@pge.com) if the proposed installation is in San Francisco where the zip code is 94102, 94103, 94104, 94105, 94107, 94108, 94109, 94111 or 94133 or in Oakland where the zip code is 94607 or 94612.

#### A. Documents

In addition to this NEM2 Interconnection Application, the documents listed below are needed to ensure safe and reliable operation of PG&E's Electric System and to confirm that Customer's interconnection has been performed in accordance with PG&E's tariffs. Additional forms are available on PG&E's website at [www.pge.com/standardnem](http://www.pge.com/standardnem).

##### Required Documents

- Net Energy Metering (NEM2) Interconnection Agreement for Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less and Customer Authorization Form 79-1151-02A.
- Copy of the final, signed, jurisdiction approval (building permit) for Customer's Generating Facility.

##### Additional Documents (if applicable)

- Variance Request (if project deviates from requirements in Part II Section A).
- Custom Single-Line Diagram (SLD) (if project does not meet Part II Section E basic SLD requirements).

Documents and requirements other than those listed above and/or fees *may* be required depending on the specifics of the planned Generating Facility.

#### B. Variance Request (if applicable)

The Customer or the Customer's Contractor can request a Variance Request review from PG&E if the project is unable to meet the requirements described in the Distribution Interconnection Handbook and Greenbook, available at [www.pge.com/dih](http://www.pge.com/dih) and [www.pge.com/greenbook](http://www.pge.com/greenbook). The Variance Request must be submitted with the Interconnection Application and include the following.

1. Description of the proposal for which the Customer is requesting approval.
2. Customer name and project address.
3. Copy of the Custom Single Line Diagram or electrical drawings (Include the equipment, location, and/or distances for the proposed work).
4. Color photos of the Customer's area or section for the proposed work.
5. Manufacturer specification drawings for unapproved equipment that the Customer is requesting an approval.

#### C. AC Disconnect Switch Guidelines

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 Electric System without having to interrupt service to the customer's facility or residence.

Customers **are not required** to include an AC Disconnect Switch when the facility has a single-phase self-contained electric revenue meter (i.e. 0-320 amp panel). However, if the Customer does not install an AC Disconnect Switch, the revenue meter may be temporarily removed by PG&E due to an emergency or maintenance on PG&E's system to isolate the Customer's generator from the electric distribution system. Removal of the revenue meter will result in loss of electrical service to the Customer's facility or residence.

An AC Disconnect Switch **is required** for a Customer with:

- Inverter-based interconnections having a three-phase self-contained meter or 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.
- 

**Please complete this agreement in its entirety**



# APPLICATION

## Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

### Part III – Interconnection Guidelines and Document Information - Continued

- Inverter and non-inverter based generators that do not have overcurrent protection at the point of interconnection.

#### D. Custom Single-line Diagram (SLD) (if applicable)

The Custom SLD must include the information below for identified equipment.

1. Manufacturer, model number, nameplate rating, quantity:
  - a) Inverter(s), PV or wind turbine generators, AC Disconnect Switch, generation output meter and instrument transformers.
2. Electrical rating and operating voltages:
  - a) Service panel, circuit breaker, and other Generating Facility protective devices
3. Location of:
  - a) Customer's loads relative to the Generating Facility, and the interconnection with PG&E's Electric System.
  - b) AC Disconnect Switch.
4. 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 based on the total nameplate rating of the inverter.

**E. Governing Authority.** This agreement at all times shall be subject to such modifications as the California Public Utilities Commission may direct from time to time in the exercise of its jurisdiction.

Please submit the Agreement and Customer Authorization and Application online at [www.pge.com/standardnem](http://www.pge.com/standardnem).



**Electric Sample Form No. 79-1174-02A**  
Rule 21 Generator Interconnection Application - Attachment A

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6270-E  
*Decision*

*Issued by*  
**Robert S. Kenney**  
*Vice President, Regulatory Affairs*

*Submitted* July 23, 2021  
*Effective* \_\_\_\_\_  
*Resolution* \_\_\_\_\_



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT A

### CUSTOMER AND PROJECT INFORMATION

#### Part I - Selecting the Study Process

Please check one:

- Fast Track Process<sup>1</sup>.
- ~~Greater than 1 MW generation facility,~~
- Detailed Study ~~(not typical)~~
  - Will be either an Independent Study Process, Distribution Group Study Process or Transmission Cluster Study Process, dependent upon the Electrical Independence Tests.

#### Part II – Identifying the Generating Facility Location and Responsible Parties

<i>Project Name:</i>

**A. Generating Facility Account Information** (What electric service will the Generating Facility be interconnected for parallel operation with PG&E? For aggregated electric accounts provide the primary account and meter information).

Name shown on PG&E service account	Electric Service Agreement ID number - 10-digits	Electric Badge (Meter) Number - 6-10 digits (alpha numeric)

**NOTE: Customer Electric account must match the customer's utility bill account information.**

		CA	
Meter Location Street Address	City	State	Zip - 5-digits

**Please check all that apply:**

- A New Generating Facility interconnection (at an existing service).
- ~~Physical Changes to an interconnected~~**Upgrade existing** Generating Facility with previous approval by PG&E (adding PV panels, adding energy storage as an addition or enhancement, changing inverters/turbines or changing load and/or operations).
- A New ~~interconnection in conjunction with a new service~~**Generating Facility and New Load 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 or Rule21Gen@pge.com.
- ~~A New Generating Facility with no existing electric service and no load.~~
- An Interconnection under Direct Access (DA).
  - Customers applying for interconnection who are served under Direct Access by an Electric Service Provider (ESP) must contact their ESP directly for information regarding the options available under their Direct Access contract.

<sup>1</sup> See Electric Rule 21 for FAST TRACK requirements.



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT A

### CUSTOMER AND PROJECT INFORMATION

- An Interconnection under Community Choice Aggregation Service (CCA Service).
  - Customers applying for interconnection who are served under Community Choice Aggregation Service (CCA Service) by a Community Choice Aggregator (CCA) must contact their CCA directly for information regarding the options available under their CCA Service Program.
- ~~An interconnected non-exporting Generating Facility (load always exceeds generation).~~

**B. Customer Account Contact Information -**

Mailing Address			
City		State	Zip - 5-digits
( ) - _____ Business Phone	( ) - _____ Home Phone	Fax	Email

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

Contact		Company Name	
Mailing Address			
City		State	Zip - 5-digits
( ) - _____ Business Phone	( ) - _____ Fax		Email
<input type="checkbox"/> Yes <input type="checkbox"/> No Does Contractor have Contractors State License Board (CSLB) Number?		Contractors State License Board Number	

**D. Project Contact Information (Who is the project manager for this Generating Facility?)**

Contact		Company Name	
Mailing Address			
City		State	Zip - 5-digits
( ) - _____ Business Phone	( ) - _____ Fax		Email



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT A

### CUSTOMER AND PROJECT INFORMATION

City	State	Zip - 5-digits
( ) -	( ) -	
Business Phone	Fax	Email

What is the <b>maximum 3-phase fault current</b> that will be contributed by the Generating Facility to a 3-phase fault at the Point of Common Coupling (PCC)? (If the Generating Facility is single phase in design, please provide the contribution for a line-to-line fault).	_____ Amps
Please indicate the <b>short circuit interrupting rating</b> of the host Customer facility's service panel:	_____ Amps

Refer to PG&E's Rule 21, Section G, for significance and additional information. To determine this value, any transformers and/or significant lengths of interconnecting conductor used between each of the Generators (if there are more than one) that make up the Generating Facility and the PCC must be taken into account. The details, impedance, and arrangement of such transformers and interconnecting conductors should be shown on the single-line diagram that is provided. Consult an electrical engineer or the equipment supplier if assistance is needed in answering this question.

It is expected that most Applicants will want to reserve the flexibility to operate any or all of their Generators in parallel. If the design of the proposed Generating Facility limits the amount of generation that may be interconnected at any time to PG&E's Electric System, please describe the assumptions used in calculating the maximum fault current contribution value.

For Customer applying for interconnection under Schedules

- i) NEM2 – Net Energy Metering Service (including NEM2A – Load Aggregation, Or NEM2MT- Multiple Tariff- with a NEM2 eligible generator), or
- ii) NEM2V – Virtual Net Energy Metering Service, or
- iii) NEM2VMS- Virtual Net Energy Metering For Multifamily Affordable Housing (MASH/NSHP) With Solar Generator(s),

please note, pursuant to California Public Utilities Commission Decision (D.) 16-01-044:

**CEC Listed**

In order to promote the safety and reliability of the customer's Generating Facility, the applicant certifies that as a part its request for NEM2, that all major solar system components are on the verified equipment list maintained by the California Energy Commission and certifies that other equipment, as determined by PG&E, has safety certification from a nationally recognized testing laboratory.

**Warranties or Service Agreements**

Applicant certifies as a part of its interconnection request for NEM2 that:

- (i) a warranty of at least 10 years has been provided on all equipment and on its installation, or
- (ii) a 10-year service warranty or executed "agreement" has been provided ensuring proper maintenance and continued system performance.

**Interconnection Fees**

Customers on this tariff must pay for the interconnection of their Generation Facilities as provided in Electric Rule 21.



**Electric Sample Form No. 79-1174-02B**  
Rule 21 Generator Interconnection Application - Attachment B

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6270-E  
*Decision*

*Issued by*  
**Robert S. Kenney**  
*Vice President, Regulatory Affairs*

*Submitted* July 23, 2021  
*Effective* \_\_\_\_\_  
*Resolution* \_\_\_\_\_

# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT B

### NON-EXPORT

#### **Interconnection Agreement Type Operating Mode**

Please select one option below:

- Parallel Operation (no export):** The Generating Facility will interconnect and operate “in parallel” with PG&E’s Electric System for more than one (1) second.
- Please supply all of the information requested for the Generating Facility. Be sure to supply adequate information including diagrams and written descriptions regarding the protective relays that will be used to detect faults or abnormal operating conditions on PG&E’s Electric System.
- Inadvertent Export:** The Generating Facility will interconnect and operate, providing unscheduled and uncompensated export of real power for a duration exceeding two (2) seconds but fewer than sixty (60) seconds. The expected frequency of “inadvertent export” occurrences should be less than two occurrences per 24-hour period. Protective Functions, technical requirements and operational limitations are described in Rule 21, Section M.
- Be sure to supply adequate information including diagrams and written descriptions regarding the switching device or scheme that will be used to limit the parallel operation period to one second or less. Please also describe the back up or protective device and controls that will trip the Generating Facility should the transfer switch or scheme not complete the transfer in one second or less.
- Uncompensated Export:** A Generating Facility Interconnection Export Addendum that provides for parallel operation of the Generating Facility and the occasional, continuous, non-compensated, export of generator facilities sized 2 MW or less to PG&E’s Electric System. Continuous export is export greater than 60 seconds in duration. This addendum must be executed in concert with the generating facility interconnection agreement.
- Momentary Parallel Operation (Make Before Break)MP:** The Generating Facility will interconnect and operate on a “momentary parallel” basis with PG&E’s Electric System for a duration of one (1) second or less through transfer switches or operating schemes specifically designed and engineered for such operation.
- Be sure to supply adequate information including diagrams and written descriptions regarding the switching device or scheme that will be used to limit the parallel operation period to one second or less. Please also describe the back up or protective device and controls that will trip the Generating Facility should the transfer switch or scheme not complete the transfer in one second or less.
- Isolated Operation (Break Before Make!):** The Generating Facility will be “isolated” and prevented from becoming interconnected with PG&E’s Electric System through a transfer switch or operating scheme specifically designed and engineered for such operation.
- Be sure to supply adequate information including diagrams and written descriptions regarding the isolating switching device or scheme that will be used to prevent the Generating Facility from operating in parallel with PG&E’s Electric System.
- Note: There is no application fee for Generating Facilities employing Isolated Operation mode, however, an application is needed to satisfy PG&E’s notice requirements for operating an isolated Generating Facility as per California Health and Safety Code Section 119085 (b)
- ~~Non-Export A Generating Facility Interconnection Agreement that provides for parallel operation of the Generating Facility, but does not provide for exporting power to PG&E’s Electric System. This non-export agreement, however does allow the occasional and uncompensated export of energy~~



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT B

### NON-EXPORT

to PG&E's Electric System for less than 2 seconds in duration.

Uncompensated Export A Generating Facility Interconnection Export Addendum that provides for parallel operation of the Generating Facility and the occasional, continuous, non-compensated, export of generator facilities sized 2 MW or less to PG&E's Electric System. Continuous export is export greater than 60 seconds in duration. This addendum must be executed in concert with the generating facility interconnection agreement.

#### Third Party Generating Facility Ownership

Third Party Owned Generating Facility A Generating Facility Interconnection Agreement that provides for parallel operation of the 3rd Party owned Generating Facility, but does not provide for exporting energy to PG&E's Electric System; as well as a Customer Generation Agreement that defines the relationship between the Customer whose name appears on PG&E's electric service account. If this option is chosen, please complete the Third Party Generating Facility Ownership section below.

**Customer Generation Agreement (CGA) (for 3<sup>rd</sup> Party Generator on Premises) Information** (Please identify the PG&E Customer of Record where Generating Facility will be installed). CGA is not applicable to Net Energy Metering 2 (NEM2) Applicants because PG&E and the Customer, not the 3<sup>rd</sup> Party if any, must enter into the Net Energy Metering Interconnection Agreement.

<b>Company Name to be entered on CGA</b>	<b>Legal Title of Host Facility to be entered on CGA</b>	
<b>Person Executing the CGA</b>	<b>Title of Person Executing the CGA</b>	
	( ) _____	
<b>Mailing Address</b>	<b>Phone</b>	<b>E-Mail</b>

#### Generating Facility Interconnection Agreement (GFIA) for 3<sup>rd</sup> Party Owner – GFIA Information

Generating Facility Interconnection Agreement (GFIA) for 3rd Party Owner will be executed by Contractor

**Please identify the Party that will own the Generating Facility.**

This Section is not applicable to Net Energy Metering 2 (NEM2) Applicants because PG&E and the Customer, not the 3<sup>rd</sup> Party if any, must enter into the Net Energy Metering 2 Interconnection Agreement.

<b>Company Name to be entered on GFIA</b>	<b>Legal Title of Company to be entered on GFIA</b>	
<b>Mailing Address</b>	<b>Phone</b>	<b>E-Mail</b>

# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT B

### NON-EXPORT

#### **Part II – Generating Facility Operational Details Protection Options**

##### **Parallel Only:**

Please select one Rule 21 Screen I option below:

- Reverse Power (Option 1): A **reverse-power protection device** will be installed to measure any export of power and trip the Generating Facility or open an intertie breaker to isolate the Generating Facility if limits are exceeded.
- Under Power (Option 2): An **under-power protection device** will be installed to measure the inflow of power and trip or reduce the output of the Generating Facility if limits are not maintained.
- Non-Islanding (Option 3): The Generating Facility Interconnection Facility equipment has been **certified as non-islanding and the incidental export of power will be limited by the design of the interconnection.** If this option is to be used, the nominal ampere rating of the service entrance equipment (service panel rating) that is used by the host Customer facility is: \_\_\_\_\_.
- Gross Nameplate 50% or Less (Option 4): The **Gross Nameplate Rating of the Generating Facility will not exceed 50% of the host Customer facility's minimum electrical load over the past 12 months.** If this option is to be used, the minimum load of the host Customer facility must be stated in the space provided above.
- AC/DC Converter (Option 7): An AC/DC Converter is employed to prevent export by only allowing one way power flow.
- Power Control System (PCS) Non-Export (Option 8): A PCS is employed to prevent export. For this option, the open loop response time of the PCS must be less than 2 seconds.

Please indicate:

- Qualifying Facility (QF) Status will be obtained from the FERC for this Generating Facility.

Instructions and Notes: Parties operating Generating Facilities (QF) complying with all of the requirements for qualification as either a small power production facility or cogeneration facility pursuant to the regulations of the FERC (18 Code of Federal Regulations Part 292, Section 292.203 et seq.) implementing the Public Utility Regulatory Policies Act of 1978 (16 U.S.C.A. Section 796, et seq.), or any successor requirements for Qualifying Facilities, may seek certification from FERC to have the Generating Facility designated as a Qualifying Facility or "QF." In summary, QFs are Generating Facilities using renewable or alternative fuels as a primary energy source or facilities that utilize the thermal energy given off by the generation process for some other useful purpose. QFs enjoy certain rights and privileges not available to non-QF Generating Facilities.

QF status is not required to interconnect and operate in parallel with PG&E's Electric System.

##### **Inadvertent Export:**

The Generating Facility **completely offsets their facility load** by being (a) optimally sized to meet their peak demand with load following functionality on the Generator controls and (b) ensuring conditional (inadvertent) export of electric power from the Generation Facility to Distribution Provider's Distribution or



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT B

### NON-EXPORT

Transmission System occurs no more frequently than twice in any 24 hour period and the exports are greater than 2 seconds but no more than more than 60 seconds.

Please select one Rule 21 Screen I option below:

- Reverse Power (Option 5): Two **reverse-power protection devices** will be installed to measure any export of power and trip the Generating Facility or open an intertie breaker to isolate the Generating Facility if limits are exceeded.
- Under Power (Option 5): A **reverse-power protection devices** will be installed to measure any export of power and trip the Generating Facility or open an intertie breaker to isolate the Generating Facility if limits are exceeded; AND an **under-power protection device** will be installed to measure the inflow of power and trip or reduce the output of the Generating Facility if limits are not maintained.
- Non-islanding Inverters (Option 6): Designed to detect and disconnect from a stable Unintended Island with matched load and generation.
- Power Control System (PCS) Inadvertent/Limited Export (Option 9): A PCS is employed to allow inadvertent/limited export. For this option, the open loop response time of the PCS must be less than 2 seconds for limited export and less than or equal to 10 seconds for inadvertent export.

Please indicate:

- Qualifying Facility (QF) Status will be obtained from the FERC for this Generating Facility.

Instructions and Notes: Parties operating Generating Facilities (QF) complying with all of the requirements for qualification as either a small power production facility or cogeneration facility pursuant to the regulations of the FERC (18 Code of Federal Regulations Part 292, Section 292.203 et seq.) implementing the Public Utility Regulatory Policies Act of 1978 (16 U.S.C.A. Section 796. et seq.), or any successor requirements for Qualifying Facilities, may seek certification from FERC to have the Generating Facility designated as a Qualifying Facility or "QF." In summary, QFs are Generating Facilities using renewable or alternative fuels as a primary energy source or facilities that utilize the thermal energy given off by the generation process for some other useful purpose. QFs enjoy certain rights and privileges not available to non-QF Generating Facilities.

QF status is not required to interconnect and operate in parallel with PG&E's Electric System.

#### Uncompensated Export:

Please provide Maximum Expected Facility Net Export (kW): \_\_\_\_\_

**Operating Modes:** Please select one box below:

- ~~**Parallel Operation:** The Generating Facility will interconnect and operate "in parallel" with PG&E's Electric System for more than one (1) second.~~

~~Please supply all of the information requested for the Generating Facility. Be sure to supply adequate information including diagrams and written descriptions regarding the protective relays that will be used to detect faults or abnormal operating conditions on PG&E's Electric System.~~

- ~~**Inadvertent Export:** The Generating Facility will interconnect and operate, providing unscheduled and uncompensated export of real power for a duration exceeding two (2) seconds but fewer than sixty (60) seconds. The expected frequency of "inadvertent export" occurrences should be less than~~

~~two occurrences per 24-hour period. Protective Functions, technical requirements and operational limitations are described in Rule 21, Section M.~~

~~Be sure to supply adequate information including diagrams and written descriptions regarding the switching device or scheme that will be used to limit the parallel operation period to one second or less. Please also describe the back up or protective device and controls that will trip the Generating Facility should the transfer switch or scheme not complete the transfer in one second or less.~~

~~**Momentary Parallel Operation (MP):** The Generating Facility will interconnect and operate on a "momentary parallel" basis with PG&E's Electric System for a duration of one (1) second or less through transfer switches or operating schemes specifically designed and engineered for such operation.~~

~~Be sure to supply adequate information including diagrams and written descriptions regarding the switching device or scheme that will be used to limit the parallel operation period to one second or less. Please also describe the back up or protective device and controls that will trip the Generating Facility should the transfer switch or scheme not complete the transfer in one second or less.~~

~~**Isolated Operation (I):** The Generating Facility will be "isolated" and prevented from becoming interconnected with PG&E's Electric System through a transfer switch or operating scheme specifically designed and engineered for such operation.~~

~~Be sure to supply adequate information including diagrams and written descriptions regarding the isolating switching device or scheme that will be used to prevent the Generating Facility from operating in parallel with PG&E's Electric System.~~



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT B

### NON-EXPORT

Parallel and Inadvertent Export Options—Please select one box below:

- ~~A reverse power protection device will be installed to measure any export of power and trip the Generating Facility or open an intertie breaker to isolate the Generating Facility if limits are exceeded.~~
- ~~An under power protection device will be installed to measure the inflow of power and trip or reduce the output of the Generating Facility if limits are not maintained.~~
- ~~The Generating Facility Interconnection Facility equipment has been certified as non-islanding and the incidental export of power will be limited by the design of the interconnection. If this option is to be used, the nominal ampere rating of the service entrance equipment (service panel rating) that is used by the host Customer facility is: \_\_\_\_\_~~
- ~~The Gross Nameplate Rating of the Generating Facility will not exceed 50% of the host Customer facility's minimum electrical load over the past 12 months. If this option is to be used, the minimum load of the host Customer facility must be stated in the space provided above.~~

~~The Generating Facility completely offset their facility load by being (a) optimally sized to meet their peak demand with load following functionality on the Generator controls and (b) ensuring conditional (inadvertent) export of electric power from the Generation Facility to Distribution Provider's Distribution or Transmission System occurs no more frequently than twice in any 24 hour period and the exports are greater than 2 seconds but no more than more than 60 seconds.~~

With the approval of PG&E, a Producer that wishes to retain the option to export power from a Generating Facility to PG&E's Electric System may use a different protection scheme that provides for the detection of faults and other abnormal operating conditions.

Please indicate:—

- ~~Standby / Emergency / Backup— Where the Generating Facility will normally be operated only when PG&E's electric service is not available.~~

- ~~Qualifying Facility (QF) Status will be obtained from the FERC for this Generating Facility.~~

~~Instructions and Notes: Parties operating Generating Facilities (QF) complying with all of the requirements for qualification as either a small power production facility or cogeneration facility pursuant to the regulations of the FERC (18 Code of Federal Regulations Part 292, Section 292.203 et seq.) implementing the Public Utility Regulatory Policies Act of 1978 (16 U.S.C.A. Section 796, et seq.), or any successor requirements for Qualifying Facilities, may seek certification from FERC to have the Generating Facility designated as a Qualifying Facility or "QF." In summary, QFs are Generating Facilities using renewable or alternative fuels as a primary energy source or facilities that utilize the thermal energy given off by the generation process for some other useful purpose. QFs enjoy certain rights and privileges not available to non-QF Generating Facilities.~~

~~QF status is not required to interconnect and operate in parallel with PG&E's Electric System.~~



**Electric Sample Form No. 79-1174-02D**  
Rule 21 Generator Interconnection Application - Attachment D

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6270-E  
*Decision*

*Issued by*  
**Robert S. Kenney**  
*Vice President, Regulatory Affairs*

*Submitted* July 23, 2021  
*Effective* \_\_\_\_\_  
*Resolution* \_\_\_\_\_



# INTERCONNECTION APPLICATION (Form 79-1174-02) ATTACHMENT D

## SOLAR (PV) TECHNOLOGY

### Part I - Describing the Generating Facility and Host Customer's Electrical Facilities

Please complete the following table for the specific generator technology indicated.

Instructions				
Inverter	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p>Please indicate the number of each <b>"type"</b> and <b>quantity</b> of Generator being installed</p> <p>Be sure all Generators classified as one "type" are identical in all respects.</p> <p>If only one type of Generator is to be used, only one column needs to be completed.</p>				
<p>A - Generator/Inverter Manufacturer</p> <p>Enter the brand name of the Generator.</p>				
<p>B - Generator/Inverter Model</p> <p>Enter the model name or number assigned by the manufacturer of the Generator.</p>				
<p>C - Generator/Inverter Software Version</p> <p>If this Generator's control and or protective functions are dependent on a software program supplied by the manufacturer of the equipment, please provide the version or release number for the software that will be used.</p>				
<p>D - Is the Generator/Inverter certified?</p> <p>Applicant has verified that all major solar system components are on the verified equipment list maintained by the California Energy Commission and other equipment, as determined by PG&amp;E, has been verified by the customer as having safety certification from a nationally recognized testing laboratory.</p> <p>See PG&amp;E's Rule 21, Section L for additional information regarding Generator certification.</p>	<p style="text-align: center;">___ Yes</p> <p style="text-align: center;">___ No</p>	<p style="text-align: center;">___ Yes</p> <p style="text-align: center;">___ No</p>	<p style="text-align: center;">___ Yes</p> <p style="text-align: center;">___ No</p>	<p style="text-align: center;">___ Yes</p> <p style="text-align: center;">___ No</p>

# INTERCONNECTION APPLICATION (Form 79-1174-02) ATTACHMENT D

## SOLAR (PV) TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
E - Modules.	<u>Manufacturer</u>  <u>Model #.</u>  <u>Quantity</u>	<u>Manufacturer</u>  <u>Model #.</u>  <u>Quantity</u>	<u>Manufacturer</u>  <u>Model #.</u>  <u>Quantity</u>	<u>Manufacturer</u>  <u>Model #.</u>  <u>Quantity</u>
F - Gross Nameplate Rating (kVA)  This is the capacity value normally supplied by the manufacturer and stamped on the Generator's nameplate.  This value is not required where the manufacturer provides only a kW rating. However, where both kVA and kW values are available, please indicate both.				
G - Operating Voltage  This value should be the voltage rating designated by the manufacturer and used in this Generating Facility.  Please indicate phase-to-phase voltages for 3-phase installations.  See PG&E's Rule 21, Section H.2.b. and Table H.1., for additional information.				
H - Power Factor Rating  This value should be the nominal power factor rating designated by the manufacturer for the Generator.  See PG&E's Rule 21, Section H.2.i. for additional information.				
I - PF Adjustment Range  Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values.  See PG&E's Rule 21, Section H.2.i.				
J - Wiring Configuration  Please indicate whether the Generator is a single-phase or three-phase device. See PG&E's Rule 21, Section H.3.				



# INTERCONNECTION APPLICATION (Form 79-1174-02) ATTACHMENT D

## SOLAR (PV) TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<b>K - AC Disconnect</b> For systems requiring an AC Disconnect only, please include the requested information about the AC Disconnect. See PG&E's Rule 21, Section H.1.d  Located within 10 feet of the PG&E meter?	_____ Manufacturer _____ Model # _____ Rating (amps)  ____ Yes ____ No			
<b>L - Lineside Tap</b> <u>Where is the point of interconnection in relation to the main breaker?</u> PG&E has special requirements for a lineside tap. Contact PG&E at: <a href="mailto:Rule21Gen@PGE.com">Rule21Gen@PGE.com</a> for more information.	____ <u>Yes</u> Customer side ____ <u>No</u> PG&E side	____ <u>Customer</u> side ____ PG&E side ____ <u>Yes</u> ____ <u>No</u>	____ <u>Customer</u> side ____ PG&E side ____ <u>Yes</u> ____ <u>No</u>	____ <u>Customer</u> side ____ PG&E side ____ <u>Yes</u> ____ <u>No</u>
<b>N - Warranty or Service Agreement</b> Applicant has verified that (i) a warranty of at least 10 years has been provided on all equipment and on its installation, or (ii) have a 10-year service warranty or executed "agreement" ensuring proper maintenance and continued system performance.	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No
<b>O - Solar Ready Electric Panel</b> <u>Is the Generating Facility connecting to a circuit breaker on the supply side of the main breaker?</u>	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No
<b>P - Green Meter Adapter (GMA)</b> <u>Will a GMA be installed?</u>	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No
<b>Q - Distribution Interconnect Handbook (DIH) and Greenbook Requirements</b> <u>Does this interconnection meet the DIH and Greenbook Requirements</u>	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No
<b>R - Gas Clearance Requirements</b> <u>Certify that this interconnection meets Greenbook Gas Clearance Requirements?</u>	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No



# INTERCONNECTION APPLICATION (Form 79-1174-02) ATTACHMENT D

## SOLAR (PV) TECHNOLOGY

<u>S - Basic Single Line Diagram (SLD)</u> If the interconnection is eligible to use a Basic SLD, please include the requested information.	<u>Panel Voltage (Volts)</u>	<u>Panel Voltage (Volts)</u>	<u>Panel Voltage (Volts)</u>	<u>Panel Voltage (Volts)</u>
	<u>Main Breaker (Amps)</u>	<u>Main Breaker (Amps)</u>	<u>Main Breaker (Amps)</u>	<u>Main Breaker (Amps)</u>
	<u>PV Breaker Size (Amps)</u>			
<u>T - Back-up Generator Operation</u> Will the generator be operated as a back-up?  If yes, please indicate the control device that will be used.	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch  <input type="checkbox"/> Contactor  <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch  <input type="checkbox"/> Contactor  <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch  <input type="checkbox"/> Contactor  <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch  <input type="checkbox"/> Contactor  <input type="checkbox"/> Breaker
<u>U - Limited Export</u> Will the generator export be limited?  If yes, please indicate how export will be limited.	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter

### Part II Solar Statistics Data Fields

Per Appendix A of CPUC D. 14-11-001, the following data fields must all be completed, in their entirety, in order to initiate PG&E's interconnection review of the proposed Generating Facility. *Only complete Part II if the solar generating facility is serving as part of a Net Energy Metering (NEM2) arrangement.*

- A. Customer Sector** (Check one)
- |   |                                      |                                     |
|---|--------------------------------------|-------------------------------------|
| <input type="checkbox"/> Residential      | <input type="checkbox"/> Educational | <input type="checkbox"/> Industrial |
| <input type="checkbox"/> Commercial       | <input type="checkbox"/> Military    | <input type="checkbox"/> Non-Profit |
| <input type="checkbox"/> Other Government |                                      |                                     |



# INTERCONNECTION APPLICATION (Form 79-1174-02) ATTACHMENT D

## SOLAR (PV) TECHNOLOGY

**B. Are Performance Monitoring and Reporting Services (PMRS) being utilized?**

Yes  No

If yes, please indicate who is receiving the data? (check all that apply)

Customer

3<sup>rd</sup> Party (list name) \_\_\_\_\_

**C. Are there electric vehicles charging on site at the above generating facility address?**

Yes  No

If yes, please indicate how many electric vehicles \_\_\_\_\_

**D. System Ownership and Financing**

**i. System Owner** (check one):

PG&E Customer Owned

If PG&E Customer Owned, please answer the following:

Indicate the System Cost paid by Customer: \$ \_\_\_\_\_

Property Assessed Clean Energy (PACE) Financed?

Yes

No

If Yes, PACE financed by which entity? \_\_\_\_\_

Third Party Owned

If Third Party Owned, please answer the following:

Claimed Federal Investment Tax Credit (ITC) Cost Basis: \$ \_\_\_\_\_

Name of Developer at the time of sale:

Contract Type:  PPA  Lease  Pre-Paid Lease  Other \_\_\_\_\_

**ii. Rebate Information:**

Did you participate in a California rebate program?  Yes  No

Please indicate the rebate program that you participated in: \_\_\_\_\_

Rebate Amount: \$ \_\_\_\_\_

If you are participating in the Single-family Affordable Solar Home (SASH) program, please provide SASH project number: \_\_\_\_\_

**E. Additional Generating Facility Information (Solar PV Only)**

**i. Mounting Method:**  Rooftop  Ground  Mixed

**ii. Tracking Type:**  Fixed  Single-Axis  Dual-Axis  Mixed

If fixed, please indicate: Tilt: \_\_\_\_\_ degrees Azimuth: \_\_\_\_\_ degrees

**F. Installer's/Vendor's California State Contractor License Number:** \_\_\_\_\_



**Electric Sample Form No. 79-1174-02E**  
Rule 21 Generator Interconnection Application - Attachment E

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6270-E  
*Decision*

*Issued by*  
**Robert S. Kenney**  
*Vice President, Regulatory Affairs*

*Submitted* July 23, 2021  
*Effective* \_\_\_\_\_  
*Resolution* \_\_\_\_\_



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT E

### WIND TURBINE TECHNOLOGY

Please complete the following table for the specific generator technology indicated.

Instructions				
Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p>Please indicate the number of each <b>“type”</b> and <b>quantity</b> of Generator being installed</p> <p>Be sure all Generators classified as one “type” are identical in all respects.</p> <p>If only one type of Generator is to be used, only one column needs to be completed.</p>	Type: _____ Qty.: _____	Type: _____ Qty.: _____	Type: _____ Qty.: _____	Type: _____ Qty.: _____
<b>A - Generator/Inverter Manufacturer</b> Enter the brand name of the Generator.				
<b>B - Generator/Inverter Model</b> Enter the model name or number assigned by the manufacturer of the Generator.				
<b>C - Generator/Inverter Software Version</b> If this Generator’s control and or protective functions are dependent on a software program supplied by the manufacturer of the equipment, please provide the version or release number for the software that will be used.				
<b>D - Is the Inverter certified?</b> Applicant has verified that all major solar system components are on the verified equipment list maintained by the California Energy Commission and other equipment, as determined by PG&E, has been verified by the customer as having safety certification from a nationally recognized testing laboratory. See PG&E’s Rule 21, Section L for additional information regarding Generator certification.	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No	____ Yes ____ No
<b>E - Generator Design</b> Please indicate the design of each Generator. Designate “Inverter” anytime an inverter is used as the interface between the Generator and the electric system regardless of the primary power production/storage device used.	____ Synch ____ Induct. ____ Inverter			



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT E

### WIND TURBINE TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p><b>F - Gross Nameplate Rating (kVA)</b></p> <p>This is the capacity value normally supplied by the manufacturer and stamped on the Generator's nameplate.</p> <p>This value is not required where the manufacturer provides only a kW rating. However, where both kVA and kW values are available, please indicate both.</p>				
<p><b>G - Operating Voltage</b></p> <p>This value should be the voltage rating designated by the manufacturer and used in this Generating Facility.</p> <p>Please indicate phase-to-phase voltages for 3-phase installations.</p> <p>See PG&amp;E's Rule 21, Section H.2.b. and Table H.1., for additional information.</p>				
<p><b>H - Power Factor Rating</b></p> <p>This value should be the nominal power factor rating designated by the manufacturer for the Generator.</p> <p>See PG&amp;E's Rule 21, Section H.2.i. for additional information.</p>				
<p><b>I - PF Adjustment Range</b></p> <p>Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values.</p> <p>See PG&amp;E's Rule 21, Section H.2.i.</p>				
<p><b>J - Wiring Configuration</b></p> <p>Please indicate whether the Generator is a single-phase or three-phase device. See PG&amp;E's Rule 21, Section H.3.</p>				
<p><b>K - (MP) 3-Phase Winding Configuration</b></p> <p>(Choose One)</p> <p>For three-phase generating units, please indicate the configuration of the Generator's windings or inverter systems.</p>	<p><input type="checkbox"/> 3 Wire Delta</p> <p><input type="checkbox"/> 3 Wire Wye</p> <p><input type="checkbox"/> 4 Wire Wye</p>	<p><input type="checkbox"/> 3 Wire Delta</p> <p><input type="checkbox"/> 3 Wire Wye</p> <p><input type="checkbox"/> 4 Wire Wye</p>	<p><input type="checkbox"/> 3 Wire Delta</p> <p><input type="checkbox"/> 3 Wire Wye</p> <p><input type="checkbox"/> 4 Wire Wye</p>	<p><input type="checkbox"/> 3 Wire Delta</p> <p><input type="checkbox"/> 3 Wire Wye</p> <p><input type="checkbox"/> 4 Wire Wye</p>



# INTERCONNECTION APPLICATION (Form 79-1174-02) ATTACHMENT E

## WIND TURBINE TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p>L - (MP) Neutral Grounding System Used (Choose One)</p> <p>Wye connected generating units are often grounded – either through a resistor or directly, depending upon the nature of the electrical system to which the Generator is connected.</p> <p>If the grounding method used at this facility is not listed, please attach additional descriptive information.</p>	<p>___ Ungrounded</p> <p>___ Solidly Grounded</p> <p>___ Ground Resistor</p> <p>___ Ohms</p>	<p>___ Ungrounded</p> <p>___ Solidly Grounded</p> <p>___ Ground Resistor</p> <p>___ Ohms</p>	<p>___ Ungrounded</p> <p>___ Solidly Grounded</p> <p>___ Ground Resistor</p> <p>___ Ohms</p>	<p>___ Ungrounded</p> <p>___ Solidly Grounded</p> <p>___ Ground Resistor</p> <p>___ Ohms</p>
<p>M - Induction Generators Only:</p> <p style="padding-left: 40px;">Locked Rotor Current: _____ (Amps)</p> <p style="padding-left: 40px;"><b>Stator Resistance:</b> _____ (%)</p> <p style="padding-left: 40px;">Stator Leakage Reactance: _____ (%)</p> <p style="padding-left: 40px;">Rotor Resistance: _____ (%)</p> <p style="padding-left: 40px;">Rotor Leakage Reactance: _____ (%)</p> <p>If the Generator is of an induction design, please provide the “locked rotor current” value supplied by the manufacturer.</p> <p>If this value is not available, the stator resistance, stator leakage reactance, rotor resistance, rotor leakage reactance values supplied by the manufacturer may be used to determine the locked rotor current.</p> <p>If the Generator’s Gross Nameplate Capacity is 10 MW or greater, PG&amp;E may request additional data to better model the nature and behavior of the Generator with relation to its Electric System.</p>	<p>_____ (Amps)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p>	<p>_____ (Amps)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p>	<p>_____ (Amps)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p>	<p>_____ (Amps)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p>
<p>N - Short Circuit Current Produced by Generator</p>	<p>_____ (Amps)</p>	<p>_____ (Amps)</p>	<p>_____ (Amps)</p>	<p>_____ (Amps)</p>
<p>O - AC Disconnect</p> <p>For systems requiring an AC Disconnect only, please include the requested information about the AC Disconnect.</p> <p>See PG&amp;E’s Rule 21, Section H.1.d</p> <p>Located within 10 feet of the PG&amp;E meter?</p>	<p>Manufacturer _____</p> <p>Model # _____</p> <p>Rating (amps) _____</p> <p>___ Yes</p> <p>___ No</p>	<p>Manufacturer _____</p> <p>Model # _____</p> <p>Rating (amps) _____</p> <p>___ Yes</p> <p>___ No</p>	<p>Manufacturer _____</p> <p>Model # _____</p> <p>Rating (amps) _____</p> <p>___ Yes</p> <p>___ No</p>	<p>Manufacturer _____</p> <p>Model # _____</p> <p>Rating (amps) _____</p> <p>___ Yes</p> <p>___ No</p>
<p>P - Lineside Tap</p> <p><u>Where is the point of interconnection in relation to the main breaker?</u></p> <p><u>PG&amp;E has special requirements for a lineside tap.</u></p> <p><u>Contact PG&amp;E at: <a href="mailto:Rule21Gen@PGE.com">Rule21Gen@PGE.com</a> for more information.</u></p>	<p>_____ Customer side</p> <p>_____ PG&amp;E side</p>			



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT E

### WIND TURBINE TECHNOLOGY

<p><u>P - Lineside Tap</u>  PG&amp;E has special requirements for a lineside tap.—  Contact PG&amp;E at: <a href="mailto:Rule21Gen@PGE.com">Rule21Gen@PGE.com</a> for more information.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No			
<p><u>Q - Warranty or Service Agreement</u>  Applicant has verified that (i) a warranty of at least 10 years has been provided on all equipment and on its installation, or (ii) have a 10-year service warranty or executed “agreement” ensuring proper maintenance and continued system performance.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No			
<p><u>R - Distribution Interconnect Handbook (DIH) and Greenbook Requirements</u>  Does this interconnection meet the DIH and Greenbook Requirements</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No			
<p><u>S - Gas Clearance Requirements</u>  Certify that this interconnection meets Greenbook Gas Clearance Requirements?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No			
<p><u>T - Back-up Generator Operation</u>  Will the generator be operated as a back-up?   If yes, please indicate control device.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker
<p><u>U - Limited Export</u>  Will the generator export be limited?   If yes, please indicate how export will be limited.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter



**Electric Sample Form No. 79-1174-02F**  
Rule 21 Generator Interconnection Application - Attachment F

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6270-E  
*Decision*

*Issued by*  
**Robert S. Kenney**  
*Vice President, Regulatory Affairs*

*Submitted* July 23, 2021  
*Effective* \_\_\_\_\_  
*Resolution* \_\_\_\_\_



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT F

### MACHINE-BASED TECHNOLOGY

Please complete the following table for the specific generator technology indicated.

Instructions				
Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p>Please indicate the number of each <b>“type” and quantity</b> of Generator being installed.</p> <p>Be sure all Generators classified as one “type” are identical in all respects.</p> <p>If only one type of Generator is to be used, only one column needs to be completed.</p>				
<p>A - Generator/Inverter Manufacturer Enter the brand name of the Generator.</p>				
<p>B - Generator/Inverter Model Enter the model name or number assigned by the manufacturer of the Generator.</p>				
<p>C - Generator/Inverter Software Version If this Generator’s control and or protective functions are dependent on a software program supplied by the manufacturer of the equipment, please provide the version or release number for the software that will be used.</p>				
<p>D - Is the Generator/Inverter certified? Applicant has verified that all major solar system components are on the verified equipment list maintained by the California Energy Commission and other equipment, as determined by PG&amp;E, has been verified by the customer as having safety certification from a nationally recognized testing laboratory. See PG&amp;E’s Rule 21, Section L for additional information regarding Generator certification.</p>	<input type="checkbox"/> Yes  <input type="checkbox"/> No			
<p>F - Gross Nameplate Rating (kVA) This is the capacity value normally supplied by the manufacturer and stamped on the Generator’s nameplate.  This value is not required where the manufacturer provides only a kW rating. However, where both kVA and kW values are available, please indicate both.</p>				



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT F

### **MACHINE-BASED TECHNOLOGY**

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p><b>G - Operating Voltage</b></p> <p>This value should be the voltage rating designated by the manufacturer and used in this Generating Facility.</p> <p>Please indicate phase-to-phase voltages for 3-phase installations.</p> <p>See PG&amp;E's Rule 21, Section H.2.b. and Table H.1., for additional information.</p>				
<p><b>H - Power Factor Rating</b></p> <p>This value should be the nominal power factor rating designated by the manufacturer for the Generator.</p> <p>See PG&amp;E's Rule 21, Section H.2.i. for additional information.</p>				
<p><b>I - PF Adjustment Range</b></p> <p>Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values.</p> <p>See PG&amp;E's Rule 21, Section H.2.i.</p>				
<p><b>J - Wiring Configuration</b></p> <p>Please indicate whether the Generator is a single-phase or three-phase device. See PG&amp;E's Rule 21, Section H.3.</p>				
<p><b>K - (MP) 3-Phase Winding Configuration (Choose One)</b></p> <p>For three-phase generating units, please indicate the configuration of the Generator's windings or inverter systems.</p>	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye
<p><b>L - (MP) Neutral Grounding System Used (Choose One)</b></p> <p>Wye connected generating units are often grounded – either through a resistor or directly, depending upon the nature of the electrical system to which the Generator is connected.</p> <p>If the grounding method used at this facility is not listed, please attach additional descriptive information.</p>	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT F

### MACHINE-BASED TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p><b>M – Synchronous Generators Only:</b> If the Generator is of a synchronous design, please provide the synchronous reactance, transient reactance, and subtransient reactance values supplied by the manufacturer. This information is necessary to determine the short circuit contribution of the Generator and as data in load flow and short circuit computer models of PG&amp;E's Electric System. If the Generator's Gross Nameplate Capacity is 10 MW or greater, PG&amp;E may request additional data to better model the nature and behavior of the Generator with relation to its Electric System.</p> <p style="margin-left: 40px;">Synchronous Reactance: _____ (Xd %)</p> <p style="margin-left: 40px;">Transient Reactance: _____ (Xd %)</p> <p style="margin-left: 40px;">Subtransient Reactance: _____ (Xd %)</p>	<p>_____ (Xd %)</p> <p>_____ (Xd %)</p> <p>_____ (Xd %)</p>	<p>_____ (Xd %)</p> <p>_____ (Xd %)</p> <p>_____ (Xd %)</p>	<p>_____ (Xd %)</p> <p>_____ (Xd %)</p> <p>_____ (Xd %)</p>	<p>_____ (Xd %)</p> <p>_____ (Xd %)</p> <p>_____ (Xd %)</p>
<p><b>N - Induction Generators Only:</b></p> <p style="margin-left: 40px;">Locked Rotor Current: _____ (Amps)</p> <p style="margin-left: 40px;"><b>Stator Resistance:</b> _____ (%)</p> <p style="margin-left: 40px;">Stator Leakage Reactance: _____ (%)</p> <p style="margin-left: 40px;">Rotor Resistance: _____ (%)</p> <p style="margin-left: 40px;">Rotor Leakage Reactance: _____ (%)</p> <p>If the Generator is of an induction design, please provide the "locked rotor current" value supplied by the manufacturer.</p> <p>If this value is not available, the stator resistance, stator leakage reactance, rotor resistance, rotor leakage reactance values supplied by the manufacturer may be used to determine the locked rotor current.</p> <p>If the Generator's Gross Nameplate Capacity is 10 MW or greater, PG&amp;E may request additional data to better model the nature and behavior of the Generator with relation to its Electric System.</p>	<p>_____ (Amps)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p>	<p>_____ (Amps)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p>	<p>_____ (Amps)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p>	<p>_____ (Amps)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p>
<p><b>O - Short Circuit Current Produced by Generator</b></p>	<p>_____ (Amps)</p>	<p>_____ (Amps)</p>	<p>_____ (Amps)</p>	<p>_____ (Amps)</p>



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT F

### MACHINE-BASED TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p><b>P – For Generators that are Started as a “Motor” Only:</b> This information is needed only for Generators that are started by “motoring” the generator.</p> <p>See PG&amp;E’s Rule 21, Sections L.3.d. and L.7.b. for significance and additional information.</p> <p>If this question was answered in Part IV, question C of this Application, it need not be answered here.</p> <p>1. In-Rush Current:</p> <p>2. Host Customer’s Service Entrance Panel (Main Panel) Continuous Current Rating:</p>	_____ (Amps)	_____ (Amps)	_____ (Amps)	_____ (Amps)
<p><b>Q – Prime Mover Type</b></p> <p>Please indicate the type and fuel used as the prime mover or source of energy for the Generator.</p> <p>1 = Natural Gas 2 = Diesel Fueled 3 = Other Fuel</p>	1   2   3	1   2   3	1   2   3	1   2   3
<p><b>R - AC Disconnect</b></p> <p>For systems requiring an AC Disconnect only, please include the requested information about the AC Disconnect.</p> <p>See PG&amp;E’s Rule 21, Section H.1.d</p> <p>Located within 10 feet of the PG&amp;E meter?</p>	_____ Manufacturer  _____ Model #  _____ Rating (amps)  <input type="checkbox"/> Yes <input type="checkbox"/> No			
<p><b>S - Lineside Tap</b></p> <p><u>Where is the point of interconnection in relation to the main breaker?</u></p> <p><u>PG&amp;E has special requirements for a lineside tap.</u></p> <p><u>Contact PG&amp;E at: <a href="mailto:Rule21Gen@PGE.com">Rule21Gen@PGE.com</a> for more information.</u></p>	_____ <u>Customer side</u>  _____ <u>PG&amp;E side</u>	_____ <u>Customer side</u>  _____ <u>PG&amp;E side</u>	_____ <u>Customer side</u>  _____ <u>PG&amp;E side</u>	_____ <u>Customer side</u>  _____ <u>PG&amp;E side</u>
<p><b>S – Lineside Tap</b></p> <p><u>PG&amp;E has special requirements for a lineside tap.</u></p>	<input type="checkbox"/> Yes  <input type="checkbox"/> No			



# INTERCONNECTION APPLICATION (Form 79-1174-02) ATTACHMENT F

## MACHINE-BASED TECHNOLOGY

Contact PG&E at: <a href="mailto:Rule21Gen@PGE.com">Rule21Gen@PGE.com</a> for more information.				
<b>T – Warranty or Service Agreement</b> Applicant has verified that (i) a warranty of at least 10 years has been provided on all equipment and on its installation, or (ii) have a 10-year service warranty or executed “agreement” ensuring proper maintenance and continued system performance.	<input type="checkbox"/> Yes <input type="checkbox"/> No			
<b>U - Cogeneration</b> Please indicate whether this Generating Facility meets the definition of cogeneration in PUC 216.6 (5% useful thermal and 42.5% efficient):	<input type="checkbox"/> Yes <input type="checkbox"/> No			
<b>V - Distribution Interconnect Handbook (DIH) and Greenbook Requirements</b> Does this interconnection meet the DIH and Greenbook Requirements	<input type="checkbox"/> Yes <input type="checkbox"/> No			
<b>W - Gas Clearance Requirements</b> Certify that this interconnection meets Greenbook Gas Clearance Requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No			
<b>X - Back-up Generator Operation</b> Will the generator be operated as a back-up?  If yes, please indicate control device.	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker
<b>Y - Limited Export</b> Will the generator export be limited?  If yes, please indicate how export will be limited.	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter



**Electric Sample Form No. 79-1174-02G**  
Rule 21 Generator Interconnection Application - Attachment G

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6270-E  
*Decision*

*Issued by*  
**Robert S. Kenney**  
*Vice President, Regulatory Affairs*

*Submitted* July 23, 2021  
*Effective* \_\_\_\_\_  
*Resolution* \_\_\_\_\_



# INTERCONNECTION APPLICATION (Form 79-1174-02) ATTACHMENT G

## FUEL CELL TECHNOLOGY

Please complete the following table for the specific generator technology indicated.

Instructions				
Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p>Please indicate the number of each <b>“type”</b> and <b>quantity</b> of Generator being installed.</p> <p>Be sure all Generators classified as one “type” are identical in all respects.</p> <p>If only one type of Generator is to be used, only one column needs to be completed.</p>				
<p>A - Generator/Inverter Manufacturer</p> <p>Enter the brand name of the Generator.</p>				
<p>B - Generator/Inverter Model</p> <p>Enter the model name or number assigned by the manufacturer of the Generator.</p>				
<p>C - Generator/Inverter Software Version</p> <p>If this Generator’s control and or protective functions are dependent on a software program supplied by the manufacturer of the equipment, please provide the version or release number for the software that will be used.</p>				
<p>D - Is the Generator/Inverter certified?</p> <p>Applicant has verified that all major solar system components are on the verified equipment list maintained by the California Energy Commission and other equipment, as determined by PG&amp;E, has been verified by the customer as having safety certification from a nationally recognized testing laboratory.</p> <p>See PG&amp;E’s Rule 21, Section L for additional information regarding Generator certification.</p>	<p style="text-align: center;">___ Yes</p> <p style="text-align: center;">___ No</p>	<p style="text-align: center;">___ Yes</p> <p style="text-align: center;">___ No</p>	<p style="text-align: center;">___ Yes</p> <p style="text-align: center;">___ No</p>	<p style="text-align: center;">___ Yes</p> <p style="text-align: center;">___ No</p>



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT G

### FUEL CELL TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<b>E - Generator Design</b> Please indicate the design of each Generator. Designate "Inverter" anytime an inverter is used as the interface between the Generator and the electric system regardless of the primary power production/storage device used.	<input type="checkbox"/> Synch <input type="checkbox"/> Induct. <input type="checkbox"/> Inverter			
<b>F - Gross Nameplate Rating (kVA)</b> This is the capacity value normally supplied by the manufacturer and stamped on the Generator's nameplate. This value is not required where the manufacturer provides only a kW rating. However, where both kVA and kW values are available, please indicate both.				
<b>G - Operating Voltage</b> This value should be the voltage rating designated by the manufacturer and used in this Generating Facility. Please indicate phase-to-phase voltages for 3-phase installations. See PG&E's Rule 21, Section H.2.b. and Table H.1., for additional information.				
<b>H - Power Factor Rating</b> This value should be the nominal power factor rating designated by the manufacturer for the Generator. See PG&E's Rule 21, Section H.2.i. for additional information.				
<b>I - PF Adjustment Range</b> Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values. See PG&E's Rule 21, Section H.2.i.				
<b>J - Wiring Configuration</b> Please indicate whether the Generator is a single-phase or three-phase device. See PG&E's Rule 21, Section H.3.				
<b>K - (MP) 3-Phase Winding Configuration (Choose One)</b> For three-phase generating units, please indicate the configuration of the Generator's windings or inverter systems.	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT G

### FUEL CELL TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p>L - (MP) Neutral Grounding System Used (Choose One)</p> <p>Wye connected generating units are often grounded – either through a resistor or directly, depending upon the nature of the electrical system to which the Generator is connected.</p> <p>If the grounding method used at this facility is not listed, please attach additional descriptive information.</p>	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms
M - Short Circuit Current Produced by Generator	_____ (Amps)	_____ (Amps)	_____ (Amps)	_____ (Amps)
<p>N – Prime Mover Type</p> <p>Please indicate the type and fuel used as the prime mover or source of energy for the Generator.</p> <p>1 = Natural Gas            2 = Diesel Fueled            3 = Other Fuel</p>	1   2   3	1   2   3	1   2   3	1   2   3
<p>O - AC Disconnect</p> <p>For systems requiring an AC Disconnect only, please include the requested information about the AC Disconnect.</p> <p>See PG&amp;E's Rule 21, Section H.1.d</p> <p>Located within 10 feet of the PG&amp;E meter?</p>	_____ Manufacturer _____ Model # _____ Rating (amps)	_____ Manufacturer _____ Model # _____ Rating (amps)	_____ Manufacturer _____ Model # _____ Rating (amps)	_____ Manufacturer _____ Model # _____ Rating (amps)
<p><u>P - Lineside Tap</u></p> <p><u>Where is the point of interconnection in relation to the main breaker?</u></p> <p><u>PG&amp;E has special requirements for a lineside tap.</u></p> <p><u>Contact PG&amp;E at: <a href="mailto:Rule21Gen@PGE.com">Rule21Gen@PGE.com</a> for more information.</u></p>	<u>_____</u> <u>Customer side</u>  <u>_____</u> <u>PG&amp;E side</u>	<u>_____</u> <u>Customer side</u>  <u>_____</u> <u>PG&amp;E side</u>	<u>_____</u> <u>Customer side</u>  <u>_____</u> <u>PG&amp;E side</u>	<u>_____</u> <u>Customer side</u>  <u>_____</u> <u>PG&amp;E side</u>
<p><del>P - Lineside Tap</del></p> <p><del>PG&amp;E has special requirements for a lineside tap.</del></p> <p><del>Contact PG&amp;E at: <del><a href="mailto:Rule21Gen@PGE.com">Rule21Gen@PGE.com</a></del> for more information.</del></p>	<del>_____</del> <del>Yes</del>  <del>_____</del> <del>No</del>	<del>_____</del> <del>Yes</del>  <del>_____</del> <del>No</del>	<del>_____</del> <del>Yes</del>  <del>_____</del> <del>No</del>	<del>_____</del> <del>Yes</del>  <del>_____</del> <del>No</del>



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT G

### FUEL CELL TECHNOLOGY

<p><b>Q – Warranty or Service Agreement</b>  Applicant has verified that (i) a warranty of at least 10 years has been provided on all equipment and on its installation, or (ii) have a 10-year service warranty or executed “agreement” ensuring proper maintenance and continued system performance.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No			
<p><b><u>R - Cogeneration</u></b>  Please indicate whether this Generating Facility meets the definition of cogeneration in PUC 216.6 (5% useful thermal and 42.5% efficient):</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No			
<p><b><u>S - Distribution Interconnect Handbook (DIH) and Greenbook Requirements</u></b>  Does this interconnection meet the DIH and Greenbook Requirements</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No			
<p><b><u>T - Gas Clearance Requirements</u></b>  Certify that this interconnection meets Greenbook Gas Clearance Requirements?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No			
<p><b><u>U - Back-up Generator Operation</u></b>  Will the generator be operated as a back-up?   If yes, please indicate control device.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker
<p><b><u>V - Limited Export</u></b>  Will the generator export be limited?   If yes, please indicate how export will be limited.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Power Control System (PCS)  <input type="checkbox"/> Relay  <input type="checkbox"/> Derated Inverter



**Electric Sample Form No. 79-1174-02H**  
Rule 21 Generator Interconnection Application - Attachment H

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6270-E  
*Decision*

*Issued by*  
**Robert S. Kenney**  
*Vice President, Regulatory Affairs*

*Submitted* July 23, 2021  
*Effective* \_\_\_\_\_  
*Resolution* \_\_\_\_\_



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT H

### **ENERGY STORAGE TECHNOLOGY**

Please complete the following table for the specific generator technology indicated.

Instructions				
Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p>Please indicate the number of each <b>“type” and quantity</b> of Generator being installed.</p> <p>Be sure all Generators classified as one “type” are identical in all respects.</p> <p>If only one type of Generator is to be used, only one column needs to be completed.</p>				
<p><b>A - Generator/Inverter Manufacturer</b></p> <p>Enter the brand name of the Generator.</p>				
<p><b>B - Generator/Inverter Model</b></p> <p>Enter the model name or number assigned by the manufacturer of the Generator.</p>				
<p><b>C - Generator/Inverter Software Version</b></p> <p>If this Generator’s control and or protective functions are dependent on a software program supplied by the manufacturer of the equipment, please provide the version or release number for the software that will be used.</p>				
<p><b>D - Is the Generator/Inverter certified?</b></p> <p>Applicant has verified that all major solar system components are on the verified equipment list maintained by the California Energy Commission and other equipment, as determined by PG&amp;E, has been verified by the customer as having safety certification from a nationally recognized testing laboratory.</p> <p>See PG&amp;E’s Rule 21, Section L for additional information regarding Generator certification.</p>	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No
<p><b>E - Generator Design</b></p> <p>Please indicate the design of each Generator.</p> <p>Designate “Inverter” anytime an inverter is used as the interface between the Generator and the electric system regardless of the primary power production/storage device used.</p>	___ Synch ___ Induct. ___ Inverter			



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT H

### ENERGY STORAGE TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p><b>F - Gross Nameplate Rating (kVA)</b></p> <p>This is the capacity value normally supplied by the manufacturer and stamped on the Generator's nameplate.</p> <p>This value is not required where the manufacturer provides only a kW rating. However, where both kVA and kW values are available, please indicate both.</p>				
<p><b>G - Energy Storage Electrical Source Function</b> (in addition, please complete section: "Additional Information Required for Energy Storage")</p>	<p>Max kWh Capacity:</p> <hr/> <p>Rated kW Discharge:</p> <hr/>	<p>Max kWh Capacity:</p> <hr/> <p>Rated kW Discharge:</p> <hr/>	<p>Max kWh Capacity:</p> <hr/> <p>Rated kW Discharge:</p> <hr/>	<p>Max kWh Capacity:</p> <hr/> <p>Rated kW Discharge:</p> <hr/>
<p><b>H - Operating Voltage</b></p> <p>This value should be the voltage rating designated by the manufacturer and used in this Generating Facility.</p> <p>Please indicate phase-to-phase voltages for 3-phase installations.</p> <p>See PG&amp;E's Rule 21, Section H.2.b. and Table H.1., for additional information.</p>				
<p><b>I - Power Factor Rating</b></p> <p>This value should be the nominal power factor rating designated by the manufacturer for the Generator.</p> <p>See PG&amp;E's Rule 21, Section H.2.i. for additional information.</p>				
<p><b>J - PF Adjustment Range</b></p> <p>Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values.</p> <p>See PG&amp;E's Rule 21, Section H.2.i.</p>				
<p><b>K - Wiring Configuration</b></p> <p>Please indicate whether the Generator is a single-phase or three-phase device. See PG&amp;E's Rule 21, Section H.3.</p>				



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT H

### ENERGY STORAGE TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<p>L - (MP) 3-Phase Winding Configuration (Choose One)</p> <p>For three-phase generating units, please indicate the configuration of the Generator's windings or inverter systems.</p>	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye
<p>M - (MP) Neutral Grounding System Used (Choose One)</p> <p>Wye connected generating units are often grounded – either through a resistor or directly, depending upon the nature of the electrical system to which the Generator is connected.</p> <p>If the grounding method used at this facility is not listed, please attach additional descriptive information.</p>	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor <input type="checkbox"/> Ohms
<p>N - Short Circuit Current Produced by Generator:</p>	<input type="text"/> (Amps)	<input type="text"/> (Amps)	<input type="text"/> (Amps)	<input type="text"/> (Amps)
<p>O – Prime Mover Type</p> <p>Please indicate the type and fuel used as the prime mover or source of energy for the Generator.</p> <p>1 = Natural Gas 2 = Diesel Fueled 3 = Other Fuel</p>	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
<p>P - AC Disconnect</p> <p>For systems requiring an AC Disconnect only, please include the requested information about the AC Disconnect.</p> <p>See PG&amp;E's Rule 21, Section H.1.d</p> <p>Located within 10 feet of the PG&amp;E meter?</p>	<input type="text"/> Manufacturer  <input type="text"/> Model #  <input type="text"/> Rating (amps)			
	<input type="checkbox"/> Yes <input type="checkbox"/> No			



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT H

### ENERGY STORAGE TECHNOLOGY

Generator Information	Existing Generator type 1	Existing Generator type 2	New Generator type 1	New Generator type 2
<b>Q - Energy Storage (ES) System</b> (For important sizing information related to DC-Coupled configurations, see sizing note below).	<u>Manufacturer</u>  <u>Model #</u>  <u>Quantity of Units</u>			
<u><b>R - Lineside Tap</b></u> <u>Where is the point of interconnection in relation to the main breaker?</u>  <u>PG&amp;E has special requirements for a lineside tap.</u>  <u>Contact PG&amp;E at: <a href="mailto:Rule21Gen@PGE.com">Rule21Gen@PGE.com</a> for more information.</u>	<u>Customer side</u>  <u>PG&amp;E side</u>	<u>Customer side</u>  <u>PG&amp;E side</u>	<u>Customer side</u>  <u>PG&amp;E side</u>	<u>Customer side</u>  <u>PG&amp;E side</u>
<del><b>R - Lineside Tap</b></del> <del>PG&amp;E has special requirements for a lineside tap.</del>  <del>Contact PG&amp;E at: <a href="mailto:Rule21Gen@PGE.Com">Rule21Gen@PGE.Com</a> for more information.</del>	<u>Yes</u> <u>No</u>	<u>Yes</u> <u>No</u>	<u>Yes</u> <u>No</u>	<u>Yes</u> <u>No</u>
<b>S - Warranty or Service Agreement</b> Applicant has verified that (i) a warranty of at least 10 years has been provided on all equipment and on its installation, or (ii) have a 10-year service warranty or executed "agreement" ensuring proper maintenance and continued system performance.	<u>Yes</u> <u>No</u>	<u>Yes</u> <u>No</u>	<u>Yes</u> <u>No</u>	<u>Yes</u> <u>No</u>
<u><b>T - Distribution Interconnect Handbook (DIH) and Greenbook Requirements</b></u> <u>Does this interconnection meet the DIH and Greenbook Requirements</u>	<u>Yes</u> <u>No</u>	<u>Yes</u> <u>No</u>	<u>Yes</u> <u>No</u>	<u>Yes</u> <u>No</u>
<u><b>U - Gas Clearance Requirements</b></u> <u>Certify that this interconnection meets Greenbook Gas Clearance Requirements?</u>	<u>Yes</u> <u>No</u>	<u>Yes</u> <u>No</u>	<u>Yes</u> <u>No</u>	<u>Yes</u> <u>No</u>
<u><b>V - Basic Single Line Diagram (SLD)</b></u> <u>If the interconnection is eligible to use a Basic SLD, please include the requested information.</u>	<u>Panel Voltage (Volts)</u>  <u>Main Breaker (Amps)</u>	<u>Panel Voltage (Volts)</u>  <u>Main Breaker (Amps)</u>	<u>Panel Voltage (Volts)</u>  <u>Main</u>	<u>Panel Voltage (Volts)</u>  <u>Main Breaker (Amps)</u>



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT H

### ENERGY STORAGE TECHNOLOGY

<p><u>Can this system be used as a back-up generator?</u></p> <p><u>If so, please include the requested information for the back-up controller or other device.</u></p>	<p><u>Storage Breaker Size (Amps)</u></p> <p><u>Yes</u> <u>No</u></p> <p><u>Manufacture r</u></p> <p><u>Make</u></p> <p><u>Model No.</u></p>	<p><u>Storage Breaker Size (Amps)</u></p> <p><u>Yes</u> <u>No</u></p> <p><u>Manufacture r</u></p> <p><u>Make</u></p> <p><u>Model No.</u></p>	<p><u>Breaker (Amps)</u></p> <p><u>Storage Breaker Size (Amps)</u></p> <p><u>Yes</u> <u>No</u></p> <p><u>Manufactur er</u></p> <p><u>Make</u></p> <p><u>Model No.</u></p>	<p><u>Storage Breaker Size (Amps)</u></p> <p><u>Yes</u> <u>No</u></p> <p><u>Manufacture r</u></p> <p><u>Make</u></p> <p><u>Model No.</u></p>
<p><u>W - Back-up Generator Operation</u></p> <p><u>Will the generator be operated as a back-up?</u></p> <p><u>If yes, please indicate control device.</u></p>	<p><u>Yes</u> <u>No</u></p> <p><input type="checkbox"/> <u>Automatic Transfer Switch</u></p> <p><input type="checkbox"/> <u>Contactor</u> <input type="checkbox"/> <u>Breaker</u></p>	<p><u>Yes</u> <u>No</u></p> <p><input type="checkbox"/> <u>Automatic Transfer Switch</u></p> <p><input type="checkbox"/> <u>Contactor</u> <input type="checkbox"/> <u>Breaker</u></p>	<p><u>Yes</u> <u>No</u></p> <p><input type="checkbox"/> <u>Automatic Transfer Switch</u></p> <p><input type="checkbox"/> <u>Contactor</u> <input type="checkbox"/> <u>Breaker</u></p>	<p><u>Yes</u> <u>No</u></p> <p><input type="checkbox"/> <u>Automatic Transfer Switch</u></p> <p><input type="checkbox"/> <u>Contactor</u> <input type="checkbox"/> <u>Breaker</u></p>
<p><u>X - Limited Export</u></p> <p><u>Will the generator export be limited?</u></p> <p><u>If yes, please indicate how export will be limited.</u></p>	<p><u>Yes</u> <u>No</u></p> <p><input type="checkbox"/> <u>Power Control System (PCS)</u></p> <p><input type="checkbox"/> <u>Relay</u></p> <p><input type="checkbox"/> <u>Derated Inverter</u></p>	<p><u>Yes</u> <u>No</u></p> <p><input type="checkbox"/> <u>Power Control System (PCS)</u></p> <p><input type="checkbox"/> <u>Relay</u></p> <p><input type="checkbox"/> <u>Derated Inverter</u></p>	<p><u>Yes</u> <u>No</u></p> <p><input type="checkbox"/> <u>Power Control System (PCS)</u></p> <p><input type="checkbox"/> <u>Relay</u></p> <p><input type="checkbox"/> <u>Derated Inverter</u></p>	<p><u>Yes</u> <u>No</u></p> <p><input type="checkbox"/> <u>Power Control System (PCS)</u></p> <p><input type="checkbox"/> <u>Relay</u></p> <p><input type="checkbox"/> <u>Derated Inverter</u></p>

**Energy Storage Charging Function:**

Rated Charge Demand (Load): \_\_\_\_\_ kW

Estimated annual Net Energy Usage\* of the energy storage device(s): \_\_\_\_\_ kWh

\*Net Energy usage = (kWh input, including charging, storage device auxiliary loads and losses) – (kWh output including discharging)

Will the Distribution Grid be used to charge the storage device:       Yes       No



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT H

### ENERGY STORAGE TECHNOLOGY

If no: Provide technical description of control systems including (e.g. Nationally-certified piece of equipment, Relays/metering):

Source of energy for Charging: \_\_\_\_\_

Mechanism to prevent charging from the Distribution System: \_\_\_\_\_

If Yes: Will charging the storage device(s) increase the host facility's existing peak load demand:

Yes       No

If Yes: Provide the following loading information:

Amount of added peak demand: \_\_\_\_\_ kW

If no: Provide technical description of controls systems including:

Charging periods: \_\_\_\_\_

Mechanism to prevent charging from the Distribution System during host facility peak:

\_\_\_\_\_



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT H

### ENERGY STORAGE TECHNOLOGY

#### **Expedited Interconnection Process Selection for Non-Export Energy Storage:**

- This project meets the requirements identified in Rule 21 Section N and this process is being selected for expedited interconnection.

#### Note on Sizing (DC-Coupled Configurations)

The size of the storage system in DC-coupled NEM-eligible generator plus storage systems is the lesser of the shared inverter's (or inverters') nameplate capacity (capacities summed) and the storage device's (devices') maximum continuous discharge capacity (capacities summed) listed on the device's (devices') technical specifications sheets. A storage device's maximum continuous discharge capacity may be listed on technical specification sheets using different terminology. Note: PG&E will use common sense to determine whether a device's technical specification sheet includes the appropriate metric for purposes of determining system size, regardless of the terminology used. If that metric is not included, PG&E may rely on the inverter's nameplate rating.

For example:

- What is the maximum continuous discharge capability for each storage unit?  
\_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = . total \_\_\_\_\_
- What is each inverter's nameplate rating?  
\_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = . total \_\_\_\_\_

**PG&E Gas and Electric  
Advice Submittal List  
General Order 96-B, Section IV**

AT&T  
Albion Power Company

Alta Power Group, LLC  
Anderson & Poole

Atlas ReFuel  
BART

Barkovich & Yap, Inc.  
California Cotton Ginners & Growers Assn  
California Energy Commission

California Hub for Energy Efficiency  
Financing

California Alternative Energy and  
Advanced Transportation Financing  
Authority  
California Public Utilities Commission  
Calpine

Cameron-Daniel, P.C.  
Casner, Steve  
Cenergy Power  
Center for Biological Diversity

Chevron Pipeline and Power  
City of Palo Alto

City of San Jose  
Clean Power Research  
Coast Economic Consulting  
Commercial Energy  
Crossborder Energy  
Crown Road Energy, LLC  
Davis Wright Tremaine LLP  
Day Carter Murphy

Dept of General Services  
Don Pickett & Associates, Inc.  
Douglass & Liddell

East Bay Community Energy Ellison  
Schneider & Harris LLP Energy  
Management Service  
Engineers and Scientists of California

GenOn Energy, Inc.  
Goodin, MacBride, Squeri, Schlotz &  
Ritchie

Green Power Institute  
Hanna & Morton  
ICF

IGS Energy  
International Power Technology  
Intestate Gas Services, Inc.  
Kelly Group  
Ken Bohn Consulting  
Keyes & Fox LLP  
Leviton Manufacturing Co., Inc.

Los Angeles County Integrated  
Waste Management Task Force  
MRW & Associates  
Manatt Phelps Phillips  
Marin Energy Authority  
McKenzie & Associates

Modesto Irrigation District  
NLine Energy, Inc.  
NRG Solar

Office of Ratepayer Advocates  
OnGrid Solar  
Pacific Gas and Electric Company  
Peninsula Clean Energy

Pioneer Community Energy

Redwood Coast Energy Authority  
Regulatory & Cogeneration Service, Inc.  
SCD Energy Solutions  
San Diego Gas & Electric Company

SPURR  
San Francisco Water Power and Sewer  
Sempra Utilities

Sierra Telephone Company, Inc.  
Southern California Edison Company  
Southern California Gas Company  
Spark Energy  
Sun Light & Power  
Sunshine Design  
Tecogen, Inc.  
TerraVerde Renewable Partners  
Tiger Natural Gas, Inc.

TransCanada  
Utility Cost Management  
Utility Power Solutions  
Water and Energy Consulting Wellhead  
Electric Company  
Western Manufactured Housing  
Communities Association (WMA)  
Yep Energy