

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



**Pacific Gas & Electric Company**  
**ELC (Corp ID 39)**  
**Status of Advice Letter 6454E**  
**As of March 14, 2022**

Subject: Modifications to PG&E's Interconnection Application Forms to Incorporate Customer-Owned Telemetry Options in the Application Portal pursuant to the Rule 21 Working Group 1 Decision 19-03-013

Division Assigned: Energy

Date Filed: 01-11-2022

Date to Calendar: 01-14-2022

Authorizing Documents: D1903013

<b>Disposition:</b>	<b>Accepted</b>
<b>Effective Date:</b>	<b>02-22-2022</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- Disposition of Filing (Accepted, Rejected, Withdrawn, etc.)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)**

January 11, 2022

**Advice 6454-E**

(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

**Subject: Modifications to PG&E's Interconnection Application Forms to Incorporate Customer-Owned Telemetry Options in the Application Portal pursuant to the Rule 21 Working Group 1 Decision 19-03-013**

**Purpose**

Pacific Gas and Electric Company (PG&E) hereby submits this Tier 2 advice letter to propose modifications to PG&E's existing Rule 21 interconnection application form and associated program-specific attachments to support options for customer-owned telemetry systems as allowed in the Working Group 1 Decision 19-03-013. These changes will also be reflected in PG&E online application portal, replacing some of the manual processes currently in place.

**Background****Rulemaking 17-07-007**

In July of 2017, Rulemaking (R.) 17-07-007 was initiated to "*consider a variety of refinements to the interconnection of distributed energy resources [DERs] under Electric Tariff Rule 21 of the Utilities and the equivalent tariff rules of the small and multi-jurisdictional electric utilities*<sup>1</sup>." Rule 21 addresses the safe and reliable interconnection of customer owned generation to the Investor Owned Utilities' (IOUs)<sup>2</sup> electric grid.

**Scoping Memo and Issue 4**

On October 2, 2017 the *Scoping Memo of Assigned Commissioner and Administrative Law Judge* was issued. Included in it was **Issue 4**, which posed the following question: "*As the penetration levels of distributed energy resources increase, what changes to telemetry requirements should the Commission adopt to ensure adequate visibility while minimizing cost?*"

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<sup>1</sup> Resolution [E-5038](#) at page 2 – Adopts Rule 21 Telemetry Requirements Proposed in Compliance with Decision 19-03-013.

<sup>2</sup> The "IOUs", or "Utilities" consist of Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), and San Diego Gas & Electric Company (SDG&E).

Rule 21 Section J addresses the current telemetry requirements for DERs 1 Megawatt or greater.

### **Working Group 1**

Working Group 1 (WG1) took up Issue 4 from the Scoping Memo and resulted in five proposals in the final report (in summary):

**Proposal 1** allow the Utilities to require telemetry for systems between 250 kW and 9.9 MW if utility costs are less than \$20,000.

**Proposal 2** maintains the 1 MW threshold for requiring telemetry.

**Proposal 3** implements specific technical requirements for systems larger than 1 MW.

**Proposal 4** was found to be unnecessary and

**Proposal 5** was adopted to allow customer-owned telemetry where practicable.

### **Decision (D.) 19-03-013**

On April 5, 2019 the CPUC issued D.19-03-013.<sup>3</sup>

OP 10 states, “Proposal 5 for Issue 4 from the March 15, 2018 Working Group One Final Report is adopted allowing customer ownership of behind-the-meter telemetry equipment where practicable to mitigate the costs associated with utility ownership of the equipment (i.e., the Income Tax Component of Contribution and Cost of Ownership charges).”

### **Advice Letter (AL) 5553-E<sup>4</sup>**

D.19-03-013 OP 14 required PG&E and the other IOUs each submit a Tier 2 Advice letter by June 4, 2019 modifying Rule 21 to be consistent with D. 19-03-013’s requirements. PG&E submitted AL 5553-E on June 4, 2019. In it, Rule 21 changes are proposed to incorporate the OP 10 customer-owned telemetry requirements in section 4, on page 23.

### **Resolution E-5035<sup>5</sup>**

On March 9, 2021, Resolution E-5035 was issued, providing the disposition of AL 5553-E based on protests received and replies submitted. It “approves, with modifications” AL 5553-E.

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<sup>3</sup> [D.19-03-013](#) *Decision Adopting Proposals From March 15, 2018 Working Group One Report* - date of issuance 4/5/2019

<sup>4</sup> [AL 5553-E](#) - Modification to Electric Rule 21 Pursuant to the Working Group 1 Decision 19- 03-013 in Rulemaking 17-07-007 – effective March 9, 2021.

<sup>5</sup> [Resolution E-5035](#) - Adopts modifications to Electric Rule 21, Generating Facility Interconnections, Pursuant to Decision 19-03-013. - Date of Issuance: March 9th, 2021

**ALs 6154-E<sup>6</sup> and 6154-E-A<sup>7</sup>**

While AL 6154-E was submitted on April 8, 2021 and AL 6154-E-A was submitted June 29, 2021 pursuant to E-5035 modifying Rule 21 (and both were subsequently made effective), there was no need to address customer-owned telemetry in these advice letters, as no modifications were needed in section of Rule 21 related to customer-owner telemetry submitted in AL 5553-E.

**This Advice Letter**

While AL 5553-E modified Rule 21 to allow customer-owned generation, and PG&E has managed those requests “manually,” in order to better support the customer-owned telemetry option, this advice letter makes modifications to the attachments (listed below) to PG&E’s existing Form 79-1174-02, PG&E’s Rule 21 Interconnection Application Form to incorporate options for customers requesting customer-owned telemetry systems under its various programs. Accordingly, these updates will also be incorporated into PG&E’s online interconnection application portal, *YourProjects*.

Specifically, PG&E adds a new section to its interconnection application forms as shown below:

<p>Telemetry</p> <p>Will the Generating Facility Gross Nameplate Rating exceed 1 MW?</p> <p>If yes, please select a Telemetry Option.</p>     <p>If one of the Customer-owned Telemetry options is selected, please identify the preferred Site Metering Arrangement.</p>	<p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Customer-owned Telemetry - Gateway</p> <p><input type="checkbox"/> Customer-owned Telemetry - Aggregator</p> <p><input type="checkbox"/> Mini RTU</p> <p><input type="checkbox"/> Customer-side net load metering</p> <p><input type="checkbox"/> Replace PG&amp;E meter with a Mark V meter and terminal block</p> <p><input type="checkbox"/> Add terminal block to existing PG&amp;E Mark V meter</p> <p><input type="checkbox"/> Replace meter socket with dual-socket meter cabinet for installation of customer-owned meter</p>
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<sup>6</sup> [AL 6154-E](#) - Modification to Pacific Gas and Electric Company’s Electric Rule 21 Pursuant to E-5035 Related to AL 5553-E and R.17-07-007 Working Group 1 Decision 19-03-013

<sup>7</sup> [AL 6154-E-A](#) - Supplemental: Modification to Pacific Gas and Electric Company’s Electric Rule 21 Pursuant to E-5035 Related to AL 5553-E and R.17-07-007 Working Group 1 Decision 19-03-013

	_____ Install customer-owned meter in existing dual socket meter cabinet.
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PG&E proposes to incorporate this new section into the following forms:

- Form 79-1174-02D: Rule 21 Generator Interconnection Application - Attachment D (SOLAR (PV) TECHNOLOGY)
- Form 79-1174-02E: Rule 21 Generator Interconnection Application - Attachment E (WIND TURBINE TECHNOLOGY)
- Form 79-1174-02F: Rule 21 Generator Interconnection Application - Attachment F (MACHINE-BASED TECHNOLOGY)
- Form 79-1174-02G: Rule 21 Generator Interconnection Application - Attachment G (FUEL CELL TECHNOLOGY)
- Form 79-1174-02H: Rule 21 Generator Interconnection Application - Attachment H (ENERGY STORAGE TECHNOLOGY)

### 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](mailto:EDTariffUnit@cpuc.ca.gov) and [PGETariffs@pge.com](mailto: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 January 31, 2022, which is 21 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](mailto: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

Any person (including individuals, groups, or organizations) may protest or respond to an advice letter (General Order 96-B, Section 7.4). The protest shall contain the following information: specification of the advice letter protested; grounds for the protest; supporting factual information or legal argument; name, telephone number, postal address, and (where appropriate) e-mail address of the protestant; and statement that the protest was sent to the utility no later than the day on which the protest was submitted to the reviewing Industry Division (General Order 96-B, Section 3.11).

### **Effective Date**

Pursuant to General Order (GO) 96-B, Rule 5.2, this advice letter is submitted with a Tier 2 designation. PG&E requests that this Tier 2 advice submittal become effective on February 22, 2022, to coincide with planned implementation of these updates into PG&E's online application portal, *YourProjects*.

### **Notice**

In accordance with General Order 96-B, Section IV, a copy of this advice letter is being sent electronically and via U.S. mail to parties shown on the attached list and the parties on the service list for R.17-07-007. Address changes to the General Order 96-B service list should be directed to PG&E at email address PGETariffs@pge.com. For changes to any other service list, please contact the Commission's Process Office at (415) 703-2021 or at Process\_Office@cpuc.ca.gov. Send all electronic approvals to PGETariffs@pge.com. Advice letter submittals can also be accessed electronically at: <http://www.pge.com/tariffs/>.

\_\_\_\_\_  
/S/

Sidney Bob Dietz II  
Director, Regulatory Relations

### **Attachments:**

Attachment 1 – Tariffs  
Attachment 2 – Redline Tariff Revisions

cc: Service List R.17-07-007



# 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) #: 6454-E

Tier Designation: 2

Subject of AL: Modifications to PG&E's Interconnection Application Forms to Incorporate Customer-Owned Telemetry Options in the Application Portal pursuant to the Rule 21 Working Group 1 Decision 19-03-013

Keywords (choose from CPUC listing): Rule 21

AL Type:  Monthly  Quarterly  Annual  One-Time  Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #: D.19-03-013

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: 2/22/22

No. of tariff sheets: 7

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>
52489-E	Electric Sample Form No. 79-1174-02D Rule 21 Generator Interconnection Application - Attachment D Sheet 1	51233-E
52490-E	Electric Sample Form No. 79-1174-02E Rule 21 Generator Interconnection Application - Attachment E Sheet 1	50666-E
52491-E	Electric Sample Form No. 79-1174-02F Rule 21 Generator Interconnection Application - Attachment F Sheet 1	50667-E
52492-E	Electric Sample Form No. 79-1174-02G Rule 21 Generator Interconnection Application - Attachment G Sheet 1	50668-E
52493-E	Electric Sample Form No. 79-1174-02H Rule 21 Generator Interconnection Application - Attachment H Sheet 1	50669-E
52494-E	ELECTRIC TABLE OF CONTENTS Sheet 1	52462-E
52495-E	ELECTRIC TABLE OF CONTENTS Sheet 25	51240-E



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

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6454-E  
*Decision* D.19-03-013

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

*Submitted* January 11, 2022  
*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 ___ 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
<p><b>K - 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>	<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><b>L - 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>	<p>____ Customer side</p> <p>____ PG&amp;E side</p>			
<p><b>N - 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 "agreement" ensuring proper maintenance and continued system performance.</p>	<p>____ Yes</p> <p>____ No</p>			
<p><b>O - Solar Ready Electric Panel</b></p> <p>Is the Generating Facility connecting to a circuit breaker on the supply side of the main breaker?</p>	<p>____ Yes</p> <p>____ No</p>			
<p><b>P - Green Meter Adapter (GMA)</b></p> <p>Will a GMA be installed?</p>	<p>____ Yes</p> <p>____ No</p>			
<p><b>Q - Distribution Interconnect Handbook (DIH) and Greenbook Requirements</b></p> <p>Does this interconnection meet the DIH and Greenbook Requirements</p>	<p>____ Yes</p> <p>____ No</p>			
<p><b>R - Gas Clearance Requirements</b></p> <p>Certify that this interconnection meets Greenbook Gas Clearance Requirements?</p>	<p>____ Yes</p> <p>____ No</p>			



# 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>_____</p> <p>Panel Voltage (Volts)</p>			
	<p>_____</p> <p>Main Breaker (Amps)</p>			
	<p>_____</p> <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>_____ Yes _____ No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor</p> <p><input type="checkbox"/> Breaker</p>	<p>_____ Yes _____ No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor</p> <p><input type="checkbox"/> Breaker</p>	<p>_____ Yes _____ No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor</p> <p><input type="checkbox"/> Breaker</p>	<p>_____ Yes _____ 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>_____ Yes _____ 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>_____ Yes _____ 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>_____ Yes _____ 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>_____ Yes _____ No</p> <p><input type="checkbox"/> Power Control System (PCS)</p> <p><input type="checkbox"/> Relay</p> <p><input type="checkbox"/> Derated Inverter</p>



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT D

### SOLAR (PV) TECHNOLOGY

<p>V - Telemetry</p> <p>Will the Generating Facility Gross Nameplate Rating exceed 1 MW?</p> <p>If yes, please select a Telemetry Option.</p> <p>If one of the Customer-owned Telemetry options is selected, please identify the preferred Site Metering Arrangement.</p>	<p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Customer-owned Telemetry - Gateway</p> <p><input type="checkbox"/> Customer-owned Telemetry - Aggregator</p> <p><input type="checkbox"/> Mini RTU</p> <p><input type="checkbox"/> Customer-side net load metering</p> <p><input type="checkbox"/> Replace PG&amp;E meter with a Mark V meter and terminal block</p> <p><input type="checkbox"/> Add terminal block to existing PG&amp;E Mark V meter</p> <p><input type="checkbox"/> Replace meter socket with dual-socket meter cabinet for installation of customer-owned meter</p> <p><input type="checkbox"/> Install customer-owned meter in existing dual socket meter cabinet.</p>
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#### 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 |                                      |                                     |

**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 \_\_\_\_\_



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

## SOLAR (PV) TECHNOLOGY

### 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* 6454-E  
*Decision* D.19-03-013

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

*Submitted* January 11, 2022  
*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” 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>	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.	<input type="checkbox"/> Yes <input type="checkbox"/> 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.	<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. 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



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT E

### WIND TURBINE TECHNOLOGY

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<p>V - Telemetry</p> <p>Will the Generating Facility Gross Nameplate Rating exceed 1 MW?</p> <p>If yes, please select a Telemetry Option.</p> <p>If one of the Customer-owned Telemetry options is selected, please identify the preferred Site Metering Arrangement.</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Customer-owned Telemetry - Gateway</p> <p><input type="checkbox"/> Customer-owned Telemetry - Aggregator</p> <p><input type="checkbox"/> Mini RTU</p> <p><input type="checkbox"/> Customer-side net load metering</p> <p><input type="checkbox"/> Replace PG&amp;E meter with a Mark V meter and terminal block</p> <p><input type="checkbox"/> Add terminal block to existing PG&amp;E Mark V meter</p> <p><input type="checkbox"/> Replace meter socket with dual-socket meter cabinet for installation of customer-owned meter</p> <p><input type="checkbox"/> Install customer-owned meter in existing dual socket meter cabinet.</p>
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**Electric Sample Form No. 79-1174-02F**  
Rule 21 Generator Interconnection Application - Attachment F

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6454-E  
*Decision* D.19-03-013

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

*Submitted* January 11, 2022  
*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>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**

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



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT F

### **MACHINE-BASED TECHNOLOGY**

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<p>Z - Telemetry</p> <p>Will the Generating Facility Gross Nameplate Rating exceed 1 MW?</p> <p>If yes, please select a Telemetry Option.</p>     <p>If one of the Customer-owned Telemetry options is selected, please identify the preferred Site Metering Arrangement.</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Customer-owned Telemetry - Gateway <input type="checkbox"/> Customer-owned Telemetry - Aggregator <input type="checkbox"/> Mini RTU</p> <p><input type="checkbox"/> Customer-side net load metering <input type="checkbox"/> Replace PG&amp;E meter with a Mark V meter and terminal block <input type="checkbox"/> Add terminal block to existing PG&amp;E Mark V meter <input type="checkbox"/> Replace meter socket with dual-socket meter cabinet for installation of customer-owned meter <input type="checkbox"/> Install customer-owned meter in existing dual socket meter cabinet.</p>
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**Electric Sample Form No. 79-1174-02G**  
Rule 21 Generator Interconnection Application - Attachment G

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6454-E  
*Decision* D.19-03-013

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

*Submitted* January 11, 2022  
*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)  <input type="checkbox"/> Yes <input type="checkbox"/> No			
<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  <input type="checkbox"/> 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):	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No
<b>S - 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>T - Gas Clearance Requirements</b> Certify that this interconnection meets Greenbook Gas Clearance Requirements?	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No
<b>U - 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>V - 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



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT G

### FUEL CELL TECHNOLOGY

<p>W - Telemetry</p> <p>Will the Generating Facility Gross Nameplate Rating exceed 1 MW?</p> <p>If yes, please select a Telemetry Option.</p> <p>If one of the Customer-owned Telemetry options is selected, please identify the preferred Site Metering Arrangement.</p>	<p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Customer-owned Telemetry - Gateway</p> <p><input type="checkbox"/> Customer-owned Telemetry - Aggregator</p> <p><input type="checkbox"/> Mini RTU</p> <p><input type="checkbox"/> Customer-side net load metering</p> <p><input type="checkbox"/> Replace PG&amp;E meter with a Mark V meter and terminal block</p> <p><input type="checkbox"/> Add terminal block to existing PG&amp;E Mark V meter</p> <p><input type="checkbox"/> Replace meter socket with dual-socket meter cabinet for installation of customer-owned meter</p> <p><input type="checkbox"/> Install customer-owned meter in existing dual socket meter cabinet.</p>
---	--



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

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6454-E  
*Decision* D.19-03-013

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

*Submitted* January 11, 2022  
*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>	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No	___ Yes ___ 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>	___ 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>	Max kWh Capacity:	Max kWh Capacity:	Max kWh Capacity:	Max kWh Capacity:
	Rated kW Discharge:	Rated kW Discharge:	Rated kW Discharge:	Rated kW Discharge:
<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>	_____ (Amps)	_____ (Amps)	_____ (Amps)	_____ (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	1   2   3	1   2   3	1   2   3	1   2   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?	_____ Manufacturer  _____ Model #  _____ 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

<p>generator?</p> <p>If so, please include the requested information for the back-up controller or other device.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No  Manufacture r  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.
<p>W - Back-up Generator Operation</p> <p>Will the generator be operated as a back-up?</p> <p>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>X - Limited Export</p> <p>Will the generator export be limited?</p> <p>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



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT H

### ENERGY STORAGE TECHNOLOGY

<p>Y - Telemetry</p> <p>Will the Generating Facility Gross Nameplate Rating exceed 1 MW?</p> <p>If yes, please select a Telemetry Option.</p> <p>If one of the Customer-owned Telemetry options is selected, please identify the preferred Site Metering Arrangement.</p>	<p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Customer-owned Telemetry - Gateway</p> <p><input type="checkbox"/> Customer-owned Telemetry - Aggregator</p> <p><input type="checkbox"/> Mini RTU</p> <p><input type="checkbox"/> Customer-side net load metering</p> <p><input type="checkbox"/> Replace PG&amp;E meter with a Mark V meter and terminal block</p> <p><input type="checkbox"/> Add terminal block to existing PG&amp;E Mark V meter</p> <p><input type="checkbox"/> Replace meter socket with dual-socket meter cabinet for installation of customer-owned meter</p> <p><input type="checkbox"/> Install customer-owned meter in existing dual socket meter cabinet.</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

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 \_\_\_\_\_



**ELECTRIC TABLE OF CONTENTS**

Sheet 1

**TABLE OF CONTENTS**

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(Continued)

Advice 6454-E  
Decision D.19-03-013

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

Submitted January 11, 2022  
Effective \_\_\_\_\_  
Resolution \_\_\_\_\_



**ELECTRIC TABLE OF CONTENTS**

Sheet 25

<b>FORM</b>	<b>TITLE OF SHEET</b>	<b>CAL P.U.C. SHEET NO.</b>
-------------	-----------------------	-----------------------------

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79-1174-02C	Rule 21 Generator Interconnection Application – Attachment C .....	49269-E	
79-1174-02D	Rule 21 Generator Interconnection Application – Attachment D .....	<b>52489-E</b>	(T)
79-1174-02E	Rule 21 Generator Interconnection Application – Attachment E .....	<b>52490-E</b>	
79-1174-02F	Rule 21 Generator Interconnection Application – Attachment F .....	<b>52491-E</b>	
79-1174-02G	Rule 21 Generator Interconnection Application – Attachment G .....	<b>52492-E</b>	
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79-1191	Generating Facility Interconnection Agreement For Local Government Renewable Energy Self-Generation Bill Credit Transfer (RES-BCT).....	49295-E	
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79-1198-02	Interconnection Agreement for Net Energy Metering (NEM2) and Renewable Electrical Generating Facility Sized Greater than 1,000 kW .....	50574-E	
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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 .....	51182-E	
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(Continued)

Advice 6454-E  
January 11, 2022

## **Attachment 2**

### **Redline Tariff Revisions**



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

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6454-E  
*Decision* D.19-03-013

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

*Submitted* January 11, 2022  
*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> 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> <p>Main Breaker (Amps)</p> <p>PV Breaker Size (Amps)</p>	<p>Panel Voltage (Volts)</p> <p>Main Breaker (Amps)</p> <p>PV Breaker Size (Amps)</p>	<p>Panel Voltage (Volts)</p> <p>Main Breaker (Amps)</p> <p>PV Breaker Size (Amps)</p>	<p>Panel Voltage (Volts)</p> <p>Main Breaker (Amps)</p> <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>
<p><u>V - Telemetry</u></p> <p><u>Will the Generating Facility Gross Nameplate Rating exceed 1 MW?</u></p> <p><u>If yes, please select a Telemetry Option.</u></p> <p><u>If one of the Customer-owned Telemetry options is selected, please identify the preferred Site Metering Arrangement.</u></p>	<p><u>Yes</u></p> <p><u>No</u></p> <p><u>Customer-owned Telemetry - Gateway</u></p> <p><u>Customer-owned Telemetry - Aggregator</u></p> <p><u>Mini RTU</u></p> <p><u>Customer-side net load metering</u></p> <p><u>Replace PG&amp;E meter with a Mark V meter and terminal block</u></p>			

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

## SOLAR (PV) TECHNOLOGY

	<p style="text-align: center;"><u>Add terminal block to existing PG&amp;E Mark V meter</u></p> <p style="text-align: center;"><u>Replace meter socket with dual-socket meter cabinet for installation of customer-owned meter</u></p> <p style="text-align: center;"><u>Install customer-owned meter in existing dual socket meter cabinet.</u></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 |                                      |                                     |

**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: \$ \_\_\_\_\_



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

**SOLAR (PV) TECHNOLOGY**

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* 6454-E  
*Decision* D.19-03-013

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

*Submitted* January 11, 2022  
*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” 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>	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.	<input type="checkbox"/> Yes <input type="checkbox"/> 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.	<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. 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 ___ No</p>	<p>_____ Manufacturer</p> <p>_____ Model #</p> <p>_____ Rating (amps)</p> <p>___ Yes ___ No</p>	<p>_____ Manufacturer</p> <p>_____ Model #</p> <p>_____ Rating (amps)</p> <p>___ Yes ___ No</p>	<p>_____ Manufacturer</p> <p>_____ Model #</p> <p>_____ Rating (amps)</p> <p>___ Yes ___ 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
<u>V - Telemetry</u> <u>Will the Generating Facility Gross Nameplate Rating exceed 1 MW?</u>  <u>If yes, please select a Telemetry Option.</u>	___ Yes ___ No  ___ <u>Customer-owned Telemetry - Gateway</u> ___ <u>Customer-owned Telemetry - Aggregator</u> ___ <u>Mini RTU</u>  ___ <u>Customer-side net load metering</u>			



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT E

### WIND TURBINE TECHNOLOGY

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If one of the Customer-owned Telemetry options is selected, please identify the preferred Site Metering Arrangement.

Replace PG&E meter with a Mark V meter and terminal block

Add terminal block to existing PG&E Mark V meter

Replace meter socket with dual-socket meter cabinet for installation of customer-owned meter

Install customer-owned meter in existing dual socket meter cabinet.



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

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6454-E  
*Decision* D.19-03-013

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

*Submitted* January 11, 2022  
*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>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
<u>Z - Telemetry</u> <u>Will the Generating Facility Gross Nameplate Rating exceed 1 MW?</u>  <u>If yes, please select a Telemetry Option.</u>	___ Yes ___ No  ___ Customer-owned Telemetry - Gateway ___ Customer-owned Telemetry - Aggregator ___ Mini RTU			



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT F

### MACHINE-BASED TECHNOLOGY

If one of the Customer-owned Telemetry options is selected, please identify the preferred Site Metering Arrangement.

Customer-side net load metering

Replace PG&E meter with a Mark V meter and terminal block

Add terminal block to existing PG&E Mark V meter

Replace meter socket with dual-socket meter cabinet for installation of customer-owned meter

Install customer-owned meter in existing dual socket meter cabinet.



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

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6454-E  
*Decision* D.19-03-013

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

*Submitted* January 11, 2022  
*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.	<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</b> (Choose One)  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)  <input type="checkbox"/> Yes <input type="checkbox"/> No			
<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  <input type="checkbox"/> 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):	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No
<b>S - 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>T - Gas Clearance Requirements</b> Certify that this interconnection meets Greenbook Gas Clearance Requirements?	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No
<b>U - 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>V - 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
<u>W - Telemetry</u> <u>Will the Generating Facility Gross Nameplate Rating exceed 1 MW?</u>  <u>If yes, please select a Telemetry Option.</u>	___ Yes ___ No  ___ <u>Customer-owned Telemetry - Gateway</u> ___ <u>Customer-owned Telemetry - Aggregator</u>			



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT G

### FUEL CELL TECHNOLOGY

If one of the Customer-owned Telemetry options is selected, please identify the preferred Site Metering Arrangement.

Mini RTU

Customer-side net load metering

Replace PG&E meter with a Mark V meter and terminal block

Add terminal block to existing PG&E Mark V meter

Replace meter socket with dual-socket meter cabinet for installation of customer-owned meter

Install customer-owned meter in existing dual socket meter cabinet.



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

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6454-E  
*Decision* D.19-03-013

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

*Submitted* January 11, 2022  
*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>	___ Yes ___ No	___ Yes ___ No	___ Yes ___ No	___ Yes ___ 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>	___ 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).	_____ 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

<p>generator?</p> <p>If so, please include the requested information for the back-up controller or other device.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	Size (Amps)  <input type="checkbox"/> Yes <input type="checkbox"/> No  Manufacturer  Make  Model No.  Manufacturer  Make  Model No.	<input type="checkbox"/> Yes <input type="checkbox"/> No  Manufacturer  Make  Model No.
<p>W - Back-up Generator Operation</p> <p>Will the generator be operated as a back-up?</p> <p>If yes, please indicate control device.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<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>X - Limited Export</p> <p>Will the generator export be limited?</p> <p>If yes, please indicate how export will be limited.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<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
<p><u>Y - Telemetry</u></p> <p><u>Will the Generating Facility Gross Nameplate Rating exceed 1 MW?</u></p> <p><u>If yes, please select a Telemetry Option.</u></p> <p><u>If one of the Customer-owned Telemetry</u></p>	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> <u>Customer-owned Telemetry - Gateway</u> <input type="checkbox"/> <u>Customer-owned Telemetry - Aggregator</u> <input type="checkbox"/> <u>Mini RTU</u>  <input type="checkbox"/> <u>Customer-side net load metering</u>			



# INTERCONNECTION APPLICATION (Form 79-1174-02)

## ATTACHMENT H

### ENERGY STORAGE TECHNOLOGY

options is selected, please identify the preferred Site Metering Arrangement.

Replace PG&E meter with a Mark V meter and terminal block

Add terminal block to existing PG&E Mark V meter

Replace meter socket with dual-socket meter cabinet for installation of customer-owned meter

Install customer-owned meter in existing dual socket meter cabinet.

#### 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: \_\_\_\_\_

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  
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  
International Power Technology

Intertie

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

OnGrid Solar  
Pacific Gas and Electric Company  
Peninsula Clean Energy

Pioneer Community Energy

Public Advocates Office

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