

August 5, 2022

Advice Letter 6674-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 Form 79-1174-02 Attachments For Implementation of Resolution E-5172

Purpose

Pacific Gas and Electric Company (PG&E) hereby submits this Tier 1 advice letter to propose modifications to certain attachments to PG&E's Form 79-1174-02, PG&E's *Rule 21 Interconnection Application Form*, to implement changes from PG&E's Advice Letters 5915-E-B, 6014-E, and 6663-E, in compliance with the California Public Utilities Commission (CPUC, Commission) Resolution E-5172,¹ *Approval, with Modifications, of utilities' Advice Letters seeking proposed modifications to Electric Rule 21 Tariff in Compliance with Decision 20-09-035, Ordering Paragraphs 2, 6, 11, 12, and 23 (Resolution E-5172 or Resolution)*. These changes will also be reflected in PG&E online application portal, *Your Projects*.

Background

Rulemaking 17-07-007 and Working Groups

On July 13, 2017, The Commission adopted Order Instituting Rulemaking (R.) 17-07-007 to consider refinements to Electric Tariff Rule 21 of PG&E, San Diego Gas & Electric Company (SDG&E), and Southern California Edison Company (SCE) (jointly, Utilities) regarding the interconnection of distributed energy resources.²

¹ [CPUC Resolution E-5172](#) - Date of Issuance June 23, 2022 – *Approval, with Modifications, of utilities' Advice Letters seeking proposed modifications to Electric Rule 21 Tariff in Compliance with Decision 20-09-035, Ordering Paragraphs 2, 6, 11, 12, and 23*

² The Rule 21 tariff describes the interconnection, operating, and metering requirements for certain generating and storage facilities seeking to connect to the electric distribution system. Rule 21 provides customers access to the electric grid to install generating or storage facilities while protecting the safety and reliability of the distribution and transmission systems at the local and system levels. (See R.17-07-007 at p2.)

The October 2, 2017, *Scoping Memo of Assigned Commissioner and Administrative Law Judge* (Scoping Memo) set forth the scope and schedule of the proceeding, including establishment of the working group process, whereby resolution of the technical issues of the proceeding would be proposed by Working Groups One through Six.

CPUC Decision (D.) 20-09-035

The CPUC issued CPUC D. 20-09-035³ (Working Group 2 and 3 Decision or Decision) on September 30, 2020, which modified each Utility's Electric Tariff Rule 21. At a high level, the Decision streamlined the interconnection process by incorporating the Integration Capacity Analysis results from R. 14-08-013, the Distribution Resources Plans proceeding, and also improving efficiency, transparency, certainty, and clarity.

AL 6014-E and AL 6014-E-A

On November 30, 2020, PG&E submitted Tier 2 AL 6014-E⁴ 60 days after the issuance of D. 20-09-035, as ordered by that decision. That advice letter was protested. Supplemental AL 6014-E-A⁵ was submitted June 25, 2021, addressing Ordering Paragraphs (OP) 1, 3, 4, 17 and 18, but OPs 2, 12, and 23 were not addressed there.

AL 5915-E

On January 28, 2021, PG&E submitted the original advice letter AL 5915-E 120 days after the issuance of D. 20-09-035, as ordered by that decision. That advice letter was protested.

AL 5915-E-A and IREC Protest

On September 3, 2021, PG&E submitted supplemental AL 5915-E-A addressing the unresolved OPs in advice letters AL 6014-E-A (the "60 day" supplemental) for OPs 2, 12, and 23 and AL 5915-E (the "120 days" AL) addressing additional change to OPs 5, 6, 8 and 11. This AL was subsequently protested by IREC on September 10, 2021. The joint IOUs submitted a protest response on September 17, 2021. This advice letter incorporated changes the utilities agreed to make in that protest response, based on guidance from Energy Division.

³ [Decision 20-09-035](#) - Date of Issuance 9/30/2020 - *Decision Adopting Recommendations from Working Groups Two, Three, and Subgroup*

⁴ [AL 6014-E](#) *Advice Letter Modifying Electric Rule 21 Pursuant to Decision 20-09-035 for Working Group 2 and 3* (due 60 Days from Issuance)

⁵ [AL 6014-E-A](#) - *Supplemental: Advice Letter Modifying Electric Rule 21 Pursuant to Decision 20-09-035 for Working Group 2 and 3* (due 60 Days from Issuance)

AL 5915-E-B

On November 4, 2021, PG&E submitted supplemental AL 5915-E-B⁶, adopting changes PG&E agreed to make in its protest response to IREC's protest of PG&E Advice Letter 5915-E-A.

Resolution E-5172

On June 28, 2022, the CPUC issued Resolution E-5172, approving, with modifications, PG&E's AL 5915-E-B. The CPUC further directed PG&E to file a Tier 1 compliance Advice Letter within 30 days to modify Electric Rule 21 Tariff in accordance with Resolution E-5172.

Advice Letter 6663-E⁷

On July 25, 2022, PG&E submitted AL 6663-E, making modifications to its Electric Rule 21 tariff as identified in Resolution E-5172.

This Advice Letter

This advice letter makes modifications to various PG&E forms to implement the proposals from ALs 6014-E-A, 5919-E-B, and 6663-E, as follows:

- **Form 79-1174-02 Attachment A, Rule 21 Interconnection Application Form Attachment for Customer and Project Information:**

PG&E added fields to its online application form to facilitate PG&E's Information Technology (IT) implementation of Working Group 2 and 3 Decision OP 23. OP 23 requires:

23. Proposal 12c is adopted, establishing a standard timeline for design and construction of interconnection-related distribution upgrades as follows: i) 60 business days for design and 60 business days for construction, or ii) design and construction timelines as agreed with the customer. The 60-day clock commences upon payment and after the customer has done everything necessary on their end to prepare for construction.

PG&E's IT team is streamlining the system upgrade work transfer process from Electric Grid Interconnection (EGI) to Service Planning and Design (SP&D). As part of this initiative, PG&E needs the customer's legal status and state of incorporation to prepare eventual work agreements for implementation of required

⁶ [AL 5915-E-B](#) – Second Supplemental: Advice Letter Modifying Electric Rule 21 Pursuant to Decision 20-09-035 for Working Group 2 and 3 (due 120 Days from Issuance) for Ordering Paragraphs 6 and 11.

⁷ [AL 6663-E](#) – Advice Letter Modifying Electric Rule 21 Pursuant to Resolution E-5172

system upgrades; therefore, PG&E is updating Form 79-1174-02A to request this information.

PG&E is also adding fields to this form to perform a check of the Integration Capacity Analysis-(ICA) map during the application process, in compliance with Working Group 2 and 3 Decision OP 11 (discussed in PG&E’s AL 5915-E-B). OP 11 requires:

11. Option B of Proposal 8m is adopted with modification.

Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company (Utilities) shall apply a 10 percent buffer to the Integration Capacity Analysis-Static Grid profile and to the Integration Capacity Analysis Operational Flexibility profile during review of Screen M of the Rule 21 Interconnection Application Process.

The need for the 10 percent buffer to the Integration Capacity Analysis-Operational Flexibility profile will be revisited by the Commission.

Utilities shall collect data on the effectiveness of the 10 percent Integration Capacity Analysis-Operational Flexibility buffer (after consulting with the Commission’s Energy Division) and provide the data and a recommendation on whether to retain the buffer or adjust it, in the Advice Letter on buffers for Issue 9, as required by Ordering Paragraph 15.

PG&E is modifying its form to add the following:

| | |
|--|-------------------|
| <p>For New Construction Projects: Visit the ICA Map here</p> | |
| <p>Have you checked the ICA map for capacities in your project</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> | |
| <ul style="list-style-type: none"> <i>If you checked “No”:</i> Check here to confirm you do not want to look at the values but still proceed with the application: <input type="checkbox"/> <i>If you checked “Yes”:</i> | |
| Field | Value or Capacity |
| CSV Line Section Value | |

| | | |
|--|---------------------------------------|--|
| | Generation Hosting Capacity (OP Flex) | |
| | Generic PV Hosting Capacity (OP Flex) | |
| | Generation Hosting Capacity (SG) | |
| | Generic PV Hosting Capacity (SG) | |
| | ICA Protection Value | |

- **Forms 79-1174-02 Attachment D - H, Rule 21 Interconnection Application Form Attachment for Customer and Project Information:**

PG&E is adding new sections into our technology-specific attachments of the interconnection application to implement Ordering Paragraph 46 of the Working Group 2 and 3 decision, as discussed in PG&E Advice Letter 6014-E-A.

OP 46 requires:

46. Proposal 27a is adopted. Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company (Utilities) shall revise Rule 21 to: i) specifically allow smart inverter default settings to be changed; ii) account for IEEE 1547 and IEEE 1547.1 updates being developed by the Smart Inverter Working Group; and iii) establish a process for requesting and approving non default inverter settings. Utilities shall include Rule 21 language changes necessary to implement Proposals 27a.i) and 27a.iii) as directed in Ordering Paragraph 56 below.

PG&E noted in AL 6014-E-A that it anticipated implementing a process change to its application portal software to support this requirement. Accordingly, PG&E now proposes to add a table for power factor information, volt-var, and volt-watt, as follows:

| Generator Information | Existing Generator type 1 | Existing Generator type 2 | New Generator type 1 | New Generator type 2 |
|----------------------------------|---------------------------|---------------------------|----------------------|----------------------|
| -Volt-Var Smart Inverter Setting | | | | |
| Power Factor Value | V1 _____ | V2 _____ | V3 _____ | V4 _____ |
| Inverter Power Factor | Q1 _____ | Q2 _____ | Q3 _____ | Q4 _____ |
| Volt-Var Voltage Values | V1 _____ | V2 _____ | V3 _____ | V4 _____ |
| Volt-Var Reactive Values | Q1 _____ | Q2 _____ | Q3 _____ | Q4 _____ |
| Volt-Watt Real Power Values | P1 _____ | P2 _____ | P3 _____ | P4 _____ |

PG&E proposes to incorporate these new sections 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)

All of these updates will also be incorporated into PG&E’s online interconnection application portal, *Your Projects*.

For convenience of the reader, PG&E has included “track-change” or “redline” revisions of the forms in Attachment 2.

No cost information is required for this advice letter. This advice letter will not increase any rate or charge, cause the withdrawal of service, or conflict with any other schedule or rule.

Protest

Anyone wishing to protest this submittal may do so by letter sent electronically via E-mail, no later than August 25, 2022, which is 20 days after the date of this submittal. Protests must be submitted to:

CPUC Energy Division
ED Tariff Unit
E-mail: EDTariffUnit@cpuc.ca.gov

The protest shall also be electronically sent to PG&E via E-mail at the address shown below on the same date it is electronically delivered to the Commission:

Sidney Bob Dietz II
Director, Regulatory Relations
c/o Megan Lawson
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 and 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

This advice letter is submitted with a Tier 1 designation, to align with PG&E's Advice Letter 6663-E. PG&E requests that this Tier 1 advice submittal become effective on September 26, 2022, to coincide with planned implementation of these updates into PG&E's online application portal, *Your Projects*.

If not for PG&E's extension request, these changes would be effective as of August 7, 2022, pursuant to Resolution E-5172.

In the event this Advice Letter is not made effective before September 26, 2022, PG&E will implement these fields into our online application portal as optional fields.

Notice

In accordance with General Order 96-B, Section IV, a copy of this advice letter is being sent electronically 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: Clean Tariff
Attachment 2: Redline Tariff Revision

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 (U 39 E)

Utility type:

- ELC GAS WATER
 PLC HEAT

Contact Person: Stuart Rubio

Phone #: (415) 973-4587

E-mail: PGETariffs@pge.com

E-mail Disposition Notice to: SHR8@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) #: 6674-E

Tier Designation: 1

Subject of AL: Modifications to PG&E's Interconnection Application Form 79-1174-02 Attachments For Implementation of Resolution E-5172

Keywords (choose from CPUC listing): Compliance

AL Type: Monthly Quarterly Annual One-Time Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #: Res. E-5172

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: N/A

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: 9/26/22

No. of tariff sheets: 8

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 proposed¹: N/A

Pending advice letters that revise the same tariff sheets: Form 79-1174-02H Pending in AL 6609-E-A

¹Discuss in AL if more space is needed.

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

California Public Utilities Commission
Energy Division Tariff Unit Email:
EDTariffUnit@cpuc.ca.gov

Contact Name: Sidnev Bob Dietz II. c/o Megan Lawson
Title: Director, Regulatory Relations
Utility/Entity Name: Pacific Gas and Electric Company

Telephone (xxx) xxx-xxxx: (415)973-2093
Facsimile (xxx) xxx-xxxx:
Email: PGETariffs@pge.com

Contact Name:
Title:
Utility/Entity Name:

Telephone (xxx) xxx-xxxx:
Facsimile (xxx) xxx-xxxx:
Email:

CPUC
Energy Division Tariff Unit
505 Van Ness Avenue
San Francisco, CA 94102

Clear Form

| Cal P.U.C. Sheet No. | Title of Sheet | Cancelling Cal P.U.C. Sheet No. |
|---------------------------------|---|--|
| 53900-E* | Electric Sample Form No. 79-1174-02A Rule 21 Generator Interconnection Application - Attachment A Sheet 1 | 50663-E |
| 53901-E | Electric Sample Form No. 79-1174-02D Rule 21 Generator Interconnection Application - Attachment D Sheet 1 | 52946-E |
| 53902-E | Electric Sample Form No. 79-1174-02E Rule 21 Generator Interconnection Application - Attachment E Sheet 1 | 52947-E |
| 53903-E | Electric Sample Form No. 79-1174-02F Rule 21 Generator Interconnection Application - Attachment F Sheet 1 | 52948-E |
| 53904-E | Electric Sample Form No. 79-1174-02G Rule 21 Generator Interconnection Application - Attachment G Sheet 1 | 52949-E |
| 53905-E | Electric Sample Form No. 79-1174-02H Rule 21 Generator Interconnection Application - Attachment H Sheet 1 | 52880-E |
| 53906-E | ELECTRIC TABLE OF CONTENTS Sheet 1 | 53897-E |
| 53907-E* | ELECTRIC TABLE OF CONTENTS Sheet 25 | 52882-E |



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

Sheet 1

**Please Refer to Attached
Sample Form**

(Continued)

Advice 6674-E
Decision

Issued by
Meredith Allen
Vice President, Regulatory Affairs

Submitted August 5, 2022
Effective September 26, 2022
Resolution E-5172



INTERCONNECTION APPLICATION (Form 79-1174-02)

ATTACHMENT A

CUSTOMER AND PROJECT INFORMATION

Part I - Selecting the Study Process

Please check one:

- Fast Track Process¹.
- Detailed Study
 - Will be either an Independent Study Process, Distribution Group Study Process or Transmission Cluster Study Process, dependent upon the Electrical Independence Tests.

Part II – Identifying the Generating Facility Location and Responsible Parties

| |
|----------------------|
| <i>Project Name:</i> |
| |

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

| | | |
|--|--|--|
| | | |
|--|--|--|

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

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

| | | | |
|--|--|----|--|
| | | CA | |
|--|--|----|--|

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

Please check all that apply:

- A New Generating Facility interconnection (at an existing service).
- Upgrade existing Generating Facility with previous approval by PG&E (adding PV panels, adding energy storage as an addition or enhancement, changing inverters/turbines or changing load and/or operations).
- A New Generating Facility and New Load Service.
 - An **Application for Service** must be completed. Additional fees may be required if a service or line extension is required (in accordance with PG&E Electric Rules 15 and 16). Please contact PG&E at 1-800-PGE-5000 or Rule21Gen@pge.com.
- A New Generating Facility with no existing electric service and no load.
- An Interconnection under Direct Access (DA).
 - Customers applying for interconnection who are served under Direct Access by an Electric Service Provider (ESP) must contact their ESP directly for information regarding the options available under their Direct Access contract.

¹ See Electric Rule 21 for FAST TRACK requirements.



INTERCONNECTION APPLICATION (Form 79-1174-02)

ATTACHMENT A

CUSTOMER AND PROJECT INFORMATION

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

For New Construction Projects: [Visit the ICA Map here](#)

Have you checked the ICA map for capacities in your project Yes No

- *If you checked "No":*
Check here to confirm you do not want to look at the values but still proceed with the application:

- *If you checked "Yes":*

| Field | Value or Capacity |
|---------------------------------------|-------------------|
| CSV Line Section Value | |
| Generation Hosting Capacity (OP Flex) | |
| Generic PV Hosting Capacity (OP Flex) | |
| Generation Hosting Capacity (SG) | |
| Generic PV Hosting Capacity (SG) | |
| ICA Protection Value | |

B. Customer Account Contact Information -

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

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

| | |
|--|--|
| | |
|--|--|



INTERCONNECTION APPLICATION (Form 79-1174-02)

ATTACHMENT A

CUSTOMER AND PROJECT INFORMATION

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

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

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

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

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

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

For Customer applying for interconnection under Schedules

- i) NEM2 – Net Energy Metering Service (including NEM2A – Load Aggregation, Or NEM2MT- Multiple Tariff- with a NEM2 eligible generator), or



INTERCONNECTION APPLICATION (Form 79-1174-02) ATTACHMENT A **CUSTOMER AND PROJECT INFORMATION**

- ii) NEM2V – Virtual Net Energy Metering Service, or
 - iii) NEM2VMS- Virtual Net Energy Metering For Multifamily Affordable Housing (MASH/NSHP) With Solar Generator(s),
- please note, pursuant to California Public Utilities Commission Decision (D.) 16-01-044:

CEC Listed

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

Warranties or Service Agreements

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

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

Interconnection Fees

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



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

Sheet 1

**Please Refer to Attached
Sample Form**

(Continued)

Advice 6674-E
Decision

Issued by
Meredith Allen
Vice President, Regulatory Affairs

Submitted August 5, 2022
Effective September 26, 2022
Resolution E-5172



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 "type" and quantity 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&E, has been verified by the customer as having safety certification from a nationally recognized testing laboratory.</p> <p>See PG&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 –Volt-Var Smart Inverter Setting | | | | |
| Power Factor Value | V1 _____ | V2 _____ | V3 _____ | V4 _____ |
| Inverter Power Factor | Q1 _____ | Q2 _____ | Q3 _____ | Q4 _____ |
| Volt-Var Voltage Values | V1 _____ | V2 _____ | V3 _____ | V4 _____ |
| Volt-Var Reactive Values | Q1 _____ | Q2 _____ | Q3 _____ | Q4 _____ |
| Volt-Watt Real Power Values | P1 _____ | P2 _____ | P3 _____ | P4 _____ |
| F - Modules. | _____ Manufacturer | _____ Manufacturer | _____ Manufacturer | _____ Manufacturer |
| | _____ Model #. | _____ Model #. | _____ Model #. | _____ Model #. |
| | _____ Quantity | _____ Quantity | _____ Quantity | _____ Quantity |
| G - 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. | | | | |
| H - 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. | | | | |



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 |
|---|---|---|---|---|
| I - 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. | | | | |
| J - 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. | | | | |
| K - Wiring Configuration Please indicate whether the Generator is a single-phase or three-phase device. See PG&E's Rule 21, Section H.3. | | | | |
| L - AC Disconnect 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? | <u> </u> Manufacturer <u> </u> Model # <u> </u> Rating (amps) <input type="checkbox"/> Yes <input type="checkbox"/> No | <u> </u> Manufacturer <u> </u> Model # <u> </u> Rating (amps) <input type="checkbox"/> Yes <input type="checkbox"/> No | <u> </u> Manufacturer <u> </u> Model # <u> </u> Rating (amps) <input type="checkbox"/> Yes <input type="checkbox"/> No | <u> </u> Manufacturer <u> </u> Model # <u> </u> Rating (amps) <input type="checkbox"/> Yes <input type="checkbox"/> No |
| M - Lineside Tap 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: Rule21Gen@PGE.com for more information. | <u> </u> Customer side <input type="checkbox"/> PG&E side |
| N - Warranty or Service Agreement Applicant has verified that (i) a warranty of at least 10 years has been provided on all equipment and on its installation, or (ii) have a 10-year service warranty or executed "agreement" ensuring proper maintenance and continued system performance. | <input type="checkbox"/> Yes <input type="checkbox"/> No |

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 |
|---|---|---|---|---|
| O - Solar Ready Electric Panel Is the Generating Facility connecting to a circuit breaker on the supply side of the main breaker? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| P - Green Meter Adapter (GMA) Will a GMA be installed? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Q - Distribution Interconnect Handbook (DIH) and Greenbook Requirements Does this interconnection meet the DIH and Greenbook Requirements | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| R - Gas Clearance Requirements Certify that this interconnection meets Greenbook Gas Clearance Requirements? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| S - Basic Single Line Diagram (SLD) If the interconnection is eligible to use a Basic SLD, please include the requested information. | _____ Panel Voltage (Volts) _____ Main Breaker (Amps) _____ PV Breaker Size (Amps) | _____ Panel Voltage (Volts) _____ Main Breaker (Amps) _____ PV Breaker Size (Amps) | _____ Panel Voltage (Volts) _____ Main Breaker (Amps) _____ PV Breaker Size (Amps) | _____ Panel Voltage (Volts) _____ Main Breaker (Amps) _____ PV Breaker Size (Amps) |
| T - Back-up Generator Operation Will the generator be operated as a back-up? If yes, please indicate the control device that will be used. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker |
| U - Limited Export Will the generator export be limited? If yes, please indicate how export will be | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Power Control System | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Power Control System | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Power Control System | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Power Control System |



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 |
|---|---|---|---|---|
| limited. | (PCS – Option 9) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | (PCS – Option 9) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | (PCS – Option 9) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | (PCS – Option 9) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter |
| <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&E meter with a Mark V meter and terminal block</p> <p><input type="checkbox"/> Add terminal block to existing PG&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> | | | |

Part II Solar Statistics Data Fields

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

A. Customer Sector (Check one)

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



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

SOLAR (PV) TECHNOLOGY

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

Yes No

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

- Customer
3rd Party (list name)

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

Yes No

If yes, please indicate how many electric vehicles

D. System Ownership and Financing

i. System Owner (check one):

PG&E Customer Owned

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

Indicate the System Cost paid by Customer: \$

Property Assessed Clean Energy (PACE) Financed?

Yes No

If Yes, PACE financed by which entity?

If you have non-PACE financing or a lease, please fill in the information below

Financial Institution/Lessor Name

Financial Institution/Lessor Address

City

State

Zip

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:

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

SOLAR (PV) TECHNOLOGY

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: _____

G. CPUC Consumer Protection Requirements Pursuant to Decision 21-06-026

a. Home Improvement Salesperson (HIS) Registration Number

Was a Home Improvement Salesperson (HIS) involved in the development of your project?

Yes No

California Public Utilities Commission (CPUC) Decision 21-02-026 requires "*the Home Improvement Salesperson (HIS) registration number of solar providers who are required to have a HIS registration number, while enabling solar providers who are not required to have a HIS registration number to indicate they are exempt and to instead provide the applicable contractor's license.*"

If you checked "Yes" above:

Please provide the Home Improvement Salesperson (HIS) registration number below.

Home Improvement Salesperson (HIS) registration 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 6674-E
Decision

Issued by
Meredith Allen
Vice President, Regulatory Affairs

Submitted August 5, 2022
Effective September 26, 2022
Resolution E-5172



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



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 |
|---|---|---|---|---|
| E – Volt-Var Smart Inverter Setting | | | | |
| Power Factor Value | V1 _____ | V2 _____ | V3 _____ | V4 _____ |
| Inverter Power Factor | Q1 _____ | Q2 _____ | Q3 _____ | Q4 _____ |
| Volt-Var Voltage Values | V1 _____ | V2 _____ | V3 _____ | V4 _____ |
| Volt-Var Reactive Values | Q1 _____ | Q2 _____ | Q3 _____ | Q4 _____ |
| Volt-Watt Real Power Values | P1 _____ | P2 _____ | P3 _____ | P4 _____ |
| F - Generator Design Please indicate the design of each Generator. Designate "Inverter" anytime an inverter is used as the interface between the Generator and the electric system regardless of the primary power production/storage device used. | <input type="checkbox"/> Synch <input type="checkbox"/> Induct. <input type="checkbox"/> Inverter |
| G - 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. | | | | |
| H - 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. | | | | |
| I - 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 | | | | |



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 |
|--|---|---|---|---|
| additional information. | | | | |
| J - 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. | | | | |
| K - Wiring Configuration Please indicate whether the Generator is a single-phase or three-phase device. See PG&E's Rule 21, Section H.3. | | | | |
| L - (MP) 3-Phase Winding Configuration (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 |
| M - (MP) Neutral Grounding System Used (Choose One) 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 |
| N - Induction Generators Only: Locked Rotor Current: _____ (Amps) Stator Resistance: _____ (%) Stator Leakage Reactance: _____ (%) Rotor Resistance: _____ (%) Rotor Leakage Reactance: _____ (%) If the Generator is of an induction design, please provide the "locked rotor current" value supplied by the manufacturer. 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. If the Generator's Gross Nameplate Capacity is 10 MW or greater, PG&E may request additional data to better model the nature and behavior of the Generator with relation to its Electric System. | _____ (Amps) _____ (%) _____ (%) _____ (%) _____ (%) |
| O - Short Circuit Current Produced by Generator: | _____ (Amps) | _____ (Amps) | _____ (Amps) | _____ (Amps) |



INTERCONNECTION APPLICATION (Form 79-1174-02)

ATTACHMENT E

WIND TURBINE TECHNOLOGY

| | | | | |
|--|---|---|---|---|
| <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&E's Rule 21, Section H.1.d</p> <p>Located within 10 feet of the PG&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>Q - Lineside Tap</p> <p>Where is the point of interconnection in relation to the main breaker?</p> <p>PG&E has special requirements for a lineside tap.</p> <p>Contact PG&E at: Rule21Gen@PGE.com for more information.</p> | <p>____ Customer side</p> <p>____ PG&E side</p> |
| <p>R – 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> | <p>____ Yes ____ No</p> | <p>____ Yes ____ No</p> | <p>____ Yes ____ No</p> | <p>____ Yes ____ No</p> |
| <p>S - Distribution Interconnect Handbook (DIH) and Greenbook Requirements</p> <p>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>T - Gas Clearance Requirements</p> <p>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>U - Back-up Generator Operation</p> <p>Will the generator be operated as a back-up?</p> <p>If yes, please indicate control device.</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> |



INTERCONNECTION APPLICATION (Form 79-1174-02)

ATTACHMENT E

WIND TURBINE TECHNOLOGY

| | | | | |
|---|---|--|--|--|
| <p>V - 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 – Option 9)</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 – Option 9)</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 - Option 9)</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 – Option 9)</p> <p><input type="checkbox"/> Relay</p> <p><input type="checkbox"/> Derated Inverter</p> |
| <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 <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&E meter with a Mark V meter and terminal block</p> <p><input type="checkbox"/> Add terminal block to existing PG&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. 79-1174-02F
Rule 21 Generator Interconnection Application - Attachment F

Sheet 1

**Please Refer to Attached
Sample Form**

(Continued)

Advice 6674-E
Decision

Issued by
Meredith Allen
Vice President, Regulatory Affairs

Submitted August 5, 2022
Effective September 26, 2022
Resolution E-5172



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 “type” and quantity 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&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.</p> | <input type="checkbox"/> Yes <input type="checkbox"/> No |



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 |
|---|---------------------------|---------------------------|----------------------|----------------------|
| E –Volt-Var Smart Inverter Setting | | | | |
| Power Factor Value | V1 _____ | V2 _____ | V3 _____ | V4 _____ |
| Inverter Power Factor | Q1 _____ | Q2 _____ | Q3 _____ | Q4 _____ |
| Volt-Var Voltage Values | V1 _____ | V2 _____ | V3 _____ | V4 _____ |
| Volt-Var Reactive Values | Q1 _____ | Q2 _____ | Q3 _____ | Q4 _____ |
| Volt-Watt Real Power Values | P1 _____ | P2 _____ | P3 _____ | P4 _____ |
| 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. | | | | |



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 |
|---|---|---|---|---|
| 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. | | | | |
| K - (MP) 3-Phase Winding Configuration (Choose One) 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 |
| L - (MP) Neutral Grounding System Used (Choose One) 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. | ___ Ungrounded ___ Solidly Grounded ___ Ground Resistor ___ Ohms |
| M – Synchronous Generators Only: 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&E's Electric System. If the Generator's Gross Nameplate Capacity is 10 MW or greater, PG&E may request additional data to better model the nature and behavior of the Generator with relation to its Electric System. | | | | |
| Synchronous Reactance: | _____ (Xd %) | _____ (Xd %) | _____ (Xd %) | _____ (Xd %) |
| Transient Reactance: | _____ (Xd %) | _____ (Xd %) | _____ (Xd %) | _____ (Xd %) |
| Subtransient Reactance: | _____ (Xd %) | _____ (Xd %) | _____ (Xd %) | _____ (Xd %) |



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>N - Induction Generators Only:</p> <p style="padding-left: 40px;">Locked Rotor Current: _____ (Amps)</p> <p style="padding-left: 80px;">Stator Resistance: _____ (%)</p> <p style="padding-left: 40px;">Stator Leakage Reactance: _____ (%)</p> <p style="padding-left: 80px;">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&E may request additional data to better model the nature and behavior of the Generator with relation to its Electric System.</p> | | | | |
| <p>O - Short Circuit Current Produced by Generator:</p> <p style="padding-left: 40px;">_____ (Amps)</p> | _____ (Amps) | _____ (Amps) | _____ (Amps) | _____ (Amps) |
| <p>P – For Generators that are Started as a "Motor" Only: This information is needed only for Generators that are started by "motoring" the generator.</p> <p>See PG&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: _____ (Amps)</p> <p>2. Host Customer's Service Entrance Panel (Main Panel) Continuous Current Rating: _____ (Amps)</p> | | | | |
| <p>Q – 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 |



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>R - AC Disconnect</p> <p>For systems requiring an AC Disconnect only, please include the requested information about the AC Disconnect.</p> <p>See PG&E's Rule 21, Section H.1.d</p> <p>Located within 10 feet of the PG&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>S - Lineside Tap</p> <p>Where is the point of interconnection in relation to the main breaker?</p> <p>PG&E has special requirements for a lineside tap.</p> <p>Contact PG&E at: Rule21Gen@PGE.com for more information.</p> | <p>____ Customer side</p> <p>____ PG&E side</p> | <p>____ Customer side</p> <p>____ PG&E side</p> | <p>____ Customer side</p> <p>____ PG&E side</p> | <p>____ Customer side</p> <p>____ PG&E side</p> |
| <p>T – 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> | <p>____ Yes ____ No</p> | <p>____ Yes ____ No</p> | <p>____ Yes ____ No</p> | <p>____ Yes ____ No</p> |
| <p>U - Cogeneration</p> <p>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>V - Distribution Interconnect Handbook (DIH) and Greenbook Requirements</p> <p>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>W - Gas Clearance Requirements</p> <p>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>X - Back-up Generator Operation</p> <p>Will the generator be operated as a back-up?</p> <p>If yes, please indicate control device.</p> | <p>____ Yes ____ No</p> <p><input type="checkbox"/> Automatic Transfer</p> | <p>____ Yes ____ No</p> <p><input type="checkbox"/> Automatic Transfer</p> | <p>____ Yes ____ No</p> <p><input type="checkbox"/> Automatic</p> | <p>____ Yes ____ No</p> <p><input type="checkbox"/> Automatic Transfer</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 |
|---|---|--|--|--|
| | Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker | Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker | Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker | Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker |
| Y - Limited Export Will the generator export be limited? If yes, please indicate how export will be limited. | ___ Yes ___ No <input type="checkbox"/> Power Control System (PCS – Option 9) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | ___ Yes ___ No <input type="checkbox"/> Power Control System (PCS – Option 9) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | ___ Yes ___ No <input type="checkbox"/> Power Control System (PCS – Option 9) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | ___ Yes ___ No <input type="checkbox"/> Power Control System (PCS – Option 9) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter |
| Z - Telemetry Will the Generating Facility Gross Nameplate Rating exceed 1 MW? If yes, please select a Telemetry Option. If one of the Customer-owned Telemetry options is selected, please identify the preferred Site Metering Arrangement. | ___ Yes ___ No ___ Customer-owned Telemetry - Gateway ___ Customer-owned Telemetry - Aggregator ___ 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. 79-1174-02G
Rule 21 Generator Interconnection Application - Attachment G

Sheet 1

**Please Refer to Attached
Sample Form**

(Continued)

Advice 6674-E
Decision

Issued by
Meredith Allen
Vice President, Regulatory Affairs

Submitted August 5, 2022
Effective September 26, 2022
Resolution E-5172



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 “type” and quantity 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&E, has been verified by the customer as having safety certification from a nationally recognized testing laboratory.</p> <p>See PG&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 |
|---|---|---|---|---|
| E –Volt-Var Smart Inverter Setting | | | | |
| Power Factor Value | V1 _____ | V2 _____ | V3 _____ | V4 _____ |
| Inverter Power Factor | Q1 _____ | Q2 _____ | Q3 _____ | Q4 _____ |
| Volt-Var Voltage Values | V1 _____ | V2 _____ | V3 _____ | V4 _____ |
| Volt-Var Reactive Values | Q1 _____ | Q2 _____ | Q3 _____ | Q4 _____ |
| Volt-Watt Real Power Values | P1 _____ | P2 _____ | P3 _____ | P4 _____ |
| F - Generator Design Please indicate the design of each Generator. Designate "Inverter" anytime an inverter is used as the interface between the Generator and the electric system regardless of the primary power production/storage device used. | <input type="checkbox"/> Synch <input type="checkbox"/> Induct. <input type="checkbox"/> Inverter |
| G - 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. | | | | |
| H - 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. | | | | |
| I - 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. | | | | |
| J - PF Adjustment Range | | | | |



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 |
|---|---|---|---|---|
| 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. | | | | |
| K - Wiring Configuration Please indicate whether the Generator is a single-phase or three-phase device. See PG&E's Rule 21, Section H.3. | | | | |
| L - (MP) 3-Phase Winding Configuration (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 |
| M - (MP) Neutral Grounding System Used (Choose One) 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 |
| N - Short Circuit Current Produced by Generator | _____ (Amps) | _____ (Amps) | _____ (Amps) | _____ (Amps) |
| O – Prime Mover Type 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 |
| P - AC Disconnect 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) | _____ Manufacturer _____ Model # _____ Rating (amps) | _____ Manufacturer _____ Model # _____ Rating (amps) | _____ Manufacturer _____ Model # _____ Rating (amps) |
| | <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 |
|--|--|--|--|--|
| <p>Q - Lineside Tap</p> <p>Where is the point of interconnection in relation to the main breaker?</p> <p>PG&E has special requirements for a lineside tap.</p> <p>Contact PG&E at: Rule21Gen@PGE.com for more information.</p> | <p>____ Customer side</p> <p>____ PG&E side</p> |
| <p>R – 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> | <p>____ Yes</p> <p>____ No</p> |
| <p>S - Cogeneration</p> <p>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</p> <p>____ No</p> |
| <p>T - Distribution Interconnect Handbook (DIH) and Greenbook Requirements</p> <p>Does this interconnection meet the DIH and Greenbook Requirements</p> | <p>____ Yes</p> <p>____ No</p> |
| <p>U - Gas Clearance Requirements</p> <p>Certify that this interconnection meets Greenbook Gas Clearance Requirements?</p> | <p>____ Yes</p> <p>____ No</p> |
| <p>V - Back-up Generator Operation</p> <p>Will the generator be operated as a back-up?</p> <p>If yes, please indicate control device.</p> | <p>____ Yes</p> <p>____ No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor</p> <p><input type="checkbox"/> Breaker</p> | <p>____ Yes</p> <p>____ No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor</p> <p><input type="checkbox"/> Breaker</p> | <p>____ Yes</p> <p>____ No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor</p> <p><input type="checkbox"/> Breaker</p> | <p>____ Yes</p> <p>____ No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor</p> <p><input type="checkbox"/> Breaker</p> |
| <p>W - Limited Export</p> <p>Will the generator export be limited?</p> <p>If yes, please indicate how export will be limited.</p> | <p>____ Yes</p> <p>____ No</p> <p><input type="checkbox"/> Power Control System (PCS – Option 9)</p> | <p>____ Yes</p> <p>____ No</p> <p><input type="checkbox"/> Power Control System (PCS – Option 9)</p> | <p>____ Yes</p> <p>____ No</p> <p><input type="checkbox"/> Power Control System (PCS – Option 9)</p> | <p>____ Yes</p> <p>____ No</p> <p><input type="checkbox"/> Power Control System (PCS – Option 9)</p> |



INTERCONNECTION APPLICATION (Form 79-1174-02)

ATTACHMENT G

FUEL CELL TECHNOLOGY

| Generator Information | Existing Generator type 1 | Existing Generator type 2 | New Generator type 1 | New Generator type 2 |
|---|--|---|---|---|
| | <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter |
| <p>X - 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&E meter with a Mark V meter and terminal block <input type="checkbox"/> Add terminal block to existing PG&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> | | | |



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

Sheet 1

**Please Refer to Attached
Sample Form**

(Continued)

Advice 6674-E
Decision

Issued by
Meredith Allen
Vice President, Regulatory Affairs

Submitted August 5, 2022
Effective September 26, 2022
Resolution E-5172



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 “type” and quantity 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&E, has been verified by the customer as having safety certification from a nationally recognized testing laboratory.</p> <p>See PG&E’s Rule 21, Section L for additional information regarding Generator certification.</p> | ___ Yes ___ No | ___ Yes ___ No | ___ Yes ___ No | ___ Yes ___ 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 |
|--|--|--|--|--|
| E –Volt-Var Smart Inverter Setting Power Factor Value Inverter Power Factor Volt-Var Voltage Values Volt-Var Reactive Values Volt-Watt Real Power Values | V1 _____ Q1 _____ V1 _____ Q1 _____ P1 _____ | V2 _____ Q2 _____ V2 _____ Q2 _____ P2 _____ | V3 _____ Q3 _____ V3 _____ Q3 _____ P3 _____ | V4 _____ Q4 _____ V4 _____ Q4 _____ P4 _____ |
| F - Generator Design Please indicate the design of each Generator. Designate "Inverter" anytime an inverter is used as the interface between the Generator and the electric system regardless of the primary power production/storage device used. | ___ Synch ___ Induct. ___ Inverter |
| G - 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. | | | | |
| H - Energy Storage Electrical Source Function (in addition, please complete section: "Additional Information Required for Energy Storage") | Max kWh Capacity: <hr/> Rated kW Discharge: <hr/> _____ |
| I - 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. | | | | |



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 |
|--|---|---|---|---|
| J - 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. | | | | |
| K - 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. | | | | |
| L - Wiring Configuration Please indicate whether the Generator is a single-phase or three-phase device. See PG&E's Rule 21, Section H.3. | | | | |
| M - (MP) 3-Phase Winding Configuration (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 |
| N - (MP) Neutral Grounding System Used (Choose One) 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 |
| O - Short Circuit Current Produced by Generator: | <input type="text"/> (Amps) | <input type="text"/> (Amps) | <input type="text"/> (Amps) | <input type="text"/> (Amps) |
| P – Prime Mover Type 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 |



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>Q - AC Disconnect</p> <p>For systems requiring an AC Disconnect only, please include the requested information about the AC Disconnect.</p> <p>See PG&E's Rule 21, Section H.1.d</p> <p>Located within 10 feet of the PG&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>R - Energy Storage (ES) System</p> <p>(For important sizing information related to DC-Coupled configurations, see sizing note below).</p> | <p>_____ Manufacturer</p> <p>_____ Model #</p> <p>_____ Quantity of Units</p> |
| <p>S - Lineside Tap</p> <p>Where is the point of interconnection in relation to the main breaker?</p> <p>PG&E has special requirements for a lineside tap.</p> <p>Contact PG&E at: Rule21Gen@PGE.com for more information.</p> | <p>_____ Customer side</p> <p>____ PG&E side</p> |
| <p>T - 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> | <p>____ Yes ____ No</p> | <p>____ Yes ____ No</p> | <p>____ Yes ____ No</p> | <p>____ Yes ____ No</p> |
| <p>U - Distribution Interconnect Handbook (DIH) and Greenbook Requirements</p> <p>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>V - Gas Clearance Requirements</p> <p>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> |



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>W - Basic Single Line Diagram (SLD)</p> <p>If the interconnection is eligible to use a Basic SLD, please include the requested information.</p> <p>Can this system be used as a back-up generator?</p> <p>If so, please include the requested information for the back-up controller or other device.</p> | <p>Panel Voltage (Volts)</p> <p>_____</p> <p>Main Breaker (Amps)</p> <p>_____</p> <p>Storage Breaker Size (Amps)</p> <p>_____</p> <p>_____ Yes _____ No</p> <p>Manufacturer</p> <p>_____</p> <p>Make</p> <p>_____</p> <p>Model No.</p> <p>_____</p> | <p>Panel Voltage (Volts)</p> <p>_____</p> <p>Main Breaker (Amps)</p> <p>_____</p> <p>Storage Breaker Size (Amps)</p> <p>_____</p> <p>_____ Yes _____ No</p> <p>Manufacturer</p> <p>_____</p> <p>Make</p> <p>_____</p> <p>Model No.</p> <p>_____</p> | <p>Panel Voltage (Volts)</p> <p>_____</p> <p>Main Breaker (Amps)</p> <p>_____</p> <p>Storage Breaker Size (Amps)</p> <p>_____</p> <p>_____ Yes _____ No</p> <p>Manufacturer</p> <p>_____</p> <p>Make</p> <p>_____</p> <p>Model No.</p> <p>_____</p> | <p>Panel Voltage (Volts)</p> <p>_____</p> <p>Main Breaker (Amps)</p> <p>_____</p> <p>Storage Breaker Size (Amps)</p> <p>_____</p> <p>_____ Yes _____ No</p> <p>Manufacturer</p> <p>_____</p> <p>Make</p> <p>_____</p> <p>Model No.</p> <p>_____</p> |
| <p>X - Back-up Generator Operation</p> <p>Will the generator be operated as a back-up?</p> <p>If yes, please indicate control device.</p> | <p>_____ Yes _____ No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor <input type="checkbox"/> Breaker</p> | <p>_____ Yes _____ No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor <input type="checkbox"/> Breaker</p> | <p>_____ Yes _____ No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor <input type="checkbox"/> Breaker</p> | <p>_____ Yes _____ No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor <input type="checkbox"/> Breaker</p> |
| <p>Y - 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 – Option 9)</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 – Option 9)</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 – Option 9)</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 – Option 9)</p> <p><input type="checkbox"/> Relay</p> <p><input type="checkbox"/> Derated Inverter</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>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</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&E meter with a Mark V meter and terminal block</p> <p><input type="checkbox"/> Add terminal block to existing PG&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> | | | |



INTERCONNECTION APPLICATION (Form 79-1174-02)

ATTACHMENT H

ENERGY STORAGE TECHNOLOGY

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:

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 _____



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(Continued)

Attachment 2

Redline Tariff Revisions



INTERCONNECTION APPLICATION (Form 79-1174-02)

ATTACHMENT A

CUSTOMER AND PROJECT INFORMATION

Part I - Selecting the Study Process

Please check one:

- Fast Track Process¹.
- Detailed Study
 - Will be either an Independent Study Process, Distribution Group Study Process or Transmission Cluster Study Process, dependent upon the Electrical Independence Tests.

Part II – Identifying the Generating Facility Location and Responsible Parties

Project Name:

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

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

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

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

Please check all that apply:

- A New Generating Facility interconnection (at an existing service).
- Upgrade existing Generating Facility with previous approval by PG&E (adding PV panels, adding energy storage as an addition or enhancement, changing inverters/turbines or changing load and/or operations).
- A New Generating Facility and New Load Service.
 - An **Application for Service** must be completed. Additional fees may be required if a service or line extension is required (in accordance with PG&E Electric Rules 15 and 16). Please contact PG&E at 1-800-PGE-5000 or Rule21Gen@pge.com.
- A New Generating Facility with no existing electric service and no load.
- An Interconnection under Direct Access (DA).
 - Customers applying for interconnection who are served under Direct Access by an Electric Service Provider (ESP) must contact their ESP directly for information regarding the options available under their Direct Access contract.

¹ See Electric Rule 21 for FAST TRACK requirements.



INTERCONNECTION APPLICATION (Form 79-1174-02)

ATTACHMENT A

CUSTOMER AND PROJECT INFORMATION

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

B. Customer Account Contact Information -

| | | | |
|--|--|---|--|
| Mailing Address | | | |
| City | | State | Zip - 5-digits |
| () - | () - | | |
| Business Phone | Home Phone | Fax | Email |
| <u>Legal Status</u> | | | |
| <input type="checkbox"/> Individual | <input type="checkbox"/> Corporation | <input type="checkbox"/> Estate | <input type="checkbox"/> General Partnership |
| <input type="checkbox"/> Government Agency | <input type="checkbox"/> Joint Venture | <input type="checkbox"/> Limited Liability Co (LLC) | <input type="checkbox"/> Limited Partnership |
| <input type="checkbox"/> Non-Profit Org | <input type="checkbox"/> Other | | |
| <u>State of Incorporation or LLC</u> | | | |

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

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



INTERCONNECTION APPLICATION (Form 79-1174-02)

ATTACHMENT A

CUSTOMER AND PROJECT INFORMATION

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

For New Construction Projects: [Visit the ICA Map here](#)

Have you checked the ICA map for capacities in your project Yes No

- If you checked "No":
Check here to confirm you do not want to look at the values but still proceed with the application:

- If you checked "Yes":

| <u>Field</u> | <u>Value or Capacity</u> |
|--|--------------------------|
| <u>CSV Line Section Value</u> | |
| <u>Generation Hosting Capacity (OP Flex)</u> | |
| <u>Generic PV Hosting Capacity (OP Flex)</u> | |
| <u>Generation Hosting Capacity (SG)</u> | |
| <u>Generic PV Hosting Capacity (SG)</u> | |
| <u>ICA Protection Value</u> | |

B. Customer Account Contact Information -

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

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



INTERCONNECTION APPLICATION (Form 79-1174-02) ATTACHMENT A **CUSTOMER AND PROJECT INFORMATION**

into account. The details, impedance, and arrangement of such transformers and interconnecting conductors should be shown on the single-line diagram that is provided. Consult an electrical engineer or the equipment supplier if assistance is needed in answering this question.

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

For Customer applying for interconnection under Schedules

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

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

CEC Listed

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

Warranties or Service Agreements

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

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

Interconnection Fees

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



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 "type" and quantity 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&E, has been verified by the customer as having safety certification from a nationally recognized testing laboratory.</p> <p>See PG&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 |
|---|---------------------------|---------------------------|----------------------|----------------------|
| <u>E - Volt-Var Smart Inverter Setting</u> | | | | |
| <u>Power Factor Value</u> | <u>V1</u> | <u>V2</u> | <u>V3</u> | <u>V4</u> |
| <u>Inverter Power Factor</u> | <u>Q1</u> | <u>Q2</u> | <u>Q3</u> | <u>Q4</u> |
| <u>Volt-Var Voltage Values</u> | <u>V1</u> | <u>V2</u> | <u>V3</u> | <u>V4</u> |
| <u>Volt-Var Reactive Values</u> | <u>Q1</u> | <u>Q2</u> | <u>Q3</u> | <u>Q4</u> |
| <u>Volt-Watt Real Power Values</u> | <u>P1</u> | <u>P2</u> | <u>P3</u> | <u>P4</u> |
| <u>EF - Modules.</u> | <u>Manufacturer</u> | <u>Manufacturer</u> | <u>Manufacturer</u> | <u>Manufacturer</u> |
| | <u>Model #.</u> | <u>Model #.</u> | <u>Model #.</u> | <u>Model #.</u> |
| | <u>Quantity</u> | <u>Quantity</u> | <u>Quantity</u> | <u>Quantity</u> |
| <u>GF - Gross Nameplate Rating (kVA)</u> 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. | | | | |
| <u>HG - Operating Voltage</u> 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. | | | | |
| <u>H - Power Factor Rating</u> | | | | |



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

SOLAR (PV) TECHNOLOGY

| | | | | |
|---|--|--|--|--|
| <p>This value should be the nominal power factor rating designated by the manufacturer for the Generator.</p> <p>See PG&E's Rule 21, Section H.2.i. for additional information.</p> | | | | |
| <p>I— PF Adjustment Range</p> <p>Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values.—</p> <p>See PG&E's Rule 21, Section H.2.i.</p> | | | | |
| <p>J— Wiring Configuration</p> <p>Please indicate whether the Generator is a single phase or three phase device.— See PG&E's Rule 21, Section H.3.</p> | | | | |



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

SOLAR (PV) TECHNOLOGY

| Generator Information | Existing Generator type 1 | Existing Generator type 2 | New Generator type 1 | New Generator type 2 |
|--|---|---|---|---|
| <p>I - Power Factor Rating</p> <p><u>This value should be the nominal power factor rating designated by the manufacturer for the Generator.</u></p> <p><u>See PG&E's Rule 21, Section H.2.i. for additional information.</u></p> | | | | |
| <p>J - PF Adjustment Range</p> <p><u>Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values.</u></p> <p><u>See PG&E's Rule 21, Section H.2.i.</u></p> | | | | |
| <p>K - Wiring Configuration</p> <p><u>Please indicate whether the Generator is a single-phase or three-phase device. See PG&E's Rule 21, Section H.3.</u></p> | | | | |
| <p>LK - AC Disconnect</p> <p>For systems requiring an AC Disconnect only, please include the requested information about the AC Disconnect.</p> <p>See PG&E's Rule 21, Section H.1.d</p> <p>Located within 10 feet of the PG&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>LM - Lineside Tap</p> <p>Where is the point of interconnection in relation to the main breaker?</p> <p>PG&E has special requirements for a lineside tap.</p> <p>Contact PG&E at: Rule21Gen@PGE.com for more information.</p> | <p>____ Customer side</p> <p>____ PG&E side</p> |
| <p>N - 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> | <p>____ Yes</p> <p>____ 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 |
|---|---|---|---|---|
| O - Solar Ready Electric Panel Is the Generating Facility connecting to a circuit breaker on the supply side of the main breaker? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| P - Green Meter Adapter (GMA) Will a GMA be installed? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Q - Distribution Interconnect Handbook (DIH) and Greenbook Requirements Does this interconnection meet the DIH and Greenbook Requirements | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| R - Gas Clearance Requirements Certify that this interconnection meets Greenbook Gas Clearance Requirements? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| S - Basic Single Line Diagram (SLD) If the interconnection is eligible to use a Basic SLD, please include the requested information. | _____ Panel Voltage (Volts) _____ Main Breaker (Amps) _____ PV Breaker Size (Amps) | _____ Panel Voltage (Volts) _____ Main Breaker (Amps) _____ PV Breaker Size (Amps) | _____ Panel Voltage (Volts) _____ Main Breaker (Amps) _____ PV Breaker Size (Amps) | _____ Panel Voltage (Volts) _____ Main Breaker (Amps) _____ PV Breaker Size (Amps) |
| T - Back-up Generator Operation Will the generator be operated as a back-up? If yes, please indicate the control device that will be used. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Automatic Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker |
| U - Limited Export Will the generator export be limited? If yes, please indicate how export will be | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Power Control System | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Power Control System | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Power Control System | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Power Control System |



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 |
|---|---|---|---|---|
| limited. | (PCS – Option 9) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | (PCS – Option 9) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | (PCS – Option 9) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | (PCS – Option 9) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter |
| <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&E meter with a Mark V meter and terminal block</p> <p><input type="checkbox"/> Add terminal block to existing PG&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> | | | |

Part II Solar Statistics Data Fields

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

A. Customer Sector (Check one)

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



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

SOLAR (PV) TECHNOLOGY

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

Yes No

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

Customer

3rd Party (list name) _____

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

Yes No

If yes, please indicate how many electric vehicles _____

D. System Ownership and Financing

i. System Owner (check one):

PG&E Customer Owned

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

Indicate the System Cost paid by Customer: \$ _____

Property Assessed Clean Energy (PACE) Financed?

Yes

No

If Yes, PACE financed by which entity? _____

If you have non-PACE financing or a lease, please fill in the information below

Financial Institution/Lessor Name

Financial Institution/Lessor Address

City

State

Zip

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: _____



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

SOLAR (PV) TECHNOLOGY

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: _____

G. CPUC Consumer Protection Requirements Pursuant to Decision 21-06-026

a. Home Improvement Salesperson (HIS) Registration Number

Was a Home Improvement Salesperson (HIS) involved in the development of your project?

Yes No

California Public Utilities Commission (CPUC) Decision 21-02-026 requires *"the Home Improvement Salesperson (HIS) registration number of solar providers who are required to have a HIS registration number, while enabling solar providers who are not required to have a HIS registration number to indicate they are exempt and to instead provide the applicable contractor's license."*

If you checked "Yes" above:

Please provide the Home Improvement Salesperson (HIS) registration number below.

Home Improvement Salesperson (HIS) registration number:



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



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

WIND TURBINE TECHNOLOGY

| Generator Information | Existing Generator type 1 | Existing Generator type 2 | New Generator type 1 | New Generator type 2 |
|--|--|--|--|--|
| <p><u>E – Volt-Var Smart Inverter Setting</u></p> <p><u>Power Factor Value</u></p> <p><u>Inverter Power Factor</u></p> <p><u>Volt-Var Voltage Values</u></p> <p><u>Volt-Var Reactive Values</u></p> <p><u>Volt-Watt Real Power Values</u></p> | <p>V1 _____</p> <p>Q1 _____</p> <p>V1 _____</p> <p>Q1 _____</p> <p>P1 _____</p> | <p>V2 _____</p> <p>Q2 _____</p> <p>V2 _____</p> <p>Q2 _____</p> <p>P2 _____</p> | <p>V3 _____</p> <p>Q3 _____</p> <p>V3 _____</p> <p>Q3 _____</p> <p>P3 _____</p> | <p>V4 _____</p> <p>Q4 _____</p> <p>V4 _____</p> <p>Q4 _____</p> <p>P4 _____</p> |
| <p><u>F - Generator Design</u></p> <p><u>Please indicate the design of each Generator.</u></p> <p><u>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.</u></p> | <p>_____ <u>Synch</u></p> <p>_____ <u>Induct.</u></p> <p>_____ <u>Inverter</u></p> |
| <p><u>GF - Gross Nameplate Rating (kVA)</u></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><u>HG - Operating Voltage</u></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&E's Rule 21, Section H.2.b. and Table H.1., for additional information.</p> | | | | |
| <p><u>IH - Power Factor Rating</u></p> <p>This value should be the nominal power factor rating designated by the manufacturer for the Generator.</p> <p>See PG&E's Rule 21, Section H.2.i. for additional information.</p> | | | | |



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

WIND TURBINE TECHNOLOGY

| | | | | |
|--|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 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. | | | | |
| K - (MP) 3-Phase Winding Configuration (Choose One) For three-phase generating units, please indicate the configuration of the Generator's windings or inverter systems. | <u>3 Wire Delta</u> | <u>3 Wire Delta</u> | <u>3 Wire Delta</u> | <u>3 Wire Delta</u> |
| | <u>3 Wire Wye</u> | <u>3 Wire Wye</u> | <u>3 Wire Wye</u> | <u>3 Wire Wye</u> |
| | <u>4 Wire Wye</u> | <u>4 Wire Wye</u> | <u>4 Wire Wye</u> | <u>4 Wire Wye</u> |

| Generator Information | Existing Generator type 1 | Existing Generator type 2 | New Generator type 1 | New Generator type 2 |
|---|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <u>J - PF Adjustment Range</u> <u>Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values.</u> <u>See PG&E's Rule 21, Section H.2.i.</u> | | | | |
| <u>K - Wiring Configuration</u> <u>Please indicate whether the Generator is a single-phase or three-phase device. See PG&E's Rule 21, Section H.3.</u> | | | | |
| <u>L - (MP) 3-Phase Winding Configuration</u> <u>(Choose One)</u> <u>For three-phase generating units, please indicate the configuration of the Generator's windings or inverter systems.</u> | <u><u>3 Wire Delta</u></u> | <u><u>3 Wire Delta</u></u> | <u><u>3 Wire Delta</u></u> | <u><u>3 Wire Delta</u></u> |
| | <u><u>3 Wire Wye</u></u> | <u><u>3 Wire Wye</u></u> | <u><u>3 Wire Wye</u></u> | <u><u>3 Wire Wye</u></u> |
| | <u><u>4 Wire Wye</u></u> | <u><u>4 Wire Wye</u></u> | <u><u>4 Wire Wye</u></u> | <u><u>4 Wire Wye</u></u> |
| <u>LM - (MP) Neutral Grounding System Used</u> <u>(Choose One)</u> <u>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.</u> <u>If the grounding method used at this facility is not listed, please attach additional descriptive information.</u> | <u><u>Ungrounded</u></u> | <u><u>Ungrounded</u></u> | <u><u>Ungrounded</u></u> | <u><u>Ungrounded</u></u> |
| | <u><u>Solidly Grounded</u></u> | <u><u>Solidly Grounded</u></u> | <u><u>Solidly Grounded</u></u> | <u><u>Solidly Grounded</u></u> |
| | <u><u>Ground Resistor</u></u> | <u><u>Ground Resistor</u></u> | <u><u>Ground Resistor</u></u> | <u><u>Ground Resistor</u></u> |
| | <u><u>Ohms</u></u> | <u><u>Ohms</u></u> | <u><u>Ohms</u></u> | <u><u>Ohms</u></u> |



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>NM - Induction Generators Only:</p> <p style="padding-left: 40px;">Locked Rotor Current: _____ (Amps)</p> <p style="padding-left: 40px;">Stator Resistance: _____ (%)</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&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>ON - Short Circuit Current Produced by Generator:</p> | <p>_____ (Amps)</p> | <p>_____ (Amps)</p> | <p>_____ (Amps)</p> | <p>_____ (Amps)</p> |
| <p>PQ - AC Disconnect</p> <p>For systems requiring an AC Disconnect only, please include the requested information about the AC Disconnect.</p> <p>See PG&E's Rule 21, Section H.1.d</p> <p>Located within 10 feet of the PG&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>PQ - Lineside Tap</p> <p>Where is the point of interconnection in relation to the main breaker?</p> <p>PG&E has special requirements for a lineside tap.</p> <p>Contact PG&E at: Rule21Gen@PGE.com for more information.</p> | <p>_____ Customer side</p> <p>_____ PG&E side</p> |
| <p>RQ - 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> | <p>___ Yes</p> <p>___ No</p> |
| <p>SR - Distribution Interconnect Handbook (DIH) and Greenbook Requirements</p> <p>Does this interconnection meet the DIH and Greenbook Requirements</p> | <p>___ Yes</p> <p>___ No</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>SI - Gas Clearance Requirements</p> <p>Certify that this interconnection meets Greenbook Gas Clearance Requirements?</p> | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <p>UF - 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>VU - 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 – Option 9) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Power Control System (PCS – Option 9) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Power Control System (PCS - Option 9) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Power Control System (PCS – Option 9) <input type="checkbox"/> Relay <input type="checkbox"/> Derated 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>WV - 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&E meter with a Mark V meter and terminal block</p> <p><input type="checkbox"/> Add terminal block to existing PG&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> | | | |



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 “type” and quantity 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&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.</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 |
|---|---------------------------|---------------------------|----------------------|----------------------|
| <u>E – Volt-Var Smart Inverter Setting</u> | | | | |
| <u>Power Factor Value</u> | V1 _____ | V2 _____ | V3 _____ | V4 _____ |
| <u>Inverter Power Factor</u> | Q1 _____ | Q2 _____ | Q3 _____ | Q4 _____ |
| <u>Volt-Var Voltage Values</u> | V1 _____ | V2 _____ | V3 _____ | V4 _____ |
| <u>Volt-Var Reactive Values</u> | Q1 _____ | Q2 _____ | Q3 _____ | Q4 _____ |
| <u>Volt-Watt Real Power Values</u> | P1 _____ | P2 _____ | P3 _____ | P4 _____ |
| <u>F - Gross Nameplate Rating (kVA)</u> 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. | | | | |
| <u>G - Operating Voltage</u> 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. | | | | |
| <u>H - Power Factor Rating</u> 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. | | | | |
| <u>I - PF Adjustment Range</u> 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. | | | | |



INTERCONNECTION APPLICATION (Form 79-1174-02)

ATTACHMENT F

MACHINE-BASED TECHNOLOGY

| | | | | |
|--|--|--|--|--|
| <p>J Wiring Configuration</p> <p>Please indicate whether the Generator is a single phase or three phase device. See PG&E's Rule 21, Section H.3.</p> | | | | |
| <p>K (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> | <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> |
| <p>L (MP) Neutral Grounding System Used (Choose One)</p> <p>Wye connected generating units are often grounded either through a resistor or directly, depending upon the nature of the electrical system to which the Generator is connected.</p> <p>If the grounding method used at this facility is not listed, please attach additional descriptive information.</p> | <p><input type="checkbox"/> Ungrounded</p> <p><input type="checkbox"/> Solidly Grounded</p> <p><input type="checkbox"/> Ground Resistor</p> <p><input type="checkbox"/> Ohms</p> | <p><input type="checkbox"/> Ungrounded</p> <p><input type="checkbox"/> Solidly Grounded</p> <p><input type="checkbox"/> Ground Resistor</p> <p><input type="checkbox"/> Ohms</p> | <p><input type="checkbox"/> Ungrounded</p> <p><input type="checkbox"/> Solidly Grounded</p> <p><input type="checkbox"/> Ground Resistor</p> <p><input type="checkbox"/> Ohms</p> | <p><input type="checkbox"/> Ungrounded</p> <p><input type="checkbox"/> Solidly Grounded</p> <p><input type="checkbox"/> Ground Resistor</p> <p><input type="checkbox"/> Ohms</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><u>J - Wiring Configuration</u></p> <p><u>Please indicate whether the Generator is a single-phase or three-phase device. See PG&E's Rule 21, Section H.3.</u></p> | | | | |
| <p><u>K - (MP) 3-Phase Winding Configuration</u> <u>(Choose One)</u></p> <p><u>For three-phase generating units, please indicate the configuration of the Generator's windings or inverter systems.</u></p> | <p><u>3 Wire Delta</u></p> <p><u>3 Wire Wye</u></p> <p><u>4 Wire Wye</u></p> | <p><u>3 Wire Delta</u></p> <p><u>3 Wire Wye</u></p> <p><u>4 Wire Wye</u></p> | <p><u>3 Wire Delta</u></p> <p><u>3 Wire Wye</u></p> <p><u>4 Wire Wye</u></p> | <p><u>3 Wire Delta</u></p> <p><u>3 Wire Wye</u></p> <p><u>4 Wire Wye</u></p> |
| <p><u>L - (MP) Neutral Grounding System</u> <u>(Choose One)</u></p> <p><u>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.</u></p> <p><u>If the grounding method used at this facility is not listed, please attach additional descriptive information.</u></p> | <p><u>Ungrounded</u></p> <p><u>Solidly Grounded</u></p> <p><u>Ground Resistor</u> <u>Ohms</u></p> |
| <p>M – Synchronous Generators Only: 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&E's Electric System. If the Generator's Gross Nameplate Capacity is 10 MW or greater, PG&E may request additional data to better model the nature and behavior of the Generator with relation to its Electric System.</p> <p style="text-align: right;">Synchronous Reactance: _____ (Xd %)</p> <p style="text-align: right;">Transient Reactance: _____ (Xd %)</p> <p style="text-align: right;">Subtransient Reactance: _____ (Xd %)</p> | <p style="text-align: right;">_____ (Xd %)</p> <p style="text-align: right;">_____ (Xd %)</p> <p style="text-align: right;">_____ (Xd %)</p> | <p style="text-align: right;">_____ (Xd %)</p> <p style="text-align: right;">_____ (Xd %)</p> <p style="text-align: right;">_____ (Xd %)</p> | <p style="text-align: right;">_____ (Xd %)</p> <p style="text-align: right;">_____ (Xd %)</p> <p style="text-align: right;">_____ (Xd %)</p> | <p style="text-align: right;">_____ (Xd %)</p> <p style="text-align: right;">_____ (Xd %)</p> <p style="text-align: right;">_____ (Xd %)</p> |
| <p>N – Induction Generators Only:</p> <p style="text-align: right;">Locked-Rotor Current: _____ (Amps)</p> <p style="text-align: right;">Stator Resistance: _____ (%)</p> <p style="text-align: right;">Stator Leakage Reactance: _____ (%)</p> <p style="text-align: right;">Rotor Resistance: _____ (%)</p> <p style="text-align: right;">Rotor Leakage Reactance: _____ (%)</p> <p><u>If the Generator is of an induction design, please provide the "locked rotor current" value supplied by the manufacturer.</u></p> <p><u>If this value is not available, the stator resistance, stator leakage reactance, rotor</u></p> | <p style="text-align: right;">_____ (Amps)</p> <p style="text-align: right;">_____ (%)</p> <p style="text-align: right;">_____ (%)</p> <p style="text-align: right;">_____ (%)</p> <p style="text-align: right;">_____ (%)</p> | <p style="text-align: right;">_____ (Amps)</p> <p style="text-align: right;">_____ (%)</p> <p style="text-align: right;">_____ (%)</p> <p style="text-align: right;">_____ (%)</p> <p style="text-align: right;">_____ (%)</p> | <p style="text-align: right;">_____ (Amps)</p> <p style="text-align: right;">_____ (%)</p> <p style="text-align: right;">_____ (%)</p> <p style="text-align: right;">_____ (%)</p> <p style="text-align: right;">_____ (%)</p> | <p style="text-align: right;">_____ (Amps)</p> <p style="text-align: right;">_____ (%)</p> <p style="text-align: right;">_____ (%)</p> <p style="text-align: right;">_____ (%)</p> <p style="text-align: right;">_____ (%)</p> |



INTERCONNECTION APPLICATION (Form 79-1174-02)

ATTACHMENT F

MACHINE-BASED TECHNOLOGY

~~resistance, rotor leakage reactance values supplied by the manufacturer may be used to determine the locked rotor current.~~

~~If the Generator's Gross Nameplate Capacity is 10 MW or greater, PG&E may request additional data to better model the nature and behavior of the Generator with relation to its Electric System.~~

~~Short Circuit Current Produced by Generator~~

~~(Amps)~~

~~(Amps)~~

~~(Amps)~~

~~(Amps)~~



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><u>N - Induction Generators Only:</u></p> <p style="padding-left: 40px;"><u>Locked Rotor Current:</u> _____ (Amps)</p> <p style="padding-left: 40px;"><u>Stator Resistance:</u> _____ (%)</p> <p style="padding-left: 40px;"><u>Stator Leakage Reactance:</u> _____ (%)</p> <p style="padding-left: 40px;"><u>Rotor Resistance:</u> _____ (%)</p> <p style="padding-left: 40px;"><u>Rotor Leakage Reactance:</u> _____ (%)</p> <p><u>If the Generator is of an induction design, please provide the "locked rotor current" value supplied by the manufacturer.</u></p> <p><u>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.</u></p> <p><u>If the Generator's Gross Nameplate Capacity is 10 MW or greater, PG&E may request additional data to better model the nature and behavior of the Generator with relation to its Electric System.</u></p> | | | | |
| <p><u>O - Short Circuit Current Produced by Generator:</u></p> <p style="padding-left: 40px;">_____ (Amps)</p> | _____ (Amps) | _____ (Amps) | _____ (Amps) | _____ (Amps) |
| <p>P – For Generators that are Started as a "Motor" Only: This information is needed only for Generators that are started by "motoring" the generator.</p> <p>See PG&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: _____ (Amps)</p> <p>2. Host Customer's Service Entrance Panel (Main Panel) Continuous Current Rating: _____ (Amps)</p> | | | | |
| <p>Q – 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 |



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ATTACHMENT F

MACHINE-BASED TECHNOLOGY

| Generator Information | Existing Generator type 1 | Existing Generator type 2 | New Generator type 1 | New Generator type 2 |
|--|--|--|--|--|
| <p>R - AC Disconnect</p> <p>For systems requiring an AC Disconnect only, please include the requested information about the AC Disconnect.</p> <p>See PG&E's Rule 21, Section H.1.d</p> <p>Located within 10 feet of the PG&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>S - Lineside Tap</p> <p>Where is the point of interconnection in relation to the main breaker?</p> <p>PG&E has special requirements for a lineside tap.</p> <p>Contact PG&E at: Rule21Gen@PGE.com for more information.</p> | <p>____ Customer side</p> <p>____ PG&E side</p> | <p>____ Customer side</p> <p>____ PG&E side</p> | <p>____ Customer side</p> <p>____ PG&E side</p> | <p>____ Customer side</p> <p>____ PG&E side</p> |
| <p>T – 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> | <p>____ Yes ____ No</p> | <p>____ Yes ____ No</p> | <p>____ Yes ____ No</p> | <p>____ Yes ____ No</p> |
| <p>U - Cogeneration</p> <p>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>V - Distribution Interconnect Handbook (DIH) and Greenbook Requirements</p> <p>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>W - Gas Clearance Requirements</p> <p>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>X - Back-up Generator Operation</p> <p>Will the generator be operated as a back-up?</p> <p>If yes, please indicate control device.</p> | <p>____ Yes ____ No</p> <p><input type="checkbox"/> Automatic Transfer</p> | <p>____ Yes ____ No</p> <p><input type="checkbox"/> Automatic Transfer</p> | <p>____ Yes ____ No</p> <p><input type="checkbox"/> Automatic</p> | <p>____ Yes ____ No</p> <p><input type="checkbox"/> Automatic Transfer</p> |



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ATTACHMENT F

MACHINE-BASED TECHNOLOGY

| Generator Information | Existing Generator type 1 | Existing Generator type 2 | New Generator type 1 | New Generator type 2 |
|---|---|--|--|--|
| | Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker | Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker | Transfer Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker | Switch <input type="checkbox"/> Contactor <input type="checkbox"/> Breaker |
| Y - Limited Export Will the generator export be limited? If yes, please indicate how export will be limited. | ___ Yes ___ No <input type="checkbox"/> Power Control System (PCS – Option 9) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | ___ Yes ___ No <input type="checkbox"/> Power Control System (PCS – Option 9) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | ___ Yes ___ No <input type="checkbox"/> Power Control System (PCS – Option 9) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | ___ Yes ___ No <input type="checkbox"/> Power Control System (PCS – Option 9) <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter |
| Z - Telemetry Will the Generating Facility Gross Nameplate Rating exceed 1 MW? If yes, please select a Telemetry Option. If one of the Customer-owned Telemetry options is selected, please identify the preferred Site Metering Arrangement. | ___ Yes ___ No ___ Customer-owned Telemetry - Gateway ___ Customer-owned Telemetry - Aggregator ___ 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. | | | |



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 “type” and quantity 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&E, has been verified by the customer as having safety certification from a nationally recognized testing laboratory.</p> <p>See PG&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 |
|---|--|--|--|--|
| <u>E</u> - Volt-Var Smart Inverter Setting | | | | |
| <u>Power Factor Value</u> | V1 _____ | V2 _____ | V3 _____ | V4 _____ |
| <u>Inverter Power Factor</u> | Q1 _____ | Q2 _____ | Q3 _____ | Q4 _____ |
| <u>Volt-Var Voltage Values</u> | V1 _____ | V2 _____ | V3 _____ | V4 _____ |
| <u>Volt-Var Reactive Values</u> | Q1 _____ | Q2 _____ | Q3 _____ | Q4 _____ |
| <u>Volt-Watt Real Power Values</u> | P1 _____ | P2 _____ | P3 _____ | P4 _____ |
| <u>FE</u> - Generator Design Please indicate the design of each Generator. Designate "Inverter" anytime an inverter is used as the interface between the Generator and the electric system regardless of the primary power production/storage device used. | _____ Synch _____ Induct. _____ Inverter |
| <u>GF</u> - 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. | | | | |
| <u>GH</u> - 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. | | | | |
| <u>IH</u> - 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. | | | | |
| <u>IJ</u> - PF Adjustment Range | | | | |



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 |
|--|---|---|---|---|
| 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. | | | | |
| KJ - Wiring Configuration Please indicate whether the Generator is a single-phase or three-phase device. See PG&E's Rule 21, Section H.3. | | | | |
| LK - (MP) 3-Phase Winding Configuration (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 |
| LM - (MP) Neutral Grounding System Used (Choose One) 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 |
| NM - Short Circuit Current Produced by Generator: | _____ (Amps) | _____ (Amps) | _____ (Amps) | _____ (Amps) |
| NO – Prime Mover Type 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 |
| PO - AC Disconnect 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 |



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ATTACHMENT G

FUEL CELL TECHNOLOGY

| Generator Information | Existing Generator type 1 | Existing Generator type 2 | New Generator type 1 | New Generator type 2 |
|---|--|--|--|--|
| <p>PQ - Lineside Tap</p> <p>Where is the point of interconnection in relation to the main breaker?</p> <p>PG&E has special requirements for a lineside tap.</p> <p>Contact PG&E at: Rule21Gen@PGE.com for more information.</p> | <p>Customer side</p> <p>___ PG&E side</p> |
| <p>RQ – 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> | <p>___ Yes</p> <p>___ No</p> |
| <p>SR - Cogeneration</p> <p>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</p> <p>___ No</p> |
| <p>IS - Distribution Interconnect Handbook (DIH) and Greenbook Requirements</p> <p>Does this interconnection meet the DIH and Greenbook Requirements</p> | <p>___ Yes</p> <p>___ No</p> |
| <p>UT - Gas Clearance Requirements</p> <p>Certify that this interconnection meets Greenbook Gas Clearance Requirements?</p> | <p>___ Yes</p> <p>___ No</p> |
| <p>VU - Back-up Generator Operation</p> <p>Will the generator be operated as a back-up?</p> <p>If yes, please indicate control device.</p> | <p>___ Yes</p> <p>___ No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor</p> <p><input type="checkbox"/> Breaker</p> | <p>___ Yes</p> <p>___ No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor</p> <p><input type="checkbox"/> Breaker</p> | <p>___ Yes</p> <p>___ No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor</p> <p><input type="checkbox"/> Breaker</p> | <p>___ Yes</p> <p>___ No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor</p> <p><input type="checkbox"/> Breaker</p> |
| <p>WV - Limited Export</p> <p>Will the generator export be limited?</p> <p>If yes, please indicate how export will be limited.</p> | <p>___ Yes</p> <p>___ No</p> <p><input type="checkbox"/> Power Control System (PCS – Option 9)</p> | <p>___ Yes</p> <p>___ No</p> <p><input type="checkbox"/> Power Control System (PCS – Option 9)</p> | <p>___ Yes</p> <p>___ No</p> <p><input type="checkbox"/> Power Control System (PCS – Option 9)</p> | <p>___ Yes</p> <p>___ No</p> <p><input type="checkbox"/> Power Control System (PCS – Option 9)</p> |



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ATTACHMENT G

FUEL CELL TECHNOLOGY

| Generator Information | Existing Generator type 1 | Existing Generator type 2 | New Generator type 1 | New Generator type 2 |
|---|--|---|---|---|
| | <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter | <input type="checkbox"/> Relay <input type="checkbox"/> Derated Inverter |
| <p>XW - 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&E meter with a Mark V meter and terminal block <input type="checkbox"/> Add terminal block to existing PG&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> | | | |



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 “type” and quantity 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&E, has been verified by the customer as having safety certification from a nationally recognized testing laboratory.</p> <p>See PG&E’s Rule 21, Section L for additional information regarding Generator certification.</p> | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <p>E - Generator Design</p> <p>Please indicate the design of each Generator.</p> <p>Designate “Inverter” anytime an inverter is used as the interface between the Generator and the electric system regardless of the primary power production/storage device used.</p> | <input type="checkbox"/> Synch <input type="checkbox"/> Induct. <input type="checkbox"/> Inverter |



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ENERGY STORAGE TECHNOLOGY

| Generator Information | Existing Generator type 1 | Existing Generator type 2 | New Generator type 1 | New Generator type 2 |
|---|---|---|---|---|
| <u>E - Volt-Var Smart Inverter Setting</u> <u>Power Factor Value</u> <u>Inverter Power Factor</u> <u>Volt-Var Voltage Values</u> <u>Volt-Var Reactive Values</u> <u>Volt-Watt Real Power Values</u> | <u>V1</u> <u>Q1</u> <u>V1</u> <u>Q1</u> <u>P1</u> | <u>V2</u> <u>Q2</u> <u>V2</u> <u>Q2</u> <u>P2</u> | <u>V3</u> <u>Q3</u> <u>V3</u> <u>Q3</u> <u>P3</u> | <u>V4</u> <u>Q4</u> <u>V4</u> <u>Q4</u> <u>P4</u> |
| <u>F - Generator Design</u> 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. | <u>Synch</u> <u>Induct.</u> <u>Inverter</u> | <u>Synch</u> <u>Induct.</u> <u>Inverter</u> | <u>Synch</u> <u>Induct.</u> <u>Inverter</u> | <u>Synch</u> <u>Induct.</u> <u>Inverter</u> |
| <u>FG</u> - 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. | | | | |
| <u>HG</u> - Energy Storage Electrical Source Function (in addition, please complete section: "Additional Information Required for Energy Storage") | <u>Max kWh Capacity:</u> <u>Rated kW Discharge:</u> _____ |
| <u>HI</u> - 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. | | | | |



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ENERGY STORAGE TECHNOLOGY

| | | | | |
|---|--|--|--|--|
| <p>I—Power Factor Rating</p> <p>This value should be the nominal power factor rating designated by the manufacturer for the Generator.</p> <p>See PG&E's Rule 21, Section H.2.i. for additional information.</p> | | | | |
| <p>J—PF Adjustment Range</p> <p>Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values.—</p> <p>See PG&E's Rule 21, Section H.2.i.</p> | | | | |
| <p>K—Wiring Configuration</p> <p>Please indicate whether the Generator is a single phase or three phase device.—See PG&E's Rule 21, Section H.3.</p> | | | | |



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ATTACHMENT H

ENERGY STORAGE TECHNOLOGY

| Generator Information | Existing Generator type 1 | Existing Generator type 2 | New Generator type 1 | New Generator type 2 |
|--|---|---|---|---|
| <p><u>J - Power Factor Rating</u></p> <p><u>This value should be the nominal power factor rating designated by the manufacturer for the Generator.</u></p> <p><u>See PG&E's Rule 21, Section H.2.i. for additional information.</u></p> | | | | |
| <p><u>K - PF Adjustment Range</u></p> <p><u>Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values.</u></p> <p><u>See PG&E's Rule 21, Section H.2.i.</u></p> | | | | |
| <p><u>L - Wiring Configuration</u></p> <p><u>Please indicate whether the Generator is a single-phase or three-phase device. See PG&E's Rule 21, Section H.3.</u></p> | | | | |
| <p><u>LM</u> - (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><u>NM</u> - (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><u>ON</u> - Short Circuit Current Produced by Generator:</p> | <input type="text"/> (Amps) | <input type="text"/> (Amps) | <input type="text"/> (Amps) | <input type="text"/> (Amps) |
| <p><u>OP</u> – 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 |



INTERCONNECTION APPLICATION (Form 79-1174-02)

ATTACHMENT H

ENERGY STORAGE TECHNOLOGY

| | | | | |
|---|---|---|---|---|
| <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&E's Rule 21, Section H.1.d</p> <p>Located within 10 feet of the PG&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> |
|---|---|---|---|---|



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>Q - AC Disconnect</p> <p>For systems requiring an AC Disconnect only, please include the requested information about the AC Disconnect.</p> <p>See PG&E's Rule 21, Section H.1.d</p> <p>Located within 10 feet of the PG&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>RQ - Energy Storage (ES) System</p> <p>(For important sizing information related to DC-Coupled configurations, see sizing note below).</p> | <p>_____ Manufacturer</p> <p>_____ Model #</p> <p>_____ Quantity of Units</p> |
| <p>SR - Lineside Tap</p> <p>Where is the point of interconnection in relation to the main breaker?</p> <p>PG&E has special requirements for a lineside tap.</p> <p>Contact PG&E at: Rule21Gen@PGE.com for more information.</p> | <p>_____ Customer side</p> <p>____ PG&E side</p> |
| <p>IS - 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> | <p>____ Yes ____ No</p> | <p>____ Yes ____ No</p> | <p>____ Yes ____ No</p> | <p>____ Yes ____ No</p> |
| <p>UF - Distribution Interconnect Handbook (DIH) and Greenbook Requirements</p> <p>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>VU - Gas Clearance Requirements</p> <p>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> |



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ENERGY STORAGE TECHNOLOGY

| Generator Information | Existing Generator type 1 | Existing Generator type 2 | New Generator type 1 | New Generator type 2 |
|---|---|---|---|---|
| <p>W - Basic Single Line Diagram (SLD)</p> <p>If the interconnection is eligible to use a Basic SLD, please include the requested information.</p> <p>Can this system be used as a back-up generator?</p> <p>If so, please include the requested information for the back-up controller or other device.</p> | <p>Panel Voltage (Volts)</p> <p>_____</p> <p>Main Breaker (Amps)</p> <p>_____</p> <p>Storage Breaker Size (Amps)</p> <p>_____</p> <p>_____ Yes _____ No</p> <p>Manufacturer</p> <p>_____</p> <p>Make</p> <p>_____</p> <p>Model No.</p> <p>_____</p> | <p>Panel Voltage (Volts)</p> <p>_____</p> <p>Main Breaker (Amps)</p> <p>_____</p> <p>Storage Breaker Size (Amps)</p> <p>_____</p> <p>_____ Yes _____ No</p> <p>Manufacturer</p> <p>_____</p> <p>Make</p> <p>_____</p> <p>Model No.</p> <p>_____</p> | <p>Panel Voltage (Volts)</p> <p>_____</p> <p>Main Breaker (Amps)</p> <p>_____</p> <p>Storage Breaker Size (Amps)</p> <p>_____</p> <p>_____ Yes _____ No</p> <p>Manufacturer</p> <p>_____</p> <p>Make</p> <p>_____</p> <p>Model No.</p> <p>_____</p> | <p>Panel Voltage (Volts)</p> <p>_____</p> <p>Main Breaker (Amps)</p> <p>_____</p> <p>Storage Breaker Size (Amps)</p> <p>_____</p> <p>_____ Yes _____ No</p> <p>Manufacturer</p> <p>_____</p> <p>Make</p> <p>_____</p> <p>Model No.</p> <p>_____</p> |
| <p>XW - Back-up Generator Operation</p> <p>Will the generator be operated as a back-up?</p> <p>If yes, please indicate control device.</p> | <p>_____ Yes _____ No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor <input type="checkbox"/> Breaker</p> | <p>_____ Yes _____ No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor <input type="checkbox"/> Breaker</p> | <p>_____ Yes _____ No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor <input type="checkbox"/> Breaker</p> | <p>_____ Yes _____ No</p> <p><input type="checkbox"/> Automatic Transfer Switch</p> <p><input type="checkbox"/> Contactor <input type="checkbox"/> Breaker</p> |
| <p>XY - 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 – Option 9)</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 – Option 9)</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 – Option 9)</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 – Option 9)</p> <p><input type="checkbox"/> Relay</p> <p><input type="checkbox"/> Derated Inverter</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>ZY - 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&E meter with a Mark V meter and terminal block</p> <p><input type="checkbox"/> Add terminal block to existing PG&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> | | | |



INTERCONNECTION APPLICATION (Form 79-1174-02)

ATTACHMENT H

ENERGY STORAGE TECHNOLOGY

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:

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.
Braun Blasing Smith Wynne, P.C.
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
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
McClintock IP
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
Stoel Rives LLP

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