

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE



July 7, 2021

Advice Letter 6155-E-A

Erik Jacobson
Director, Regulatory Relations
Pacific Gas and Electric Company
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, CA 94177

SUBJECT: Supplemental: Creation of New Electric Sample Form 79-1211 – Generation Facility Material Modification Worksheet, Pursuant to Resolution E-5035 as Related to Advice 5583-E Template and R.17-07-007 Working Group 1 Decision 19-03-013.

Dear Mr. Jacobson:

Advice Letter 6155-E-A is effective as of June 29, 2021.

Sincerely,

A handwritten signature in cursive script that reads "Edward Randolph".

Edward Randolph
Deputy Executive Director for Energy and Climate Policy/
Director, Energy Division

June 29, 2021

Advice 6155-E-A

(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

Subject: Supplemental: Creation of New Electric Sample Form 79-1211 – Generation Facility Material Modification Worksheet, Pursuant to Resolution E-5035 as Related to Advice 5583-E Template and R.17-07-007 Working Group 1 Decision 19-03-013

Purpose

The purpose of this supplemental advice letter is to create the new Pacific Gas and Electric Company's (PG&E's) Electric Sample Form 79-1211 - *Generation Facility Material Modification Worksheet* in accordance with Resolution E-5035¹ Ordering Paragraphs (OP) 4, 5 and 9 as related to Advice Letter (AL) 5583-E that proposed an interim standard form template for Type II modifications to existing generating facilities, and California Public Utilities Commission (CPUC, Commission) Rulemaking (R.)17-07-007 Working Group 1 Decision (D.) 19-03-013. At the request of Energy Division, PG&E is submitting this supplemental to make minor revisions to the standard form template.

This supplemental advice letter replaces original AL 6155-E in its entirety.

Background

Order Instituting Rulemaking (R.) 17-07-007 was adopted July 13, 2017. It deals with refinements to Electric Rule 21 governing the interconnection of distributed energy resources for the three Investor Owned Utilities (IOUs).²

On October 2, 2017 the Scoping Memo of Assigned Commissioner and Administrative Law Judge (Scoping Memo) was issued. It set forth (i) the scope, (ii) the schedule and (iii) established a working group process for the proceeding.

¹ Resolution [E-5035](#) - *Adopts modifications to Electric Rule 21, Generating Facility Interconnections, Pursuant to Decision 19-03-013*. - Date of Issuance: March 9th, 2021

² The IOUs, or independently owned utilities are Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E), and Southern California Edison Company (SCE) (jointly, the Utilities)

In the scoping memo, Working Group One was defined, and identified with seven Issues.³

- 1) Screen Q modifications
- 2) Complex Metering clarification
- 3) Material modifications
- 4) Telemetry modifications
- 5) Retroactive Smart Meter Activations
- 6) Smart Inverter Aggregator Forms and Agreements (moved to Working Group 2)
- 7) ITCC treatment.

The IOUs and stakeholders presented each issue, debated proposed solutions, in a staggered schedule. Finally, on March 15, 2018, a Final Report for Working Group One was filed⁴ that documented each issue and laid out various proposals from parties to each issued.

On June 19, 2018, the Administrative Law Judge facilitated a workshop at which time representatives of Working Group One presented the proposals and recommendations from the March Report. The purpose of the workshop was to provide additional clarity to enable the Commission to determine whether to approve the proposals recommended in the March Report.

On August 15, 2018, the Administrative Law Judge issued a ruling directing parties to respond to questions about the March Working Group One Report in order to complete the record. Various parties filed responses on September 5, 2018.

On April 5, 2019, Decision 19-03-013⁵, “Decision Adopting Proposals From March 15, 2018 Working Group One Report” was issued.

D. 19-03-013 Ordering Paragraph (OP) 14 required PG&E and the other IOUs each submit a Tier 2 Advice Letter by June 4, 2019 modifying Electric Rule 21 to be consistent with the decision’s requirements.

Pursuant to D.19-03-013 OP 14, PG&E submitted an AL 5553-E⁶ on June 4, 2019 with the updates to Electric Rule 21.

³ In response to a January 25, 2018 motion filed by the California Solar Energy Industries Association, the Administrative Law Judge issued a ruling on February 14, 2018 that reassigned Issue 6 from the Smart Inverter Working Group to Working Group Two because the development of forms and agreements necessary for Issue 6 are better suited to be addressed by legal and regulatory representatives instead of engineers.

⁴ Working Group One Final Report March 15, 2018
<http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M215/K187/215187299.PDF>

⁵ [D. 19-03-013](#) - Decision Adopting Proposals From March 15, 2018 Working Group One Report – issued April 5, 2019. 2 The IOUs are Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E), and Southern California Edison Company (SCE) (jointly, the Utilities)

Second, pursuant to D.19-03-013 OP 8, PG&E jointly submitted AL 5583-E⁷, SCE AL 4033-E, and SDG&E AL 3401-E on July 5, 2019 for a pro-forma standard form template by which utilities may be notified of material modifications that qualify for a notification-only process.

On June 24, 2019, PG&E's AL 5553-E and AL 5583-E were protested by the California Solar & Storage Association (CALSSA), The utilities submitted responses.

On March 9, 2021, Resolution E-5035 was issued addressing ALs 5553-E and 5583-E, its protests, and replies. This Tier 1 advice letter addresses the modifications ordered in Resolution E-5035 for the pro-forma sample form that were submitted in AL 5583-E. In this advice letter PG&E creates Electric Sample Form 79-1211 - *Generation Facility Material Modification Worksheet*.

AL 6155-E was submitted on April 8, 2021. Comments were received back to further align the changes proposed with those from the other IOUs. This Tier 1 supplemental advice letter addresses those additional Template changes, and the changes made in AL 6155-E, pursuant to E-5035.

Advice 6154-E-A is submitted simultaneously with this advice letter to address the modifications to Electric Rule 21 originally discussed in PG&E AL 5553-E and approved in Resolution E-5035.

PG&E Electric Sample Form 79-1211 - Tariff Revisions to Original Pro Forma Template Submitted in AL 5583-E

A. OP 4 – Update Use Case 3 Material Modifications

OP 4 states:

*PG&E, SCE, and SDG&E shall update the interim standard form template for Type II modifications to existing generating facilities, proposed by SDG&E AL 3401-E, SCE AL 4033-E and PG&E AL 5583-E, to reflect the appropriate **process options for Use Case 3 material modifications, consistent with the designations in Table 1** of this Resolution.*

Accordingly PG&E changes the following section:

⁶ [AL 5553-E](#) - *Modification to Electric Rule 21 Pursuant to the Working Group 1 Decision 19-03-013 in Rulemaking 17-07-007*

⁷ [AL 5583-E](#) - *Joint IOU Submittal -Proposed Template for Process Option 2 Modifications Pursuant to Decision 19-03-013*

B-5 Is the Generating Facility nameplate change resulting in a capacity rating less than or equal to 100 kW [and increase is < 110% of the original nameplate]?

- Yes – ~~notification is required.~~ Please skip to section 21.C
 No – Please continue to B-6.

B-6 Is the Generating Facility nameplate change resulting in a capacity rating greater than or equal to 100 kW [and the increase is > 110% of the original nameplate]?

- Yes - You must submit a new Interconnection Request. You do not need to submit this form.
 No - Please continue to section 1.C

B. OP 5 – Modifications to Rule 21 Tables F.1 and E.e.3

OP 5 states:

*PG&E, SCE, and SDG&E shall update Section 4.1 of the interim standard form template for Type II modifications to existing generating facilities, proposed by SDG&E AL 3401-E, SCE AL 4033-E and PG&E AL 5583-E, to reflect that verified equipment **may be listed on any of multiple CEC equipment lists.***

Accordingly, PG&E makes the following changes:

Section-SECTION 4 – Safety and Consumer Protection Acknowledgements
<p>Safety and Consumer Protection Acknowledgements This section is applicable to Customers requesting service on [Utilities appropriate tariff names].</p>
<p>A. Equipment Verification</p> <p><input type="checkbox"/> For Applicants with Solar Generating Facilities - By checking this box, Applicant verifies that all major solar system components (including PV panels and other generation equipment, inverters and meters) are on the a verified equipment list maintained by the California Energy Commission. This requirement is subject to additional verification by <u>PG&E</u>.</p> <p><i>Note: For all Generating Facilities, <u>PG&E</u> may require the Applicant to verify that other equipment, as determined by <u>PG&E</u> requirements, has safety certification from a NRTL.</i></p>

C. Other Changes

1. PG&E includes changes proposed during the Advice Letter Review Process that improves the clarity of the document that were proposed by Energy Division Staff.
2. General clean-up and corrections were discussed between the IOUs and commonly included in each IOUs respective advice letters and templates.

D. OP 9 Submitting the Updated Standard Template

PG&E, SCE, and SDG&E shall update the proposed interim standard form template for Type II modifications to existing generating facilities,



ADVICE LETTER SUMMARY

ENERGY UTILITY

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

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

Utility type:

- ELC GAS WATER
 PLC HEAT

Contact Person: Kimberly Loo

Phone #: (415)973-4587

E-mail: PGETariffs@pge.com

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

EXPLANATION OF UTILITY TYPE

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

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #: 6155-E-A

Tier Designation: 1

Subject of AL: Supplemental: Creation of New Electric Sample Form 79-1211 – Generation Facility Material Modification Worksheet, Pursuant to Resolution E-5035 as Related to Advice 5583-E Template and R.17-07-007 Working Group 1 Decision 19-03-013

Keywords (choose from CPUC listing): Compliance, Form

AL Type: Monthly Quarterly Annual One-Time Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #: Res. E-5035, D.19-03-013

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

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

Confidential treatment requested? Yes No

If yes, specification of confidential information:

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

Resolution required? Yes No

Requested effective date: 6/29/21

No. of tariff sheets: 3

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: N/A

¹Discuss in AL if more space is needed.

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

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

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

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

Cal P.U.C. Sheet No.	Title of Sheet	Cancelling Cal P.U.C. Sheet No.
50316-E	Electric Sample Form No. 79-1211 Generating Facility Material Modification Notification Worksheet Sheet 1	
50317-E	ELECTRIC TABLE OF CONTENTS Sheet 1	49731-E
50318-E	ELECTRIC TABLE OF CONTENTS Sheet 25	49996-E



Electric Sample Form No. 79-1211
Generating Facility Material Modification Notification Worksheet

Sheet 1

(N)

(N)

**Please Refer to Attached
Sample Form**

(Continued)

Advice 6155-E-A
Decision D.19-03-013

Issued by
Robert S. Kenney
Vice President, Regulatory Affairs

Submitted June 29, 2021
Effective June 29, 2021
Resolution Res. E-5035



GENERATING FACILITY MATERIAL MODIFICATION NOTIFICATION WORKSHEET

APPLICABILITY AND GUIDELINES

Pursuant to California Public Utilities Commission (CPUC) Decision 19-03-013, this worksheet shall be used to notify Pacific Gas and Electric Company (“PG&E”) when Generating Facilities make qualifying material modifications (e.g. Maintenance, Retrofit).

When initially capitalized, whether in the singular or in the plural, the terms used herein shall have the meanings assigned to them either in this Notification Worksheet or in PG&E’s CPUC-approved Electric Rule 21 (Rule 21).

- **Upon meeting the qualifications for notification only, the customer may proceed with specific modifications to the Generating Facility and turning it on without waiting for PG&E approval.**
- **As applicable, customer is solely responsible for obtaining approval from the local Authority Having Jurisdiction (AHJ) when making modifications to its Generating Facility. Customer is encouraged to contact its local AHJ to determine if a permit is required for the specific modifications.**
- **By submitting this notification worksheet, the customer affirms that they have met all requirements for notification-only eligible modifications as set forth in Rule 21 prior to energizing the systems**
- **This Generating Facility Material Modification Notification Worksheet (Notification Worksheet) only applies to inverter-based Generating Facilities that are currently authorized by PG&E to operate in parallel with the PG&E electric system. All modifications to non-inverter based Generating Facilities require a new Interconnection Request.**
- **If the customer is replacing equipment with exact same equipment type (i.e. same make and model) or performing upgrades to inverter firmware that do not affect grid interactions, a Notification Worksheet is not required.**

This Notification Worksheet does not authorize a customer to operate its Generating Facility in parallel with the PG&E electric system unless the project meets the self-verification of material modification criteria herein. If the customer does not meet the self-verification qualification requirements, it must submit a new Interconnection Request to PG&E in order to receive permission to safely interconnect and operate in parallel with PG&E’s electric system. Unauthorized Parallel Operation may be dangerous and may result in injury to persons and/or may cause damage to equipment and/or property for which the customer may be liable. All modifications to the Generating Facility must maintain and satisfy all of the requirements for PG&E’s Rule 21, interconnection program tariff (e.g., Net Energy Metering [NEM] and Interconnection Handbook and Electric Service Requirements (ESRs), as applicable. Please reference the documentation for more information regarding the interconnection of a Generating Facility to the PG&E distribution system. Notification Worksheets submitted with blank fields (as applicable) will be deemed incomplete and will be returned for completion. The Applicant is also responsible for updating this Notification Worksheet, should the information submitted change between system design and installation.

Please check this box to indicate acknowledgment of the information provided above, and in this worksheet.

Overall steps regarding when a Notification Worksheet is required:

This Notification Worksheet is divided into four sections. Section one (1) determines if and when a Notification Worksheet submittal is required. If a Notification Worksheet is required per section (1), then sections 2, 3, and 4 must be completed by the Applicant and sent via email to

- SNEMprocessing@pge.com for Standard NEM (Solar and/or Wind 30 kW and less) interconnections: or



GENERATING FACILITY MATERIAL MODIFICATION NOTIFICATION WORKSHEET

- NEMExpFollowups@pge.com for Expanded NEM interconnections (Solar and/or Wind over 30 kW up to 1 MW); or
- Rule21gen@pge.com for all other Rule 21 interconnections.
This **Notification Worksheet** must be submitted at least 2 Business days prior to operation of the Generating Facility in parallel with the distribution system, until this form is replaced by an online submission option.

SECTION 1 – Material Modification Qualification Self-Check

A. This Application is for:

A-1 **Physical changes to an existing Generating Facility** that currently has Permission to Operate (PTO) from PG&E. If this box is selected, please continue to section B questions in the next box below. Examples include adding energy storage capacity, changing inverters, replacing equipment, changing load, and/or changing operations.

A-2 **A new Generating Facility interconnection or changing inverter operating characteristics.** If this box is selected, you **do not** meet the requirements for the use of this Notification Worksheet and must submit a new Interconnection Request.

GENERATING FACILITY MATERIAL MODIFICATION NOTIFICATION WORKSHEET

SECTION 1 – Material Modification Qualification Self-Check (Continued)

B. Inverter/Equipment Modification Section – Qualification when notification is required:

B-1 Are you replacing inverter/equipment with the exact same inverter/equipment type (e.g. same make, model) or performing upgrades to inverter firmware that do not affect grid interactions?

- Yes – PG&E notification is not required. You do not need to submit this form.
 No – Please continue to B-2.

B-2 Are you replacing inverter with “Like-for-Like”* where Generating Facility output will not exceed the inverter nameplate capacity listed in the current and effective Interconnection Agreement (IA) and the operating mode is not being adjusted?

- Yes – Please skip to Section 1.C.
 No – Please continue B-3.

* **Like-for-Like definition:** For inverters, Like-for-Like means certified, same nameplate or smaller, same fault current or smaller. For solar panels, Like-for-Like means certified, same CEC-AC rating of the system or smaller. For batteries, Like-for-Like means same or less kWh & kW rating, and same operating profile. For transformers, Like-for-Like means same connection type, same or smaller impedance and capacity.

B-3 Are you replacing inverter with an inverter type that increases the inverter nameplate capacity listed in the current and effective IA?

- Yes – Please continue to B-4.

B-4 If the inverter nameplate capacity is increasing, will certified power controls limit the real power output to the inverter capacity listed in the current and effective IA?

- Yes – Please continue to B-5.
 No – You must submit a new Interconnection Request. You do not need to submit this form.

B-5 Is the Generating Facility nameplate change resulting in a capacity rating less than or equal to 100 kW?

- Yes – Please skip to section 1.C
 No – Please continue to B-6.

B-6 Is the Generating Facility nameplate change resulting in a capacity rating greater than 100 kW and the increase is > 110% of the original nameplate?

- Yes - You must submit a new Interconnection Request. You do not need to submit this form.
 No - Please continue to section 1.C

GENERATING FACILITY MATERIAL MODIFICATION NOTIFICATION WORKSHEET

SECTION 1 – Material Modification Qualification Self-Check (Continued)

C. Storage Modification Section – Qualification when notification required:

C-1 Are you adding storage to an existing Generating Facility that does not have storage?

- Yes – You must submit a new Interconnection Request. You do not need to submit this form.
- No - Please continue to C-2.

C-2 Are you adding/ storage capacity to a Generating Facility with an existing storage device without changing the inverter?

- Yes/No – Please continue to Section 2.



GENERATING FACILITY MATERIAL MODIFICATION NOTIFICATION WORKSHEET

<i>For PG&E Use Only</i>			
Project Name:	Project ID:	Date Application Received:	Date Application Screened:

SECTION 2 – Customer and Contractor/Installer Information
A. Customer Electric Account and Contact Information This is the electric service account where the Generating Facility is interconnected for Parallel Operation with the PG&E electric system. The Customer Name and Service Account # listed below must match the account information on the Customer's PG&E electric bill.

PG&E Service Account #	Meter #	Service Voltage of Main Panel (Volts)	
Customer Name <i>(i.e., name shown on PG&E Service Account)</i>		Customer (Service Account Holder) Title <i>(e.g., Homeowner)</i>	
Generating Facility (Service Account) Street Address	City	State	Zip Code
County	Customer Contact Name (if different from above)		
	Company Name (if different from Customer)		
Phone (required)	Fax (if applicable)	Customer Email (required)	
Mailing Address (if different from above)	City	State	Zip Code



GENERATING FACILITY MATERIAL MODIFICATION NOTIFICATION WORKSHEET

SECTION 2 – Customer and Contractor/Installer Information (Continued)			
B. Contractor / Installer Information			
<input type="checkbox"/> Please check here if this is a Self-Installation (<i>i.e., installed by Service Account holder</i>) (<i>Proceed to Section 1.C</i>)			
Contractor / Installer Contact Name	Company Name	CSLB # (required*)	
Contractor Mailing Address	City	State	Zip Code
Phone (<i>required</i>)	Fax (<i>if applicable</i>)	Contractor Email (<i>required</i>)	



GENERATING FACILITY MATERIAL MODIFICATION NOTIFICATION WORKSHEET

SECTION 3 –Generating Facility Description / Technical Information
 The information provided in this section is for Generating Facilities that currently exist behind the same PG&E meter and meet the qualifications in Section 1 of this worksheet document.
ONLY WRITE DOWN WHAT IS DIFFERENT FROM WHAT IS LISTED IN THE CURRENT AND EFFECTIVE IA

3A. Which generating program tariff is the Generating Facility served under? (If NEMMT list all)

3B. Is the Inverter(s) Certified as a Smart Inverter(s) in accordance with Rule 21 Section Hh by a Nationally Recognized Testing Laboratory (NRTL)?

Yes

No – Please explain:

3C. Existing Generating Facility Description <i>(see Appendix A for help)</i> <i>For unknown fields, please indicate "0" and "N/A"</i>		
	Inverter Replaced	New Inverter
a) Number of Inverters modified/replaced		
b) Replaced Inverter Manufacturer(s)		
c) Replaced Inverter Model Number(s)		
d) Will the system use certified controls? If yes, is this certified by a NRTL (e.g. UL, CSA, etc.) to a national certification standard? Answer "Yes" or "No"		
e) Gross Nameplate Rating (each) (kVA)		
f) Gross Nameplate Rating (each) (kW)		
g) CEC-AC Nameplate Rating (kW)		
h) Net Nameplate Rating (kW)		
i) Operating Voltage (Volts or kV)		
j) Power Factor (PF) Rating (%)		
k) Wiring Configuration (Choose One)	<input type="checkbox"/> Single-Phase <input type="checkbox"/> Three-Phase	<input type="checkbox"/> Single-Phase <input type="checkbox"/> Three-Phase
l) 3-Phase Winding Configuration (Choose One)	<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) Neutral Grounding Systems Used (Choose One)	<input type="checkbox"/> Underground <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor	<input type="checkbox"/> Underground <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor
n) Short Circuit Current capable of being produced by Generating Facility (Amps)		

GENERATING FACILITY MATERIAL MODIFICATION NOTIFICATION WORKSHEET

SECTION 4 – Safety and Consumer Protection Acknowledgements

Safety and Consumer Protection Acknowledgements

A. Equipment Verification

- For Applicants with Solar Generating Facilities** - By checking this box, Applicant verifies that all major solar system components (including PV panels and other generation equipment, inverters and meters) are on a verified equipment list maintained by the California Energy Commission. This requirement is subject to additional verification by PG&E.

Note: For all Generating Facilities, PG&E may require the Applicant to verify that other equipment, as determined by PG&E requirements, has safety certification from a NRTL.

B. Warranty Verification

- By checking this box, Applicant verifies that a warranty of at least 10 years has been provided on all equipment and the installation of that equipment. In appropriate circumstances conforming to industry practice, satisfaction of this requirement may rely on manufacturers' warranties for equipment and separate contractors' warranties for workmanship (i.e., installation). Warranties or service agreements conforming to requirements applicable to the Self-Generation Incentive Program (SGIP) may be used to satisfy this requirement for Generating Facilities with technologies eligible for the SGIP. This requirement is subject to additional verification by PG&E.

GENERATING FACILITY MATERIAL MODIFICATION NOTIFICATION WORKSHEET

Appendix A – Instructions for Completing Sections 3	
Manufacturer	Enter the brand name of the generator.
Model Number	Enter the model number assigned by the manufacturer of the generator.
CEC-AC Nameplate Rating	<p>For NEM Generating Facilities, this value is the CEC-AC Net Nameplate Rating and is not the same as the Net Nameplate that accounts for auxiliary loads or station service loads. The calculations used are as follows:</p> <p>Technology CEC-AC Nameplate Calculation</p> <p>Solar PV $(Qty\ of\ Modules) \times (PTC\ Rating) \times (Inverter\ Efficiency\ \%) / 1000 = ____ kW$</p> <p>Wind $(Qty\ of\ Turbines) \times (Power\ Output) \times (Inverter\ Efficiency\ \%) / 1000 = ____ kW$</p> <p>Fuel Cell $(Qty\ of\ Cells) \times (Rated\ Output) \times (Inverter\ Efficiency\ \%) / 1000 = ____ kW$</p>
Inverter Manufacturer	Enter the brand name of the inverter.
Inverter Model Number	Enter the model number assigned by the manufacturer of the inverter.
Module Manufacturer	Enter the brand name of the modules.
Module Model Number	Enter the model number assigned by the manufacturer of the modules.
Certified Controls NRTL Certification	Answer “yes” only if the generator manufacturer can or has provided certification data to allow certified controls to limit the real power output to the inverter listed size in the original agreement?
Smart Inverter Certification	Answer “yes” only if the inverter manufacturer can or has provided certification data. Please see PG&E’s Rule 21, Section Hh for Smart Inverter requirements, and Section L for additional information regarding certification.
Inverter Software Version	If the 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.
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 provide both.
Gross Nameplate Rating (kW)	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 kVA rating. However, where both kVA and kW values are available, please provide both. For NEM generating facilities, the “gross” value is DC power.
Net Nameplate Rating (kW)	<ul style="list-style-type: none"> For NEM generating facilities, this value is the CEC-AC Net Nameplate Rating and is not the same as the Net Nameplate that accounts for auxiliary loads or station service loads. For non-NEM generating facilities (e.g., those included in an NEM-MT installation), this capacity value is determined by subtracting the “Auxiliary” or “Station Service” loads used to operate the Generator or Generating Facility. Applicants are not required to supply this value but, if it is not supplied, applicable Standby Charges may be based on the higher “gross” values.

GENERATING FACILITY MATERIAL MODIFICATION NOTIFICATION WORKSHEET

Appendix A – Instructions for Completing Sections 3 (Continued)	
Operating Voltage	This value should be the voltage rating designated by the manufacturer and used in the Generator. Please indicate phase-to-phase voltages for 3-phase installations. See PG&E 's Rule 21, Section H.2.b. for additional information.
Power Factor (PF) 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.
Wiring Configuration	Please indicate whether the Generator is a single-phase or three-phase device. See PG&E 's Rule 21, Section H.3.
3-Phase Winding Configuration	For three-phase generating units, please indicate the configuration of the Generator's windings or inverter systems.
Neutral Grounding System Used	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.
Short Circuit Current Produced by Generator	Please indicate the current each Generator can supply to a three-phase fault across its output terminals. For single phase Generators, please supply the phase-to-phase fault current. See manufacturer specifications or contact manufacturer for data.



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Sheet 1

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Preliminary Statements.....	45406,44687,42856*,43670,41723,40591,48082,46682-E		
Rules.....	49704,49733,46109-E		
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Sheet 25

FORM	TITLE OF SHEET	CAL P.U.C. SHEET NO.
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Sample Forms
Rule 21 Generating Facility Interconnections (Cont'd)

79-1174-02	Rule 21 Generator Interconnection Application.....	49266-E
79-1174-02A	Rule 21 Generator Interconnection Application – Attachment A	49769-E
79-1174-02B	Rule 21 Generator Interconnection Application – Attachment B	49268-E
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79-1174-02F	Rule 21 Generator Interconnection Application – Attachment F	49272-E
79-1174-02G	Rule 21 Generator Interconnection Application – Attachment G	49273-E
79-1174-02H	Rule 21 Generator Interconnection Application – Attachment H	49274-E
79-1174-02I	Rule 21 Generator Interconnection Application – Attachment I.....	49275-E
79-1174-02J	Rule 21 Generator Interconnection Application – Attachment J.....	49276-E
79-1174-02K	Rule 21 Generator Interconnection Application – Attachment K	49277-E
79-1174-02L	Rule 21 Generator Interconnection Application – Attachment L.....	49278-E
79-1174-02M	Rule 21 Generator Interconnection Application – Attachment M.....	49279-E
79-1174-02N	Rule 21 Generator Interconnection Application – Attachment N	49280-E
79-1175	Rule 21 Consent to Assignment Form for Non-NEM Projects.....	48657-E
79-1181	Rule 21 Pre-Application Report Request	48663-E
79-1191	Generating Facility Interconnection Agreement For Local Government Renewable Energy Self-Generation Bill Credit Transfer (RES-BCT).....	49295-E
79-1197	Local Government Renewable Energy Self-Generation Bill Credit Transfer (RES-BCT) Re-Allocation Request	48676-E
79-1198-02	Interconnection Agreement for Net Energy Metering (NEM2) and Renewable Electrical Generating Facility Sized Greater than 1,000 kW	49298-E
79-1199	Agreement and Customer Authorization Non-Export Standalone Energy Storage of 30 Kilowatts or Less	48678-E
79-1200	Rule 21 Generator Interconnection Agreement for Exporting Generating Facilities	48679-E
79-1204	Pilot Pedestal Program Application	48680-E
79-1211	Generating Facility Material Modification Notification Worksheet.....	50316-E

(N)

(Continued)

Advice 6155-E-A
June 29, 2021

Attachment B

**Redline Revisions to the Standard Form Template
submitted in AL 5583-E**



GENERATING FACILITY MATERIAL MODIFICATION NOTIFICATION WORKSHEET

APPLICABILITY AND GUIDELINES

Pursuant to California Public Utilities Commission (CPUC) Decision 19-03-013, this worksheet shall be used to notify [utility's name] Pacific Gas and Electric Company ("PG&E") when Generating Facilities make qualifying material modifications (e.g. Maintenance, Retrofit).

When initially capitalized, whether in the singular or in the plural, the terms used herein shall have the meanings assigned to them either in this Notification Worksheet or in PG&E's CPUC-approved Electric Rule 21 (Rule 21).

- Upon meeting the qualifications for notification only, the customer may proceed with specific modifications to the **Generating Facility system** and turning **it on the system** without waiting for **PG&E** approval.
- As applicable, customer is solely responsible for obtaining approval from the local Authority Having Jurisdiction (AHJ) when making modifications to its Generating Facility. Customer is encouraged to contact its local AHJ to determine if a permit is required for the specific modifications.
- By submitting this notification worksheet, the customer affirms that they have met all requirements for notification-only eligible modifications as set forth in Rule 21 prior to energizing the systems
- This Generating Facility Material Modification Notification Worksheet (Notification Worksheet) only applies to **inverter-based Generating Facilities systems** that are currently authorized by **PG&E** to operate in parallel with the **PG&E** electric system. **All modifications to non-inverter based Generating Facilities require as new Interconnection Request.**
- If the customer is replacing equipment with exact same equipment type (i.e. same make and model) or performing upgrades to inverter firmware that do not affect grid interactions, a Notification Worksheet is not required.

This Notification Worksheet does not authorize a customer to operate ~~your-its~~ Generating Facility in parallel with the PG&E electric system unless the project meets the self-verification of material modification criteria herein. If the customer does not meet the self-verification qualification requirements, it must submit a new Interconnection Request to PG&E in order to receive permission to safely interconnect and operate in parallel with PG&E's electric system. Unauthorized Parallel Operation may be dangerous and may result in injury to persons and/or may cause damage to equipment and/or property for which the customer may be liable. All modifications to the Generating Facility must maintain and satisfy all of the requirements for PG&E's Rule 21, interconnection program tariff (e.g., Net Energy Metering [NEM] and Interconnection Handbook and Electric Service Requirements (ESRs), as applicable. Please reference the documentation for more information regarding the interconnection of a Generating Facility to the PG&E distribution system. Notification Worksheets submitted with blank fields (as applicable) will be deemed incomplete and will be returned for completion. The Applicant is also responsible for updating this Notification Worksheet, should the information submitted change between system design and installation.

Customer to p**Please check this box to indicate acknowledgment of the information provided above, and in this worksheet.**

Overall s**Steps regarding when a Notification Worksheet is required:**

This Notification Worksheet is divided into four sections. Section one (1) determines if and when a Notification Worksheet submittal is required. If a Notification Worksheet is required per section (1), then sections 2, 3, and 4 must be completed by the Applicant and sent via email to

- SNEMprocessing@pge.com for Standard NEM (Solar and/or Wind 30 kW and less) interconnections: or



GENERATING FACILITY MATERIAL MODIFICATION NOTIFICATION WORKSHEET

- NEMExpFollowups@pge.com for Expanded NEM interconnections (Solar and/or Wind over 30 kW up to 1 MW); or
- Rule21gen@pge.com for all other Rule 21 interconnections.

This ~~Notification wWorksheet or online notification~~ **must be submitted at least [??] Business days prior to operation of the Generating Facility in parallel with the distribution system, until this form is replaced by an online submission option.**

SECTION 1 – Material Modification Qualification Self-Check

A. This Application is for:

A-1 **Physical changes to an existing Generating Facility** that currently has Permission to Operate (PTO) from PG&E. If this box is selected, please continue to section B questions in the next box below. Examples include adding energy storage capacity, changing inverters, replacing equipment, changing load, and/or changing operations.

A-2 **A new Generating Facility interconnection or changing inverter operating characteristics.** If this box is selected, you **do not** meet the requirements for the use of this Notification Worksheet and must submit a new Interconnection Request. →

GENERATING FACILITY MATERIAL MODIFICATION NOTIFICATION WORKSHEET

SECTION 1 – Material Modification Qualification Self-Check (Continued)

B. Inverter/Equipment Modification Section – Qualification when notification is required:

B-1 Are you replacing inverter/equipment with the exact same inverter/equipment type (e.g. same make, model) or performing upgrades to inverter firmware that do not affect grid interactions?

- Yes – PG&E notification is not required. You do not need to submit this form.
 No – Please continue to B-2.

B-2 Are you replacing inverterequipment with “Like-for-Like”* where Generating Facility system output will not exceed what the kW is the inverter nameplate capacity listed in the current and effective Interconnection Agreement (IA) and the operating mode is not being adjusted?

- Yes – ~~notification is required.~~ Please skip to Section 21.C.
 No – Please continue B-3.

* **Like-for-Like definition:** For inverters, Like-for-Like means certified, same nameplate or smaller, same fault current or smaller. For solar panels, Like-for-Like means certified, same CEC-AC rating of the system or smaller. For batteries, Like-for-Like means the capacity is the same or less kWh or and kW rating, and same operating profile is not changing. For transformers, Like-for-Like means same connection type, same or smaller impedance and capacity.

B-3 Are you replacing equipment inverter with an equipment inverter type that increases the inverter nameplate capacity listed in the current and effective IA?

- Yes – Please continue to B-4.

B-4 If the inverter nameplate capacity is increasing, will certified power controls limit the real power output to the inverter size capacity listed in the current and effective IA?

- Yes – Please continue to B-5.
 No – You must submit a new Interconnection Request. You do not need to submit this form.

B-5 Is the Generating Facility nameplate change resulting in a capacity rating less than or equal to 100 kW [and increase is < 110% of the original nameplate]?

- Yes – ~~notification is required.~~ Please skip to section 21.C.
 No – Please continue to B-6.

B-6 Is the Generating Facility nameplate change resulting in a capacity rating greater than or equal to 100 kW [and the increase is > 110% of the original nameplate]?

- Yes – You must submit a new Interconnection Request. You do not need to submit this form.
 No – Please continue to section 1.C

If you

If you checked “Yes,” you must submit a new Interconnection Request. You do not need to submit this form.

GENERATING FACILITY MATERIAL MODIFICATION NOTIFICATION WORKSHEET

SECTION 1 – Material Modification Qualification Self-Check (Continued)

C. ~~Battery Storage~~ Modification Section – Qualification when notification required:

C-1 Are you adding storage to an existing Generating Facility that does not have storage?

- Yes – You must submit a new Interconnection Request. You do not need to submit this form.
- No - Please continue to C-2.

~~**C-2** Are you adding storage to an existing Generating Facility that does have storage?~~

- ~~Yes – You must submit a new Interconnection Request. You do not need to submit this form.~~
- ~~No – Please continue to Section 2.~~

C-23 Are you adding/~~removing~~ storage capacity to a Generating Facility with an existing storage device ~~and not~~**without** changing the inverter?

- Yes/~~– You must submit a new Interconnection Request. You do not need to submit this form.~~
- No – Please continue to Section 2.



GENERATING FACILITY MATERIAL MODIFICATION NOTIFICATION WORKSHEET

<i>For PG&E Use Only</i>			
Project Name:	Project ID:	Date Application Received:	Date Application Screened:

SECTION 2 – Customer and Contractor/Installer Information
A. Customer Electric Account and Contact Information This is the electric service account where the Generating Facility is interconnected for Parallel Operation with the PG&E electric system. The Customer Name and Service Account # listed below must match the account information on the Customer's PG&E electric bill.

PG&E Service Account #	Meter #	Service Voltage of Main Panel (Volts)	
Customer Name <i>(i.e., name shown on PG&E Service Account)</i>		Customer (Service Account Holder) Title <i>(e.g., Homeowner)</i>	
Generating Facility (Service Account) Street Address	City	State	Zip Code
County			
Customer Contact Name <i>(if different from above)</i>		Company Name <i>(if different from Customer)</i>	
Phone <i>(required)</i>	Fax <i>(if applicable)</i>	Customer Email <i>(required)</i>	
Mailing Address <i>(if different from above)</i>	City	State	Zip Code



GENERATING FACILITY MATERIAL MODIFICATION NOTIFICATION WORKSHEET

SECTION 2 – Customer and Contractor/Installer Information (Continued)			
B. Contractor / Installer Information			
<input type="checkbox"/> Please check here if this is a Self-Installation (i.e., installed by Service Account holder) (Proceed to Section 1.C)			
Contractor / Installer Contact Name	Company Name	CSLB # (required*)	
Contractor Mailing Address	City	State	Zip Code
Phone (required)	Fax (if applicable)	Contractor Email (required)	

GENERATING FACILITY MATERIAL MODIFICATION NOTIFICATION WORKSHEET

Section SECTION 3 –Generating Facility Description / Technical Information
 The information provided in this section is for Generating Facilities that currently exist behind the same **PG&E** meter and meet the qualifications in Section 1 of this worksheet document.
ONLY WRITE DOWN WHAT IS DIFFERENT FROM WHAT IS LISTED IN THE CURRENT AND EFFECTIVE IA

3A. —Which generating program tariff is the Generating Facility Generator served under? (If NEMMT list all)

3B. ~~If the Generator is inverter-based, is~~ the Inverter(s) Certified as a Smart Inverter(s) in accordance with Rule 21 Section Hh by a Nationally Recognized Testing Laboratory (NRTL)?

Yes

No – Please explain:

3C. —Existing Generating Facility Description (see Appendix A for help)
For unknown fields, please indicate "0" and "N/A"

	Inverter Replaced	New Inverter
a) Number of Inverters modified/replaced		
b) Replaced Inverter Manufacturer(s)		
c) Replaced Inverter Model Number(s)		
d) Will the system use certified controls? If yes, is this certified certified by a Nationally Recognized Testing Lab (e.g. UL, CSA, etc.) to with a national certification standard? Answer "Yes" or "No"		
e) Gross Nameplate Rating (each) (kVA)		
f) Gross Nameplate Rating (each) (kW)		
g) CEC-AC Nameplate Rating (kW)		
h) Net Nameplate Rating (kW)		
i) Operating Voltage (Volts or kV)		
j) Power Factor (PF) Rating (%)		
k) Wiring Configuration (Choose One)	<input type="checkbox"/> Single-Phase <input type="checkbox"/> Three-Phase	<input type="checkbox"/> Single-Phase <input type="checkbox"/> Three-Phase
l) 3-Phase Winding Configuration (Choose One)	<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) Neutral Grounding Systems Used (Choose One)	<input type="checkbox"/> Underground <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor	<input type="checkbox"/> Underground <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor

GENERATING FACILITY MATERIAL MODIFICATION NOTIFICATION WORKSHEET

n) Short Circuit Current capable of being produced by Generating Facility Generator (Amps)		
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Section ~~SECTION~~ 4 – Safety and Consumer Protection Acknowledgements

Safety and Consumer Protection Acknowledgements
 This section is applicable to ~~Customers requesting service on [Utilities appropriate tariff names]~~

A. Equipment Verification

For Applicants with Solar Generating Facilities - By checking this box, Applicant verifies that all major solar system components (including PV panels and other generation equipment, inverters and meters) are on ~~the a~~ verified equipment list maintained by the California Energy Commission. This requirement is subject to additional verification by **PG&E**.

*Note: For all Generating Facilities, **PG&E** may require the Applicant to verify that other equipment, as determined by **PG&E** requirements, has safety certification from a NRTL.*

B. Warranty Verification

By checking this box, Applicant verifies that a warranty of at least 10 years has been provided on all equipment and the installation of that equipment. -In appropriate circumstances conforming to industry practice, satisfaction of this requirement may rely on manufacturers' warranties for equipment and separate contractors' warranties for workmanship (i.e., installation). -Warranties or service agreements conforming to requirements applicable to the Self-Generation Incentive Program (SGIP) may be used to satisfy this requirement for Generating Facilities with technologies eligible for the SGIP. -This requirement is subject to additional verification by **PG&E**.

GENERATING FACILITY MATERIAL MODIFICATION NOTIFICATION WORKSHEET

Appendix A – Instructions for Completing Sections 3	
Manufacturer	Enter the brand name of the generator.
Model Number	Enter the model number assigned by the manufacturer of the generator.
CEC-AC Nameplate Rating	<p>For NEM generating facilities Facilities, this value is the CEC-AC Net Nameplate Rating and is not the same as the Net Nameplate that accounts for auxiliary loads or station service loads. The calculations used are as follows:</p> <p>Technology CEC-AC Nameplate Calculation</p> <p>Solar PV $(Qty\ of\ Modules) \times (PTC\ Rating) \times (Inverter\ Efficiency\ \%) / 1000 = \text{---} \text{ kW}$</p> <p>Wind $\text{---} (Qty\ of\ Turbines) \times (Power\ Output) \times (Inverter\ Efficiency\ \%) / 1000 = \text{---} \text{ kW}$</p> <p>Fuel Cell $\text{---} (Qty\ of\ Cells) \times (Rated\ Output) \times (Inverter\ Efficiency\ \%) / 1000 = \text{---} \text{ kW}$</p>
Inverter Manufacturer	Enter the brand name of the inverter.
Inverter Model Number	Enter the model number assigned by the manufacturer of the inverter.
Module Manufacturer	Enter the brand name of the modules.
Module Model Number	Enter the model number assigned by the manufacturer of the modules.
Certified Controls NRTL Certification	Answer “yes” only if the generator manufacturer can or has provided certification data to allow certified controls to limit the real power output to the inverter listed size in the original agreement?
Smart Inverter Certification	Answer “yes” only if the inverter manufacturer can or has provided certification data. Please see PG&E’s Rule 21, Section Hh for Smart Inverter requirements, and Section L for additional information regarding certification.
Inverter Software Version	If the 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.
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 provide both.
Gross Nameplate Rating (kW)	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 kVA rating. However, where both kVA and kW values are available, please provide both. For NEM generating facilities, the “gross” value is DC power.
Net Nameplate Rating (kW)	<ul style="list-style-type: none"> For NEM generating facilities, this value is the CEC-AC Net Nameplate Rating and is not the same as the Net Nameplate that accounts for auxiliary loads or station service loads. For non-NEM generating facilities (e.g., those included in an NEM-MT installation), this capacity value is determined by subtracting the “Auxiliary” or “Station Service” loads used to operate the Generator or Generating Facility. Applicants are not required to supply this value but, if it is not supplied, applicable Standby Charges may be based on the higher “gross” values.

GENERATING FACILITY MATERIAL MODIFICATION NOTIFICATION WORKSHEET

Appendix A – Instructions for Completing Sections 3 (Continued)	
Operating Voltage	This value should be the voltage rating designated by the manufacturer and used in the Generator. Please indicate phase-to-phase voltages for 3-phase installations. See PG&E 's Rule 21, Section H.2.b. for additional information.
Power Factor (PF) 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.
Wiring Configuration	Please indicate whether the Generator is a single-phase or three-phase device. See PG&E 's Rule 21, Section H.3.
3-Phase Winding Configuration	For three-phase generating units, please indicate the configuration of the Generator's windings or inverter systems.
Neutral Grounding System Used	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.
Short Circuit Current Produced by Generator	Please indicate the current each Generator can supply to a three-phase fault across its output terminals. For single phase Generators, please supply the phase-to-phase fault current. See manufacturer specifications or contact manufacturer for data.

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

AT&T
Albion Power Company

Alta Power Group, LLC
Anderson & Poole

Atlas ReFuel
BART

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

California Hub for Energy Efficiency
Financing

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

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

Chevron Pipeline and Power
City of Palo Alto

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

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

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

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

Green Power Institute
Hanna & Morton
ICF

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

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

Modesto Irrigation District
NLine Energy, Inc.
NRG Solar

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

Pioneer Community Energy

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

SPURR
San Francisco Water Power and Sewer
Sempra Utilities

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

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