

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



**Pacific Gas & Electric Company**  
**ELC (Corp ID 39)**  
**Status of Advice Letter 5938E**  
**As of March 8, 2021**

Subject: Modifications to Interconnection Agreements for PG&E's Tariffs NEM and NEM2 Paired Storage for NEM-Integrity Situations to support Resiliency, and Other Minor Form Modifications.

Division Assigned: Energy

Date Filed: 09-15-2020

Date to Calendar: 09-18-2020

Authorizing Documents: None

<b>Disposition:</b>	<b>Accepted</b>
<b>Effective Date:</b>	<b>10-15-2020</b>

Resolution Required: No

Resolution Number: None

Commission Meeting Date: None

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



To: Energy Company Filing Advice Letter

From: Energy Division PAL Coordinator

Subject: Your Advice Letter Filing

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The AL status certificate indicates:

- Advice Letter Number
- Name of Filer
- CPUC Corporate ID number of Filer
- Subject of Filing
- Date Filed
- Disposition of Filing (Accepted, Rejected, Withdrawn, etc.)
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The Energy Division has made no changes to your copy of the Advice Letter Filing; please review your Advice Letter Filing with the information contained in the AL status certificate, and update your Advice Letter and tariff records accordingly.

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

September 15, 2020

**Advice 5938-E**

(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

**Subject: Modifications to Interconnection Agreements for PG&E's Tariffs NEM and NEM2 Paired Storage for NEM-Integrity Situations to support Resiliency, and Other Minor Form Modifications.**

**Purpose**

Pacific Gas and Electric Company (PG&E) submits this advice letter to modify two forms, 79-1193<sup>1</sup> and 79-1193-02<sup>2</sup> to specifically address the interconnection of NEM paired storage generating facilities that achieve NEM integrity, and which support certain resiliency projects under PG&E's Customer Resiliency Support Program (CRESP)<sup>3</sup>. Additionally, PG&E makes corrections and clarification on the same to forms noted above, as well as to three other forms 79-1151A<sup>4</sup> and 79-1151A-02<sup>5</sup>; and 79-1202<sup>6</sup>.

**Background****A. NEM Paired Storage Configured for NEM Integrity****Storage Configurations**

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<sup>1</sup> 79-1193 is Currently named - *Agreement and Customer Authorization Net Energy Metering (NEM2) Interconnection for Solar and/or Wind Electric Generating Facilities of 30 kW or Less with Energy Storage of 10 kW or Less*

<sup>2</sup> 79-1193-02 is Currently named - *Agreement and Customer Authorization Net Energy Metering (NEM2) Interconnection for Solar and/or Wind Electric Generating Facilities of 30 kW or Less with Energy Storage of 10 kW or Less*

<sup>3</sup> For more on CRESP, see PG&E Advice Letter [AL 5791-E](#)

<sup>4</sup> 79-1151A - *Agreement And Customer Authorization Net Energy Metering For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less*

<sup>5</sup> 79-1151A-02 - *Agreement And Customer Authorization Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less*

<sup>6</sup> 79-1202 - *Load Aggregation Appendix*

In July 2014, the Commission issued D.14-05-033,<sup>7</sup> addressing net energy metering and storage. In the decision the Commission adopted, it used the terminology of the Renewable Portfolio Standard program and noted<sup>8</sup>:

“Section III.G [of the California Energy Commission (CEC) adopted the seventh edition of the RPS Eligibility Guidebook (Guidebook<sup>9</sup>)] establishes two categories of energy storage that ‘may be considered an addition or enhancement to a renewable electrical generation facility’: ‘integrated’ and ‘directly connected.’”

Integrated energy storage is described as “[m]ethods of storing energy from a renewable energy resource that are integrated into the renewable electrical generating facility as part of the generation process...” For battery-based storage the Guidebook further elaborates that “the storage device must only be capable of storing energy from the renewable generator” to be considered “integrated.”<sup>10</sup>

For a storage device to be deemed “**directly connected**,” it must be both directly connected to the renewable generator via an internal power line (i.e., power may not be transmitted from the renewable facility to the energy storage via an external distribution line) and the storage device must be operated as part of the RPS eligible facility.”<sup>11</sup> (Note: emphasis and paragraph re-formatting added for clarity.)

Direct current (DC)-coupled solar plus storage systems, one possible configuration key to this advice letter, will utilize a single inverter instead of one each (i.e., a total of two inverters) for both the NEM-eligible Generating Facility and the NEM-Paired Storage device. Based on the description in D.14-05-033, DC-coupled solar plus storage systems may fall under either the definition of directly connected or integrated energy storage. Regardless, D.14-05-033 had suggested that one means to make sure the storage is eligible for net energy metering (i.e., the storage is only renewably charged) is to use direct current metering. However, since such metering is non-standard, the Commission declined in D.14-05-033 to consider a possible pathway for direct current configurations.<sup>12</sup>

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<sup>7</sup> [D. 14-05-033](#) May 15, 2014 - *Decision Regarding Net Energy Metering Interconnection Eligibility For Storage Devices Paired With Net Energy Metering Generation Facilities*.

<sup>8</sup> D.14-05-033 at 4, 5.

<sup>9</sup> The RPS Eligibility Guidebook (7th Edition, April 2013) is available at <http://www.energy.ca.gov/renewables/documents/#rps>.

<sup>10</sup> RPS Guidebook at 64.

<sup>11</sup> RPS Guidebook at 65

<sup>12</sup> D.14.05-033 at 21, “Although we recognize that certain single inverter large GFs with NEM paired storage devices may not be able to accommodate the metering requirements as described above, we choose not to provide an alternative metering solution for such configurations at this time.”

### NEM Integrity

In September 2017, the California Solar & Storage Association (CALSSA), formerly the California Solar Energy Industries Association (CALSEIA), filed a Petition for Modification of D.14-05-033 (Petition)<sup>13</sup> in order to facilitate the interconnection of both direct current DC-coupled and AC-coupled solar plus storage systems. The CALSSA/CALSEIA Petition described two use cases:

1) “no grid charging” (i.e., no grid charging to the storage device)

For the “no grid charging” use case, the Petition discussed a voltage controlled configuration of DC-coupled solar plus storage, a virtual net energy metering (VNEM) configuration, a NEM Aggregation (NEM-A) configuration, other unspecified configurations, and related configurations for AC-coupled solar plus storage systems; and

2) “no storage export” (i.e., no storage exports to the grid)

For the “no storage export” use case, the Petition discussed using an inverter or charge controller “with functionality that prevents the storage device from discharging at times when the customer site is exporting power to the grid or install an external relay that provides the same function.”

If either of these conditions are met, “NEM integrity” is preserved (that is, the exported energy (kWh) as read at the PCC bidirectional meter is completely from the NEM generator or storage charged by that generator.) If NEM integrity is preserved, the project does not need to be treated like NEMMT and net generation output meters are not needed.

### Using Power Control Systems (PCS) for NEM Integrity

In January of 2019, D.19-01-030<sup>14</sup> granted CALSSA/CALSEIA's<sup>15</sup> petition for modification of D. 14-05-033, approving “non-metering, power control-based options for ensuring net energy metering credit accrues only the net energy metering-eligible generation, as long as the control configuration is certified to a national standard or a utility-approved interim testing procedure. Power control-based options include the use of equipment, whether firmware-based or software-based, to prevent the storage device from charging from the grid or to prevent the storage device from exporting to the grid.”<sup>16</sup>

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<sup>13</sup> Petition of the California Solar Energy Industries Association for Modification of D.14-05-033 to Allow DC-Coupled Solar Plus Storage Systems, filed September 1, 2017 (Petition).

<sup>14</sup> [Decision 19-01-030](#) January 31, 2019 - *Decision Granting Petition For Modification Of Decision 14-05-033 Regarding Storage Devices Paired With Net Energy Metering Generating Facilities.*

<sup>15</sup> On February 8, 2018, the California Solar Energy Industries Association filed a notice of name change to California Solar & Storage Association.

<sup>16</sup> Petition of the California Solar Energy Industries Association for Modification of D.14-05-033 to Allow DC-Coupled Solar Plus Storage Systems, filed September 1, 2017 (Petition). D.19-01-030 at 2

PG&E submitted Advice Letters 5501-E, -A, -B - *Update to Schedules NEM and NEM2 for Storage Devices Paired With Net Energy Metering Generating Facilities using Alternating or Direct Current Configurations Pursuant to Decision 19-01-030*<sup>17</sup> - between March 22, 2019 and November 8, 2019 to incorporate these changes in the NEM Paired Storage Section of Rate Schedules NEM and NEM2. On January 6, 2020 the CPUC approved, and made effective, this advice letter series effective.

#### Simplified Forms for NEM Integrity

In this advice letter, PG&E proposed a process improvement that will allow projects using UL 1741 SA CRD<sup>18</sup> certified equipment to use a modified Interconnection Agreement and proceed through a streamlined interconnection process, similar to existing Standard NEM (SNEM) Paired Storage (PV sized 30 kW and less with energy storage 10 kW and less) projects.

#### No NGOMs Needed

Currently, SNEM Paired Storage projects have an average cycle time of eight to ten days because they do not require a Net Generation Output Meter (NGOM) and they utilize a simplified Interconnection Agreement. Projects using UL 1741 SA CRD certified equipment meet the NEM tariff requirements for storage to be considered an "addition or enhancement to a renewable electrical generation facility" regardless of storage system size. Therefore, these projects do not require a NGOM and can follow the same streamlined process as SNEM Paired Storage. In order to implement this process change, PG&E proposes here revising existing Interconnection Agreement Forms 79-1193 and 79-1193-02 for adoption in this Advice Letter. Implementing these changes should streamline resiliency projects using the configuration described above.

### **B. General Form Corrections and Clarifications**

PG&E would also like to make a second set of form changes to correct that would also clarify some provisions on two of the same forms, the 79-1093 and 79-1093-02 being modified above, as well as to 3 other forms, 79-1151A and 79-1151A-02; and 79-1202. Because of the overlap in forms involved, and because PG&E (and industry stakeholders) wish to expedite these changes, PG&E is proposing to include additional relatively minor changes to the other forms in this advice letter as well. Alternatively, PG&E could submit this second group of changes as a second AL, but then a "merger" submittal would be required, to adopt both sets of changes for the 79-1093 and 79-1093-02. PG&E believed that in the interest of all involved, it would be best to avoid that.

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<sup>17</sup> [AL 5501-E](#), [AL 5501-E-A](#), and [AL 5501-E-B](#)

<sup>18</sup> SA is short for *Supplement A*; CRD refers to an Underwriters Laboratories (UL) *Certification Requirement Decision*, in this case the one issued on 3/8/2019.

In September 30, 2019, PG&E submitted AL 5634-E, and following a protest from CALSSA submitted a supplement on July 10, 2020 AL 5634-E-A.<sup>19</sup> The advice letter series address revises processes for sizing NEM aggregation projects to load. It resulted in changes to numerous interconnection agreements and created a new Load Aggregation Appendix Form 79-1202.

On date, AL 5920-E/AL 4295-G<sup>20</sup> was submitted as a Tier 1 cleanup submittal to update, among other aspects, the links to the California Energy Commission (CEC) equipment. This advice letter includes updates of those links as well.

A few errors were subsequently noticed, and clarification recommended. These are summarized in the Tariff Revisions below.

PG&E submits this Advice Letter with the proposed changes as Tier 2.

### **Tariff Revisions**

The following forms are being modified by this advice letter.

1. 79-1193 - *AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts or Less or Energy Storage with Power Control System Certification*

This form is for Schedule **NEM**.

2. 79-1193-02 - *AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts or Less or Energy Storage with Power Control System Certification*

This form is for Schedule **NEM2**.

3. 79-1151A - *Agreement And Customer Authorization Net Energy Metering For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less*

This form is for Schedule **NEM**.

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<sup>19</sup> [AL 5634-E](#), [AL 5634-E-A](#) - *Pacific Gas and Electric Company's Proposed Changes to Load Aggregation in Schedules NEM and NEM2 to allow for Customer-Attested Expected Future Load*".

<sup>20</sup> [AL 5920-E/AL 4295-G](#) - *Clean-Up of Gas and Electric Tariffs* – submitted as Tier 1 August 18, 2020

4. 79-1151A-02 - *Agreement And Customer Authorization Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less*

This form is for Schedule **NEM2**.

5. 79-1202 - *Load Aggregation Appendix*

This form is used for NEM Aggregation (**NEMA**).

Summary of Revisions DRAFT								
	79-1151A	79-1151A-02	79-1193	79-1193-02	79-1202	NEM	NEM2	Rule 21
<b>Part A NEM Paired Storage additions</b>								
1. Form name clarified			X	X				
2. Part II Section A instructions modified			X	X				
3. Part IV, R Clarify spell-out UL 1741 CRD PCS			X	X				
4. Update NEM & NEM2 references to Form						X	X	
5. Update Rule 21 references to Form								X
6. Remove reference to Form 79-1162-02 in NEM							X	
<b>Part B – Cleanup and Clarification</b>								
1. Solar systems changes < 5 kW	X		X	X				
2. Add equal signs	X	X	X	X				
3. Capacity Factor correction (0.172 to 0.17123 & 1500)	X	X	X	X	X			
4. Change annual usage calculation (110% to 100%)	X	X	X	X				
5. Update Building Size factor (3.32 to 3.00)	X	X	X	X				
6. Rate Section revised	X		X					
7. Corrects form reference name to 79-1151B-02		X						
8. NEM Generator System Size, Section B	X	X						
9. Correct link to CEC equipment list <sup>21</sup>			X	X				
10. Correct section numbering/lettering	X	X						
11. 5% CEC-AC and/or nameplate rating	X	X	X	X				
12. Guidance on access to usage data			X	X				

<sup>21</sup> see footnote 20



**A. Revisions for NEM Paired Storage Configured for NEM Integrity**

For this part, this advice letter proposes to modify the two forms the 79-1193 and 79-1193-02.

1. Form name clarified (79-1193)

**AGREEMENT AND CUSTOMER AUTHORIZATION**

Net Energy Metering (NEM) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less Paired with Energy Storage of 10 Kilowatts Or Less or Energy Storage with ~~GRD-PCS~~ Power Control System Certification

And (79-1193-02)

**AGREEMENT AND CUSTOMER AUTHORIZATION**

Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System ~~GRD-PCS~~ Certification

2. Part II, Section B adds language on generator sizing (79-1193)

**B. Generator System Sizing**

Please complete this section only if installing a new Solar or Wind system or modifying an existing Solar or Wind system. This section is not applicable if only adding energy storage to an existing previously interconnected Solar or Wind system.

And for both forms 79-1193, and 79-1193-02:

Non-NEM Eligible or ~~GRD-PCS-Certified~~ Energy Storage System with Certified Power Control System (see Section R):

3. Part IV Section R added for both forms 79-1193, and 79-1193-02

**R. Power Control System Certification**

By signing below, customer confirms that Energy Storage over 10 kW has received UL 1741 CRD for Power Control Systems (PCS) certification that will comply with either No Grid Charge or No Storage Export as defined in Schedule NEM2.

4. The NEM and NEM2 tariffs sheets are modified to reference these forms in the section that lists forms.
5. Rule 21 tariff sheets are modified to correctly reference these forms in the appendix that lists forms.
6. In the Schedule NEM2 tariff, in Special Condition 9 on NEM paired storage, the table for integrated storage on sheet 30 PG&E incorrectly included a reference a form – 79-1162-02 - that is an invalid form. PG&E regrets this error.

> 1 MW apply with 79-1174-02 and Interconnection agreement <del>79-1162-02 or</del> 79-1198-02
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## **B. General Form Corrections and Clarifications**

For forms 79-1151A, 79-1151A-02, 79-1193 and 79-1193-02, the first set of change being made is to correct and update the **entry table** used to verification that PV size does not exceed the annual kWh load calculation table as originally required by Public Utilities Code Section 2827<sup>22</sup>.

1. Added note that the PV-size-to-annual-load calculation is not required by for generating facilities under 5 kW, as it was not originally required by the CSI program.
2. Add equal signs.
3. Building load includes the solar capacity factor, as originally defined in the CSI program, from which this formula was taken, the calculation also changes. This change is also made in the footnote. The solar capacity factor is updated from 0.172 to 0.17123 in the footnotes so that annual solar comes out to 1500 hrs., as agreed in AL 5634-E-A.

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<sup>22</sup> Public Utilities Code Section 2827(b)(4)(A) “*Eligible customer-generator*” means a residential customer, small commercial customer as defined in subdivision (h) of Section 331, or commercial, industrial, or agricultural customer of an electric utility, who uses a renewable electrical generation facility, or a combination of those facilities, with a total capacity of not more than one megawatt, that is located on the customer’s owned, leased, or rented premises, and is interconnected and operates in parallel with the electrical grid, and **is intended primarily to offset part or all of the customer’s own electrical requirements**. [Emphasis added]

4. Update the "Recent annual usage" calculation from 1.1 (i.e., 110%) to 1.0 (i.e., 100%). This change is by agreement with CALSSA. This makes it consistent with other NEM forms, and was addressed in AL 5634-E-A.
5. As a consequence of changing the solar capacity (4 above), the "building size" factor changes from 3.32 to 3.00.

Representative table below being updated in the forms. (The format and changes included may vary somewhat from form to form.)

The Solar CEC-AC kW calculated from the Application cannot exceed 5% of the CEC-AC kW listed below:

	(1) Solar CEC-AC rating <sup>A</sup>	_____ (kW) X <del>1.1</del> 1.0 <sup>B</sup> =	_____ (kWh)
AND/OR	(2) Wind Nameplate rating	_____ (kW) X 2,190 <sup>C</sup>	_____ (kWh)
	(3) Total Energy Production	(1) + (2) =	_____ (kWh)

**Estimated Annual Energy Usage:**

(Solar systems  $\leq 5$  kW (CEC-AC) do not need to complete this section)

_____	(4) Recent annual usage	_____ (kWh) X <del>1.1</del> 1.0 =	_____ (kWh)
OR (If 12 months usage not available)	(5) Building size	_____ (sq ft) X <del>3.32</del> 3.00 <sup>D</sup> =	_____ (kWh)
AND	(6) I plan to increase my annual usage (kWh) by		_____ (kWh)
	(7) Total Energy Usage	(2 or 3) + (4) =	_____ (kWh)

Net Generation:

(8) Production – Usage	(3) – (7) =	_____ (kWh)*
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\*Positive number indicates that the system is estimated to generate more than the estimated usage. Please refer to Part IV, Section J to read the provisions around Net Surplus Compensation (NSC).

<sup>A</sup> CEC-AC (kW) = California Energy Commission Alternating Current, refers to the inverter efficiency rating (Quantity of PV Modules x PTC Rating of PV Modules x CEC Inverter Efficiency Rating)/1000

<sup>B</sup> 8,760 hrs/yr x ~~0.17123~~ 0.172 solar capacity factor = 1,500

<sup>C</sup> 8,760 hrs/yr x 0.25 wind capacity factor = 2,190

<sup>D</sup> 2 watts/ sq ft x 1/1,000 watts x 8,760 hrs/yr x ~~0.19~~ 0.17123 solar capacity factor = ~~3.32~~ 3.00

## 79-1202 - LOAD AGGREGATION APPENDIX<sup>23</sup>

Form 79-1202 does not have a load table like the one above. However, it does require the capacity factor value changes in footnote 11 on page 6)

<sup>23</sup> List of Qualifying Accounts Eligible for Net Energy Metering (NEM & NEM2) Load Aggregation, Load Aggregation Sizing Affidavit, and Customer-Generator Declaration Warranting Load Aggregation Arrangement Is Located On The Same or Adjacent or Contiguous Property to Generator Parcel

<sup>11</sup> Estimated Solar Production = 8,760 hrs/yr X ~~0.472~~ 0.17123 solar capacity factor = 1,500

Other minor page formatting changes are made.

6. Rate section in the NEM Agreement and Authorization forms 79-1151A and 79-1193 updated to align with the NEM2 Forms, 79-1151A-02 and 79-1193-02.

### Part III – Rate Selection

**A. Current Rate:** Please identify your existing rate by reviewing your PG&E energy statement or by calling the phone number listed below.

**Otherwise Applicable Rate Schedule (OAS) for NEM Account:** Select one rate from the category applicable to you. Visit [www.pge.com/rateoptions](http://www.pge.com/rateoptions) or call (800)-PGE-5000 for rate information.

☐ Stay on existing rate

☐ Requested new rate

**~~Residential Service Rate (Select one):~~**

☐ ~~E-1 Non-Time-of-Use~~

☐ ~~E-6 Time-of-Use~~

☐ ~~E-7<sup>+</sup> Time-of-Use~~

☐ ~~E-8<sup>F</sup> Non-Time-of-Use~~

☐ ~~E-9A<sup>F</sup> Time-of-Use for Customers with a single meter for Electric Vehicle (EV) recharging station and home~~

☐ ~~E-9B<sup>F</sup> Time-of-Use for Customers with a separately metered EV recharging station~~

☐ ~~EV-A<sup>24</sup> Time-of-Use for Customers with a single meter for Electric Vehicle (EV) recharging station and home~~

☐ ~~EV-B<sup>C</sup> Time-of-Use for Customers with a separately metered EV recharging station~~

☐ ~~Other (\_\_\_\_\_)~~

**~~Small and Medium Commercial Service Rate (Select one rate and primary or secondary service voltage):~~**

	<u>Primary</u>	<u>Secondary</u>
<input type="checkbox"/> <del>A-1 Small General Service</del>	<input type="checkbox"/> <del>—</del>	<input type="checkbox"/> <del>—</del>
<input type="checkbox"/> <del>A-6 Small General Time-of-Use Service</del>	<input type="checkbox"/> <del>—</del>	<input type="checkbox"/> <del>—</del>
<input type="checkbox"/> <del>A-10 Medium General Demand-Metered Service</del>	<input type="checkbox"/> <del>—</del>	<input type="checkbox"/> <del>—</del>
<input type="checkbox"/> <del>A-10 Medium General Time-of-use Service</del>	<input type="checkbox"/> <del>—</del>	<input type="checkbox"/> <del>—</del>
<input type="checkbox"/> <del>B-1 Small General Service</del>	<input type="checkbox"/> <del>—</del>	<input type="checkbox"/> <del>—</del>
<input type="checkbox"/> <del>B-6 Small General Time-of-Use Service</del>	<input type="checkbox"/> <del>—</del>	<input type="checkbox"/> <del>—</del>

<input type="checkbox"/> <del>B-10 Medium General Time-of-Use Service</del>	<input type="checkbox"/> -	<input type="checkbox"/> -
<input type="checkbox"/> <del>Other ( )</del>	<input type="checkbox"/> -	<input type="checkbox"/> -

7. Corrects a reference to a form number in 79-1151A-02 in Part I C, and Part II A

☐ By checking this box and signing this Agreement, I (Customer) authorize PG&E to release my PG&E Electric Account information to the Company above limited to kilowatt hour (kWh) usage, operational characteristics, and other information related to my Generating Facility application. Company is also authorized to submit Application Form 79-1151B-02B and act on my behalf with regard to the interconnection and receive copies of this executed Interconnection Agreement and the Permission to Operate Letter when issued

A. Interconnection Study and Requirements  
This Agreement covers the installed Generating Facility nameplate listed in the accompanying Application Form 79-1151B-02B.  
The interconnection study will use the nameplate to determine if Interconnection Facilities or Distribution or Network Upgrades are required and the responsible party for the associated costs. If upgrades are required, this will increase the time it will take for PG&E to approve your interconnection.  
In order for PG&E to approve your system, you will need to provide (1) this signed Agreement, (2) Application Form 79-1151B-02B, and (3) a copy of the final signed jurisdiction approval (building permit) for your project.

Removing the above table required page formatting changes.

8. For 79-1193 in Part II – NEM Generator System Size, Section B is now broken out

**B. Generator System Sizing**  
Please complete this section only if installing a new Solar or Wind system or modifying an existing Solar or Wind system. This section is not applicable if only adding energy storage to an existing previously interconnected Solar or Wind system.

Generator System Type: ☐ Solar ☐ Wind ☐ Both

Estimated Annual Production:  
(The Solar CEC-AC kW calculated from the Application cannot exceed 5% of the CEC-AC kW listed below)

~~• Please complete this section only if installing a new Solar or Wind system or modifying an existing Solar or Wind system. This section is not applicable if only adding energy storage to an~~

~~existing previously interconnected Solar or Wind system.  
Solar Systems > 5 kW (CEC-AC kW) or any system with wind,  
size is determined below. Please continue to fill out all of Section  
B.  
The Solar CEC-AC kW calculated from the Application cannot  
exceed 5% of the CEC-AC kW listed above~~

In Part III – Rate Selection, PG&E eliminates the Rate Table, which is largely obsolete, with:

A. Current Rate: Please identify your existing rate by reviewing your PG&E energy statement or by calling the phone number listed below.

Otherwise Applicable Rate Schedule (OAS) for NEM Account: Select one rate from the category applicable to you. Visit [www.pge.com/rateoptions](http://www.pge.com/rateoptions) or call (800)-PGE-5000 for rate information.

☐ Stay on existing rate

☐ Requested new rate

Other minor page formatting changes are made.

9. CEC equipment list links are updated to <https://www.energy.ca.gov/programs-and-topics/topics/renewable-energy/solar-equipment-lists>. See footnote 20.
10. Corrected section lettering in several places on several forms.
11. PG&E identified a discrepancy between our NEM form 79-1151A and NEM2 form 79-1151A-02 (Agreement and Authorization). On the 79-1151A, applicants are allowed to enter the CEC-AC system size and the portal looks up the CEC-AC size based on the equipment. If the CEC-AC value entered is not more than 5% larger than the “looked up” CEC-AC value, PG&E will not require a new Agreement and Authorization to be signed. For example, if the 79-1151A-02 form listed 1 KW, the calculated CEC-AC can be up to 1.05 KW and not require a new 79-1151A-02 to be submitted.

In identifying this, we are seeking to review NEM2 projects with the same 5% tolerance afforded to NEM1 customers, while we update the NEM2 forms in an Advice Submittal. We are also applying this 5% tolerance for solar to wind turbines and storage ratings as well. PG&E will accept the signed Agreement and Authorization Forms 79-1151A, 79-1151A-02, 79-1193 and 79-1193-02 as long

as the calculated ratings from the application do not exceed 5% of the stated ratings on the signed forms.

12. Part II Section A Instructions on obtaining customer usage data is updated. (The change from 100% to 110% is addressed below in Part B, number 4 of this Advice Letter.) (79-1193 and 79-1193-02)

NEM systems should be sized with an estimated annual production no larger than ~~100~~ ~~110~~ 110% of the Customer's total previous 12 months of usage (annual usage) and projected future increase. For customers on a Time-of-Use rate, sizing your system to offset 80%-85% of your average electricity usage could be an effective way to minimize your electricity bill. For customer who are not on a Time-of-Use rate, you might want to size your system larger (90-95% of your annual load), in order to minimize your electricity bill. Of course, individual circumstances may vary. Customers can obtain their usage data by following the instructions on [www.pge.com](http://www.pge.com) on the page titled "Access, download, or share usage data."~~from [www.pge.com/greenbutton](http://www.pge.com/greenbutton)~~ System sizing eligibility will be reviewed using the criteria below.

## **Protests**

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

Anyone wishing to protest this submittal may do so by letter sent via U.S. mail, facsimile or E-mail, no later than October 5, 2020, which is 20 days after the date of this submittal. Protests must be submitted to:

CPUC Energy Division  
ED Tariff Unit  
505 Van Ness Avenue, 4th Floor  
San Francisco, California 94102  
Facsimile: (415) 703-2200  
E-mail: [EDTariffUnit@cpuc.ca.gov](mailto:EDTariffUnit@cpuc.ca.gov)

Copies of protests also should be mailed to the attention of the Director, Energy Division, Room 4004, at the address shown above. The protest shall also be sent to PG&E either via E-mail or U.S. mail (and by facsimile, if possible) at the address shown below on the same date it is mailed or delivered to the Commission:

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

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

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

### **Effective Date**

PG&E requests that this Tier 2 advice submittal become effective on regular notice, October 15, 2020, which is 30 calendar days after the date of submittal.

### **Notice**

In accordance with General Order 96-B, Section IV, a copy of this advice letter is being sent electronically and via U.S. mail to parties shown on the attached list and the parties on the service lists for R. 14-07-002 (NEM), R.17-07-007 (Rule 21) and R.19-09-009 (Microgrid/Resiliency). 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/

Erik Jacobson  
Director, Regulatory Relations

### **Attachments:**

Attachment 1: Tariffs  
Attachment 2: Redline Tariff Revisions



cc: Service List R.17-07-007  
Service List R.19-09-009  
Service List R. 14-07-002



# 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) #: 5938-E

Tier Designation: 2

Subject of AL: Modifications to Interconnection Agreements for PG&E's Tariffs NEM and NEM2 Paired Storage for NEM-Integrity Situations to support Resiliency, and Other Minor Form Modifications.

Keywords (choose from CPUC listing): Metering

AL Type: ☐ Monthly ☐ Quarterly ☐ Annual ☒ One-Time ☐ Other:

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

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

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

Confidential treatment requested? ☐ Yes ☒ No

If yes, specification of confidential information:

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

Resolution required? ☐ Yes ☒ No

Requested effective date: 10/15/20

No. of tariff sheets: 18

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

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

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

Tariff schedules affected: See Attachment 1

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

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

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

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

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

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

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

Clear Form

Cal P.U.C. Sheet No.	Title of Sheet	
47353-E	ELECTRIC SAMPLE FORM 79-1151A AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less Sheet 1	46783-E
47354-E	Electric Sample Form No. 79-1151A-02 Agreement And Customer Authorization Net Energy Metering (NEM2) Internconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less Sheet 1	47130-E
47355-E	Electric Sample Form No. 79-1193 Agreement and Customer Authorization Net Energy Metering Interconnection for Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less Paired with Energy Storage of 10 Kilowatts or Less or Energy Storage with Power Control System Certification Sheet 1	46785-E
47356-E	Electric Sample Form No. 79-1193-02 Agreement and Customer Authorization Net Energy Metering (NEM2) Interconnection for Solar and/or Wind Electric Generating Facilities of 30 kW or Less with Energy Storage of 10 kW or Less or Energy Storage with Power Control System Certification Sheet 1	46786-E
47357-E	Electric Sample Form No. 79-1202 Load Aggregation Appendix Sheet 1	46788-E
47358-E	ELECTRIC SCHEDULE NEM NET ENERGY METERING SERVICE Sheet 12	47171-E
47359-E	ELECTRIC SCHEDULE NEM NET ENERGY METERING SERVICE Sheet 13	46791-E
47360-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 14	46793-E
47361-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 30	45730-E
47362-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 258	42555-E

<b>Cal P.U.C. Sheet No.</b>	<b>Title of Sheet</b>	<b>Cancelling Cal P.U.C. Sheet No.</b>
47363-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 259	46741-E
47364-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 260	46796-E
47365-E	ELECTRIC RULE NO. 21 GENERATING FACILITY INTERCONNECTIONS Sheet 261	47191-E
47366-E	ELECTRIC TABLE OF CONTENTS Sheet 1	47348-E
47367-E	ELECTRIC TABLE OF CONTENTS Sheet 6	47198-E
47368-E	ELECTRIC TABLE OF CONTENTS Sheet 20	47206-E
47369-E	ELECTRIC TABLE OF CONTENTS Sheet 27	47210-E
47370-E	ELECTRIC TABLE OF CONTENTS Sheet 28	47211-E



**ELECTRIC SAMPLE FORM 79-1151A**

Sheet 1

**AGREEMENT AND CUSTOMER AUTHORIZATION**

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

**Please Refer to Attached  
Sample Form**



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

#### IMPORTANT NOTES:

- Customers may not operate their Generating Facility while interconnected to the PG&E system until they receive written permission from PG&E.
- City and County of San Francisco ("CCSF") owned generating facilities seeking Schedule NEMCCSF and participants in the Demand Response Programs below are not eligible to participate in NEM.
  - Peak Day Pricing (PDP)
  - Scheduled Load Reduction Program (SLRP)
  - SmartRate
- Customers who participate in Direct Access and Community Choice Aggregation must contact their Energy Service Provider directly regarding their NEM program.

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

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

Standard NEM Agreement Type: ☐ Single Account ☐ Multiple Aggregated Accounts

Note: Net Energy Metering Aggregation (NEMA) is a program that allows customers with multiple meters to use the renewable energy generated at one meter (up to 1MW) to be credited against other meters that are located on parcel(s) that is/are contiguous or adjacent to the parcel that has the renewable generator.

Customer Sector (check only one): ☐ Residential ☐ Educational  
☐ Commercial ☐ Military  
☐ Industrial ☐ Other Government  
☐ Non-Profit

Account Holder Name* (Individual or Company)	Electric Service Agreement ID *	Meter Number*
		CA
Service Address*	City*	State Zip*
Customer Phone Number	Email (if blank, Permission to Operate (PTO) letter will be mailed to mailing address on record)	

##### B. Meter Access Issues (if applicable, check all that apply and provide contact information to request access):

☐ Meter in building or behind locked gate ☐ Unrestrained animal at meter or AC Disconnect Switch ☐ Other: \_\_\_\_\_

Contact Name to Request Access (if access issues exist)	Contact Phone
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##### C. Authorized Contact Information (required if Customer is authorizing a third party to act on Customer's behalf):

Company Name	Contact Person
Contact Phone Number	Email

☐ By checking this box and signing this Agreement, I (Customer) authorize PG&E to release my PG&E Electric Account information to the Company above limited to kilowatt hour (kWh) usage, operational characteristics, and other information related to my Generating Facility application. Company is also authorized to submit Application Form 79-1151B and act on my behalf with regard to the interconnection and receive copies of this executed Interconnection Agreement and the Permission to Operate Letter when issued.



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

#### Part II – NEM Generator System Size

##### A. Interconnection Study and Requirements

This Agreement covers the installed Generating Facility nameplate listed in the accompanying Application Form 79-1151B.

The interconnection study will use the nameplate to determine if Interconnection Facilities or Distribution or Network Upgrades are required and the responsible party for the associated costs. If upgrades are required, this will increase the time it will take for PG&E to approve your interconnection.

In order for PG&E to approve your system, you will need to provide (1) this signed Agreement, (2) Application Form 79-1151B, and (3) a copy of the final signed jurisdiction approval (building permit) for your project.

NEM systems should be sized with an estimated annual production no larger than 100% of the Customer's total previous 12 months of usage (annual usage) and projected future increase. For customers on a Time-of-Use rate, sizing your system to offset 80%-85% of your average electricity usage could be an effective way to minimize your electricity bill. For customer who are not on a Time-of-Use rate, you might want to size your system larger (90-95% of your annual load), in order to minimize your electricity bill. Of course, individual circumstances may vary. Customers can obtain their usage data by following the instructions on [www.pge.com](http://www.pge.com) on the page titled "[Access, download, or share usage data](#)." System sizing eligibility will be reviewed using the criteria below.

##### B. Generator System Sizing

The individual Solar CEC-AC KW and/or the Wind Turbine and/or Storage rating(s) calculated on the application cannot exceed 5% of the listed value(s) on this Agreement and Authorization.

Generator System Type: ☐ Solar ☐ Wind ☐ Both

##### Estimated Annual Production:

(1) Solar CEC-AC rating <sup>A</sup>	_____ (kW) X 1,500 <sup>B</sup>	=	_____ (kWh)
AND/OR (2) Wind Nameplate rating	_____ (kW) X 2,190 <sup>C</sup>	=	_____ (kWh)
(3) Total Energy Production	_____ (1) + (2)	=	_____ (kWh)

##### Estimated Annual Energy Usage:

(Solar systems ≤ 5 kW (CEC-AC) do not need to complete this section)

(4) Recent annual usage	_____ (kWh) X 1.0	=	_____ (kWh)
OR (If 12 months usage not available) (5) Building size	_____ (sq ft) X 3.00 <sup>D</sup>	=	_____ (kWh)
AND (6) I plan to increase my annual usage (kWh) by	_____ (kWh)		
(7) Total Energy Usage	(2 or 3) + (4)	=	_____ (kWh)

##### Net Generation:

(8) Production - Usage	(3) - (7)	=	_____ (kWh)*
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\*Positive number indicates that the system is estimated to generate more than the estimated usage. Please refer to Part IV, Section J to read the provisions around Net Surplus Compensation (NSC).

<sup>A</sup> CEC-AC (kW) = California Energy Commission Alternating Current, refers to the inverter efficiency rating (Quantity of PV Modules x PTC Rating of PV Modules x CEC Inverter Efficiency Rating)/1000

<sup>B</sup> 8,760 hrs/yr x 0.17123 solar capacity factor = 1,500

<sup>C</sup> 8,760 hrs/yr x 0.25 wind capacity factor = 2,190

<sup>D</sup> 2 watts/ sq ft x 1/1,000 watts x 8,760 hrs/yr x 0.17123 solar capacity factor = 3.00





# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

#### Part III – Rate Selection

**A. Current Rate:** Please identify your existing rate by reviewing your PG&E energy statement or by calling the phone number listed below.

**Otherwise Applicable Rate Schedule (OAS) for NEM Account:** Select one rate from the category applicable to you. Visit [www.pge.com/rateoptions](http://www.pge.com/rateoptions) or call (800)-PGE-5000 for rate information.

- ☐ Stay on existing rate
- ☐ Requested new rate \_\_\_\_\_

If your current rate is a closed rate, as identified in Footnote F, and you are now opting to move to a non-closed rate per the Otherwise Applicable Rate Schedule (OAS) for NEM Account, please check the box below acknowledging that you are leaving the closed rate and will not be able to select the closed rate in the future.

- ☐ I acknowledge and consent to leaving my current rate that is a closed rate

#### Part IV – Interconnection Agreement Provisions

##### A. Purpose

The purpose of this Net Energy Metering (NEM) Application and Interconnection Agreement for Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less (Agreement) is to allow Customer to interconnect with Pacific Gas and Electric Company's (PG&E) Distribution System, subject to the provisions of this Agreement and PG&E's Electric Schedule Net Energy Metering (NEM). Customer has elected to interconnect and operate its solar and/or wind electric Generating Facility in parallel with PG&E's Distribution System to offset part or all of the Customer's own electrical requirements at this service point. Customer shall comply at all times with this Agreement as well as with all applicable laws, tariffs and requirements of the California Public Utilities Commission (CPUC).

##### B. Applicability

This Agreement applies to Electric Schedule NEM Customer-Generators (Customer) who interconnect a solar and/or wind turbine electrical Generating Facility, or a hybrid system of both, with an aggregate capacity of 30 kilowatts or less that is located on Customer's premises and that operates in parallel with PG&E's Distribution System.

##### C. NEM Transition

Customers receiving service on the current NEM tariff prior to the date that PG&E reaches its NEM Cap or July 1, 2017, whichever is earlier, are subject to the NEM Transition Provisions outlined in Rate Schedule NEM. Please see Rate Schedule NEM at [https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC\\_SCHEDS\\_NEM.pdf](https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_SCHEDS_NEM.pdf) for more details.

##### D. Permission to Operate

Customer may not operate their generator while interconnected to the PG&E system until receiving written permission from PG&E. Unauthorized Parallel Operation could result in injury to persons and/or damage to equipment and/or property for which the Customer may be liable.

##### E. Safety

Customer shall meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, accredited testing laboratories such as Underwriters Laboratories and, where applicable, PG&E's Electric Rule 21, and other rules approved by the CPUC regarding safety and reliability. A Customer with a solar or wind-turbine electrical generating system, or a hybrid system of both, that meets those standards and rules shall not be required to install additional controls, perform or pay for additional tests, or purchase additional liability insurance.



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

#### F. Safe Operation of your Generating Facility

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

#### G. AC Disconnect Switch

PG&E recommends that a customer installing an inverter-based generator consider also installing an AC Disconnect Switch to facilitate maintenance of the Customer's equipment (i.e. inverter, PV arrays, etc.). If an AC Disconnect Switch is not installed, the revenue meter may be temporarily removed by PG&E due to an emergency or maintenance on PG&E's system to isolate the Customer's generator from the electric distribution system. Removal of the revenue meter will result in loss of electrical service to the Customer's facility or residence. AC Disconnect Switch requirements are available in PG&E's Greenbook [www.pge.com/greenbook](http://www.pge.com/greenbook).

#### H. Rate

Customer has confirmed their otherwise applicable rate schedule (OAS), establishing how Customer's monthly usage or net generation will be charged/credited when submitting this Agreement. Further Customer-initiated rate changes are governed in accordance with PG&E's Electric Rule 12.

#### I. NEM Billing

PG&E installs a "net meter" on a customer's property that measures the net energy, defined as the difference between the amount of electricity supplied by the energy provider and the amount of electricity exported to the grid over the course of a month. The Customer's account is enrolled in the NEM program and put on an annual (12- billing months) true-up cycle.

The meter is read monthly and an amount is calculated based on the net energy recorded in kilowatt hours (kWh). If a customer exported more electricity than they drew from PG&E in a given billing cycle, the amount is deemed a surplus. If a customer received more electricity from PG&E than they exported, the amount is deemed a charge. The rate at which the charge or surplus is calculated is based on the customer's OAS which is requested by the Customer in this Agreement.

After 12 billing cycles, the corresponding charges and surpluses are reconciled in the annual true-up bill. Any remaining charges must be paid and any excess surpluses are typically zeroed out. More information about NEM billing is available at [www.pge.com/nembilling](http://www.pge.com/nembilling).

#### J. Net Surplus Compensation (NSC)

NSC payments are made to NEM customers who produce more electricity than they use during the Relevant Period. The payment rate is based on a rolling 12-month average of spot market prices and may fluctuate on a monthly basis. The historical range of the NSC rate at the time of this Advice Filing is approximately \$0.03 to \$0.04. A history of NSC rates is available at [www.pge.com/nembilling](http://www.pge.com/nembilling). If a customer would like to opt out from receiving this payment, please visit [https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC\\_FORMS\\_79-1130.pdf](https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_FORMS_79-1130.pdf). Participants in NEMA, please see provisions in Form 79-1153.

#### K. Limitation of Liability

PG&E's and Customer's (Individually Party or together Parties) liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages of any kind whatsoever.

#### L. Governing Law

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

#### M. Governing Authority

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



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

#### N. Term of Agreement

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

#### O. Meter Access

The electric meter must be installed in a safe location easily accessible upon PG&E request.

#### P. Stale Agreements

If this agreement is still pending one year from the date it is received by PG&E and Customer has not met all of the requirements, PG&E will close this application and Customer will be required to submit a new Agreement and Application should Customer wish to take service on Schedule NEM.

#### Q. Smart Inverters

For Customer applications received on or after September 9, 2017, the Customer certifies that their inverter-based Generating Facilities fully comply with Section Hh of Rule 21, including configuration of protective settings and default settings, in accordance with the specifications therein.

Distribution Provider may require a field verification of the Customer's inverter. Customer further agrees to cooperate fully with any such request and make their inverter available to the Distribution Provider for such verification. Customer understands that in the event the inverter is not set in accordance with Section Hh of Rule 21, Customer will need to cease operation of generating facility until verification is confirmed by Distribution Provider.

(Solar inverter models and firmware versions that comply with Rule 21 Section Hh can be found at <https://www.energy.ca.gov/programs-and-topics/topics/renewable-energy/solar-equipment-lists>.)

Verification of compliance with such requirements shall be provided by the Customer upon request by PG&E in accordance with PG&E's Electric Rule 21.

An "existing inverter" is defined as an inverter that is a component of an existing Generating Facility that meets one or more of the following conditions:

- (a) it is already approved by PG&E for interconnection prior to September 9, 2017
- (b) the Customer has submitted the interconnection application prior to September 9, 2017,
- (c) the Customer provides evidence of having applied for an electrical permit for the Generating Facility installation that is dated prior to September 9, 2017 and submitted a complete interconnection application<sup>E</sup> no later than March 31, 2018, or
- (d) the Customer provides evidence of a final inspection clearance from the governmental authority having jurisdiction over the Generating Facility prior to September 9, 2017.

All "existing inverters" are not required to be Smart Inverters and are only subject to Section H of Rule 21. Customer replacing an "existing inverter" certifies it is being replaced with either:

- (i) inverter equipment that complies with Section Hh of Rule 21, (encouraged); or
- (ii) a conventional inverter that is of the same size and equivalent ability to that of the inverter being replaced, as allowed in Rule 21 Section H.3.d.ii.

<sup>E</sup> A complete application consists all of the following without deficiencies:

1. A completed Interconnection Application including all supporting documents and required payments,
2. A completed signed Interconnection Agreement,
3. Evidence of the Customer final inspection clearance from the governmental authority having jurisdiction over the generating system.



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering Interconnection

### For Solar And/Or Wind Electric Generating

### Facilities Of 30 Kilowatts Or Less

#### Part V – Signature

**IMPORTANT INFORMATION FOR CUSTOMERS – BE SURE TO READ THIS ENTIRE DOCUMENT BEFORE SIGNING – THIS IS A LEGALLY BINDING CONTRACT – READ IT CAREFULLY.**

**THIS FORM MUST BE SIGNED BY AN EXISTING PG&E CUSTOMER.**

Under Pacific Gas and Electric Company's (PG&E's) privacy policies, which can be found at <http://www.pge.com/about/company/privacy/customer>, PG&E generally does not sell or disclose personal information about you, such as your name, address, phone number, or electric account and billing information, to third parties unless you expressly authorize us to do so. The purpose of this form is to allow you, the customer, to exercise your right to choose whether to disclose your personal electricity usage data and other personal information to a third party. Once you authorize a third party to access personal information about you, you are responsible for ensuring that the third party safeguards the personal information from further disclosure without your consent.

**By signing below, I declare under penalty of perjury under the laws of the State of California that:**

- 1) The information provided in this Agreement is true and correct.**
- 2) By completing the fields and checking the box in Part I Section C, I authorize the identified third party (Company) to receive my information and act on my behalf, which includes submitting or revising my Interconnection Application.**
- 3) I have completed and reviewed Part II to determine if my system is sized to meet no more than my projected energy usage.**
- 4) I have read in its entirety and agree to all the terms and conditions in this Interconnection Agreement and agree to comply with PG&E's Electric Rule 21.**

\_\_\_\_\_  
(Print Customer Name as it appears on the PG&E Bill)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print name and title of signee, applicable if customer is a Company)  
(e.g. John Doe, Manager)

\_\_\_\_\_  
(Date)

**Note:** PG&E will accept electronic signatures that are verified by qualified Third Parties such as, Adobe EchoSign, e-SignLive, and DocuSign for this Agreement if the Agreement is completed in its entirety before signing.

To confirm project approval, the Customer should retain a copy of this signed agreement and a copy of the Permission to Operate (PTO) letter from PG&E authorizing the Customer to operate the Generating Facility after PG&E deems satisfactory compliance with all NEM requirements.



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

Sheet 1

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

**Please Refer to Attached  
Sample Form**



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

## IMPORTANT NOTES:

- Customers may not operate their Generating Facility while interconnected to the PG&E system until they receive written permission from PG&E.
- City and County of San Francisco ("CCSF") owned generating facilities seeking Schedule NEMCCSF or participants in the Demand Response Programs below are not eligible to participate in NEM2.
  - Peak Day Pricing (PDP)
  - Scheduled Load Reduction Program (SLRP)
  - SmartRate
- Customers who participate in Direct Access and Community Choice Aggregation must contact their Energy Service Provider directly regarding their NEM2 program.

## Part I – Generating Facility Information and Responsible Parties

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

Standard NEM2 Agreement Type: ☐ Single Account ☐ Multiple Aggregated Accounts

Note: Net Energy Metering Aggregation 2 (NEM2A) is a program that allows customers with multiple meters to use the renewable energy generated at one meter to be credited against other meters that are located on parcel(s) that is/are contiguous or adjacent to the parcel that has the renewable generator.

Customer Sector (check only one): ☐ Residential ☐ Educational  
☐ Commercial ☐ Military  
☐ Industrial ☐ Other Government  
☐ Non-Profit

Account Holder Name\* (Individual or Company) Electric Service Agreement ID \* Meter Number\*

Service Address\* City\* State Zip\* CA

Customer Phone Number Email (if blank, Permission to Operate (PTO) letter will be mailed to mailing address on record)

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

### B. Meter Access Issues (if applicable, check all that apply and provide contact information to request access):

☐ Meter in building or behind locked gate ☐ Unrestrained animal at meter or AC Disconnect Switch ☐ Other: \_\_\_\_\_

Contact Name to Request Access (if access issues exist) Contact Phone

### C. Authorized Contact Information (required if Customer is authorizing a third party to act on Customer's behalf):

Company Name Contact Person

Contact Phone Number Email

☐ By checking this box and signing this Agreement, I (Customer) authorize PG&E to release my PG&E Electric Account information to the Company above limited to kilowatt hour (kWh) usage, operational characteristics, and other information related to my Generating Facility application. Company is also authorized to submit Application Form 79-1151B-02 and act on my behalf with regard to the interconnection and receive copies of this executed Interconnection Agreement and the Permission to Operate Letter when issued.





# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering (NEM2) Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

#### Part II – NEM2 Generator System Size

##### A. Interconnection Study and Requirements

This Agreement covers the installed Generating Facility nameplate listed in the accompanying Application Form 79-1151B-02.

The interconnection study will use the nameplate to determine if Interconnection Facilities or Distribution or Network Upgrades are required and the responsible party for the associated costs. If upgrades are required, this will increase the time it will take for PG&E to approve your interconnection.

In order for PG&E to approve your system, you will need to provide (1) this signed Agreement, (2) Application Form 79-1151B-02, and (3) a copy of the final signed jurisdiction approval (building permit) for your project.

NEM2 systems should be sized with an estimated annual production no larger than 100% of the Customer's total previous 12 months of usage (annual usage) and projected future increase. All NEM2 customers must take service on a Time-of-Use rate schedule and sizing your system to offset 80%-85% of your average electricity usage could be an effective way to minimize your electricity bill<sup>A</sup>. Of course, individual circumstances may vary. Customers can obtain their usage data by following the instructions on [www.pge.com](http://www.pge.com) on the page titled "[Access, download, or share usage data.](#)"

##### B. Generator System Sizing

The individual Solar CEC-AC KW and/or the Wind Turbine and/or Storage rating(s) calculated on the application cannot exceed 5% of the listed value(s) on this Agreement and Authorization.

Generator System Type: ☐ Solar ☐ Wind ☐ Both

##### Estimated Annual Production:

(1) Solar CEC-AC rating <sup>B</sup>	_____ (kW) X 1,500 <sup>C</sup>	=	_____ (kWh)
AND/OR (2) Wind Nameplate rating	_____ (kW) X 2,190 <sup>D</sup>	=	_____ (kWh)
(3) Total Energy Production	_____ (1) + (2)	=	_____ (kWh)

##### Estimated Annual Energy Usage:

(Solar systems ≤ 5 kW (CEC-AC) do not need to complete this section)

(4) Recent annual usage	_____ (kWh) X 1.0	=	_____ (kWh)
OR (If 12 months usage not available) (5) Building size	_____ (sq ft) X 3.00 <sup>E</sup>	=	_____ (kWh)
AND (6) I plan to increase my annual usage (kWh) by	_____ (kWh)		
(7) Total Energy Usage	(4 or 5) + (6)	=	_____ (kWh)

##### Net Generation:

(8) Production – Usage	(3) - (7)	=	_____ (kWh)*
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\*Positive number indicates that the system is estimated to generate more than the estimated usage. Please refer to Part IV, Section H to read the provisions around Net Surplus Compensation (NSC).

<sup>A</sup> Customers on rate schedules such as ET, ES, and ESR, which do not have a corresponding TOU Rate, are not required to switch to TOU rates, unless and until such a rate becomes available.

<sup>B</sup> CEC-AC (kW) = California Energy Commission Alternating Current, refers to the inverter efficiency rating (Quantity of PV Modules x PTC Rating of PV Modules x CEC Inverter Efficiency Rating)/1000

<sup>C</sup> 8,760 hrs/yr x 0.17123 solar capacity factor = 1,500

<sup>D</sup> 8,760 hrs/yr x 0.25 wind capacity factor = 2,190

<sup>E</sup> 2 watts/ sq ft x 1/1,000 watts x 8,760 hrs/yr x 0.17123 solar capacity factor = 3.00



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering (NEM2) Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

#### Part III – Rate Selection

**A. Current Rate:** Please identify your existing rate by reviewing your PG&E energy statement or by calling the phone number listed below.

**Otherwise Applicable Rate Schedule (OAS) for NEM2 Account:** Select one rate from the category applicable to you. NEM2 residential customers must be an applicable time-of-use rate<sup>F</sup> schedule. If you are currently on a rate that is no longer open to new customers and are opting to move to a different rate, by signing this Agreement and Customer Authorization you are acknowledging that you are leaving the current rate and will not be able to return to this rate in the future. Visit [www.pge.com/rateoptions](http://www.pge.com/rateoptions) or call (800)-PGE-5000 for rate information.

☐ Stay on existing rate

☐ Requested new rate \_\_\_\_\_

#### Part IV – Interconnection Agreement Provisions

##### A. Applicability

This Agreement applies to Electric Schedule NEM2 Customer-Generators (Customer) who interconnect a solar and/or wind turbine electric Generating Facility, or a hybrid system of both, with an aggregate capacity of 30 kilowatts or less that is located on Customer's premises and that operates in parallel with PG&E's Distribution System.

##### B. Permission to Operate

Customer may not operate their generator while interconnected to the PG&E system until receiving written permission from PG&E. Unauthorized Parallel Operation could result in injury to persons and/or damage to equipment and/or property for which the Customer may be liable.

##### C. Safety

Customer shall meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, accredited testing laboratories such as Underwriters Laboratories and, where applicable, PG&E's Electric Rule 21, and other rules approved by the CPUC regarding safety and reliability. A Customer with a solar or wind-turbine electric generating system, or a hybrid system of both, that meets those standards and rules shall not be required to install additional controls, perform or pay for additional tests, or purchase additional liability insurance.

##### D. Safe Operation of your Generating Facility

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

##### E. AC Disconnect Switch

PG&E recommends that a customer installing an inverter-based generator consider also installing an AC Disconnect Switch to facilitate maintenance of the Customer's equipment (i.e. inverter, PV arrays, etc.). If an AC Disconnect Switch is not installed, the revenue meter may be temporarily removed by PG&E due to an emergency or maintenance on PG&E's system to isolate the Customer's generator from the electric distribution system. Removal of the revenue meter will result in loss of electrical service to the Customer's facility or residence. AC Disconnect Switch requirements are available in PG&E's Greenbook [www.pge.com/greenbook](http://www.pge.com/greenbook).

<sup>F</sup> Schedules such as ES, ESR or ET, which have no available corresponding time-of-use rate, are not required to switch to time-of-use rates, unless and until such a rate becomes available.





# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering (NEM2) Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

#### F. Rate

Customer has confirmed their otherwise applicable rate schedule (OAS) to establish how the Customer's monthly usage or net generation will be charged/credited when submitting this Agreement. Further Customer-initiated rate changes are governed in accordance with PG&E's Electric Rule 12.

#### G. NEM2 Billing

The Customer's meter separately measures exports and imports.

The meter is read monthly and an amount is calculated based on the net energy (kWh) and total energy(kWh) exports recorded in kilowatt hours (kWh). If a customer exported more electricity than they drew from the energy provider in a given billing cycle, the amount is deemed a surplus. If a customer received more electricity from PG&E than they exported, the amount is deemed a charge. The rate at which the charge or surplus is calculated is based on the customer's OAS which is requested by the Customer in this Agreement.

Additionally, the Customer will be billed for non-bypassable charges on all imports from the grid, as describe in Schedule NEM2 Special Condition 2.

After 12 billing cycles, the corresponding charges and surpluses are reconciled in the annual true-up bill. Any remaining charges must be paid and any excess surpluses are typically zeroed out. More information about NEM2 billing is available at [www.pge.com/nembilling](http://www.pge.com/nembilling).

#### H. Net Surplus Compensation (NSC)

NSC payments are made to NEM2 customers who produce more electricity than they use during the Relevant Period. The payment rate is based on a rolling 12-month average of spot market prices and may fluctuate on a monthly basis. The historical range of the NSC rate at the time of this Advice Filing is approximately \$0.03 to \$0.04. A history of NSC rates is available at [www.pge.com/nembilling](http://www.pge.com/nembilling). If a customer would like to opt out from receiving this payment, please visit [https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC\\_FORMS\\_79-1130.pdf](https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_FORMS_79-1130.pdf). Participants in NEM2A, please see provisions in *NEM2 Load Aggregation Appendix (Form 79-1153)*.

#### I. Limitation of Liability

PG&E's and Customer's (Individually Party or together Parties) liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages of any kind whatsoever.

#### J. Governing Law

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

#### K. Governing Authority

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

#### L. Term of Agreement

This Agreement shall become effective as of the date of PG&E's issuance of the permission to operate letter after receipt of all applicable fees, required documents, and this completed Agreement. This Agreement shall continue in full force and effect until terminated by either Party providing 30-days prior written notice to the other Party, or when a new Customer takes service with PG&E operating this approved generating facility. This new Customer will be interconnected subject to the terms and conditions as set forth in Schedule NEM2.

#### M. Meter Access

The electric meter must be installed in a safe location easily accessible upon PG&E request.



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering (NEM2) Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

#### N. Stale Agreements

If this agreement is still pending one year from the date it is received by PG&E and Customer has not met all of the requirements, PG&E will close this application and Customer will be required to submit a new Agreement and Application should Customer wish to take service on Schedule NEM2.

#### O. 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.

#### P. Warranties or Service Agreements

Customer 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.

#### Q. Smart Inverters

For Customer applications received on or after September 9, 2017, the Customer certifies that their inverter-based Generating Facilities fully comply with Section Hh of Rule 21, including configuration of protective settings and default settings, in accordance with the specifications therein.

Distribution Provider may require a field verification of the Customer's inverter. Customer further agrees to cooperate fully with any such request and make their inverter available to the Distribution Provider for such verification. Customer understands that in the event the inverter is not set in accordance with Section Hh of Rule 21, Customer will need to cease operation of generating facility until verification is confirmed by Distribution Provider.

(Solar inverter models and firmware versions that comply with Rule 21 Section Hh can be found at <https://www.energy.ca.gov/programs-andtopics/topics/renewable-energy/solarequipment-lists>.)

Verification of compliance with such requirements shall be provided by the Customer upon request by PG&E in accordance with PG&E's Electric Rule 21.

An "existing inverter" is defined as an inverter that is a component of an existing Generating Facility that meets one or more of the following conditions:

- (a) it is already approved by PG&E for interconnection prior to September 9, 2017
- (b) the Customer has submitted the interconnection application prior to September 9, 2017,
- (c) the Customer provides evidence of having applied for an electrical permit for the Generating Facility installation that is dated prior to September 9, 2017 and submitted a complete interconnection application <sup>G</sup> no later than March 31, 2018, or
- (d) the Customer provides evidence of a final inspection clearance from the governmental authority having jurisdiction over the Generating Facility prior to September 9, 2017.

All "existing inverters" are not required to be Smart Inverters and are only subject to Section H of Rule 21. Customer replacing an "existing inverter" certifies it is being replaced with either:

- (i) inverter equipment that complies with Section Hh of Rule 21, (encouraged); or
- (ii) a conventional inverter that is of the same size and equivalent ability to that of the inverter being replaced, as allowed in Rule 21 Section H.3.d.ii.

<sup>G</sup> A complete application consists all of the following without deficiencies:

1. A completed Interconnection Application including all supporting documents and required payments,
2. A completed signed Interconnection Agreement, (continued on next page)
3. Evidence of the Customer final inspection clearance from the governmental authority having jurisdiction over the generating system.



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering (NEM2) Interconnection

### For Solar And/Or Wind Electric Generating

### Facilities Of 30 Kilowatts Or Less

#### Part V – Signature

**IMPORTANT INFORMATION FOR CUSTOMERS – BE SURE TO READ THE FULLY POPULATED DOCUMENT BEFORE SIGNING – THIS IS A LEGALLY BINDING CONTRACT – READ IT CAREFULLY.**

**THIS FORM MUST BE SIGNED BY THE EXISTING PG&E CUSTOMER LISTED IN PART I.**

Under Pacific Gas and Electric Company's (PG&E's) privacy policies, which can be found at [\[http://www.pge.com/about/company/privacy/customer\]](http://www.pge.com/about/company/privacy/customer), PG&E generally does not sell or disclose personal information about you, such as your name, address, phone number, or electric account and billing information, to third parties unless you expressly authorize us to do so. The purpose of this form is to allow you, the customer, to exercise your right to choose whether to disclose your personal electricity usage data and other personal information to a third party. Once you authorize a third party to access personal information about you, you are responsible for ensuring that the third party safeguards the personal information from further disclosure without your consent.

By signing below, I declare under penalty of perjury under the laws of the State of California that:

- 1) The information provided in this Agreement is true and correct.
- 2) By completing the fields and checking the box in Part I Section C, I authorize the identified third party (Company) to receive my information and act on my behalf, which includes submitting or revising my Interconnection Application.
- 3) I have completed and reviewed Part II to determine if my system is sized to meet no more than my projected energy usage.
- 4) I have read in its entirety and agree to all the terms and conditions in this Interconnection Agreement and agree to comply with PG&E's Electric Rule 21.

---

(Print Customer Name as it appears on the PG&E Bill)

---

(Signature)

---

(Print name and title of signee, applicable if customer is a Company)  
(e.g. John Doe, Manager)

---

(Date)

Note: PG&E can request additional documentation to verify the authenticity of the externally signed Agreement and Customer Authorization.

To confirm project approval, the Customer should retain a copy of this signed agreement and a copy of the Permission to Operate (PTO) letter from PG&E authorizing the Customer to operate the Generating Facility after PG&E deems satisfactory compliance with all NEM2 requirements.



**Electric Sample Form No. 79-1193**

Sheet 1

Agreement and Customer Authorization Net Energy Metering Interconnection for Solar and/or  
Wind Electric Generating Facilities of 30 Kilowatts or Less Paired with Energy Storage of 10 Kilowatts or (T)  
Less or Energy Storage with Power Control System Certification

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 5938-E  
*Decision*

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

*Submitted* September 15, 2020  
*Effective* \_\_\_\_\_  
*Resolution* \_\_\_\_\_



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering (NEM) Interconnection

### For Solar And/Or Wind Electric Generating

### Facilities Of 30 Kilowatts Or Less Paired with

### Energy Storage of 10 Kilowatts Or Less or Energy

### Storage with Power Control System Certification

#### IMPORTANT NOTES:

- Customers may not operate their Generating Facility while interconnected to the PG&E system until they receive written permission from PG&E.
- City and County of San Francisco ("CCSF") owned generating facilities seeking Schedule NEMCCSF and participants in the Demand Response Programs below are not eligible to participate in NEM.
  - Scheduled Load Reduction Program (SLRP)
  - SmartRate
- Customers who participate in Direct Access and Community Choice Aggregation must contact their Energy Service Provider directly regarding their NEM program.

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

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

NEM 30 kilowatts or Less Paired with Energy Storage: ☐ Single Account ☐ Multiple Aggregated Accounts

Note: Net Energy Metering Aggregation (NEMA) is a program that allows customers with multiple meters to use the renewable energy generated at one meter (up to 1MW) to be credited against other meters that are located on parcel(s) that is/are contiguous or adjacent to the parcel that has the renewable generator. Energy Storage system must be 10 kilowatts or less.

Customer Sector (check only one):

- ☐ Residential
- ☐ Commercial
- ☐ Industrial
- ☐ Non-Profit

- ☐ Educational
- ☐ Military
- ☐ Other Government

Account Holder Name\* (Individual or Company)

Electric Service Agreement ID \*

Meter Number\*

CA

Service Address\*

City\*

State

Zip\*

Customer Phone Number

Email (if blank, Permission to Operate (PTO) letter will be mailed to mailing address on record)

##### B. Meter Access Issues (if applicable, check all that apply and provide contact information to request access):

- ☐ Meter in building or behind locked gate
- ☐ Unrestrained animal at meter or AC Disconnect Switch
- ☐ Other: \_\_\_\_\_

Contact Name to Request Access (if access issues exist)

Contact Phone



# AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification

**C. Authorized Contact Information** (required if Customer is authorizing a third party to act on Customer's behalf):

Company Name

Contact Person

Contact Phone Number

Email

- ☐ By checking this box and signing this Agreement, I (Customer) authorize PG&E to release my PG&E Electric Account information to the Company above limited to kilowatt hour (kWh) usage, operational characteristics, and other information related to my Generating Facility application. Company is also authorized to submit an Interconnection Request and act on my behalf with regard to the interconnection and receive copies of this executed Interconnection Agreement and the Permission to Operate Letter when issued.

## Part II – NEM Generator System Size

### A. Interconnection Study and Requirements

This Agreement covers the installed Generating Facility nameplate listed in the associated Interconnection Request.

The interconnection study will use the nameplate to determine if Interconnection Facilities or Distribution or Network Upgrades are required and the responsible party for the associated costs. If upgrades are required, this will increase the time it will take for PG&E to approve your interconnection.

In order for PG&E to approve your system, you will need to provide (1) this signed Agreement, (2) a valid Interconnection Request, and (3) a copy of the final signed jurisdiction approval (building permit) for your project.

NEM systems should be sized with an estimated annual production no larger than 100% of the Customer's total previous 12 months of usage (annual usage) and projected future increase. For customers on a Time-of-Use rate, sizing your system to offset 80%-85% of your average electricity usage could be an effective way to minimize your electricity bill. For customer who are not on a Time-of-Use rate, you might want to size your system larger (90-95% of your annual load), in order to minimize your electricity bill. Of course, individual circumstances may vary. Customers can obtain their usage data by following the instructions on [www.pge.com](http://www.pge.com) on the page titled "[Access, download, or share usage data](#)." System sizing eligibility will be reviewed using the criteria below.



# AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification

## B. Generator System Sizing

Please complete this section only if installing a new Solar or Wind system or modifying an existing Solar or Wind system. This section is not applicable if only adding energy storage to an existing previously interconnected Solar or Wind system.

The individual Solar CEC-AC KW and/or the Wind Turbine and/or Storage rating(s) calculated on the application cannot exceed 5% of the listed value(s) on this Agreement and Authorization.

Generator System Type: ☐ Solar ☐ Wind ☐ Both

### Estimated Annual Production:

(1) Solar CEC-AC rating<sup>A</sup> \_\_\_\_\_ (kW) X 1,500<sup>B</sup> = \_\_\_\_\_ (kWh)  
AND/OR (2) Wind Nameplate rating \_\_\_\_\_ (kW) X 2,190<sup>C</sup> = \_\_\_\_\_ (kWh)  
(3) Total Energy Production \_\_\_\_\_ (1) + (2) = \_\_\_\_\_ (kWh)

### Estimated Annual Energy Usage:

(4) Recent annual usage \_\_\_\_\_ (kWh) X 1.0 = \_\_\_\_\_ (kWh)  
OR (If 12 months usage not available) (5) Building size \_\_\_\_\_ (sq ft) X 3.00<sup>D</sup> = \_\_\_\_\_ (kWh)  
AND (6) I plan to increase my annual usage (kWh) by \_\_\_\_\_ (kWh)  
(7) Total Energy Usage (2 or 3) + (4) = \_\_\_\_\_ (kWh)

### Net Generation:

(8) Production - Usage (3) - (7) = \_\_\_\_\_ (kWh)\*

\*Positive number indicates that the system is estimated to generate more than the estimated usage. Please refer to Part IV, Section J to read the provisions around Net Surplus Compensation (NSC).

## A Non-NEM Eligible Energy Storage System or an Energy Storage System with a Certified Power Control System (see Section R):

Energy Storage System Rating \_\_\_\_\_ kW

Does the energy storage system share an inverter with the NEM system? ☐ Yes ☐ No

If not, please provide:

Energy Storage Inverter Rating \_\_\_\_\_ kW

<sup>A</sup> CEC-AC (kW) = California Energy Commission Alternating Current, refers to the inverter efficiency rating (Quantity of PV Modules x PTC Rating of PV Modules x CEC Inverter Efficiency Rating)/1000

<sup>B</sup> 8,760 hrs/yr x 0.17123 solar capacity factor = 1,500

<sup>C</sup> 8,760 hrs/yr x 0.25 wind capacity factor = 2,190

<sup>D</sup> 2 watts/ sq ft x 1/1,000 watts x 8,760 hrs/yr x 0.17123 solar capacity factor = 3.00





# AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification

## Part III – Rate Selection

**A. Current Rate:** Please identify your existing rate by reviewing your PG&E energy statement or by calling the phone number listed below.

**Otherwise Applicable Rate Schedule (OAS) for NEM Account:** Select one rate from the category applicable to you. Visit [www.pge.com/rateoptions](http://www.pge.com/rateoptions) or call (800)-PGE-5000 for rate information.

- ☐ Stay on existing rate
- ☐ Requested new rate \_\_\_\_\_

If your current rate is a closed rate, as identified in Footnote F, and you are now opting to move to a non-closed rate per the Otherwise Applicable Rate Schedule (OAS) for NEM Account, please check the box below acknowledging that you are leaving the closed rate and will not be able to select the closed rate in the future.

- ☐ I acknowledge and consent to leaving my current rate that is a closed rate.

## Part IV – Interconnection Agreement Provisions

### A. Purpose

The purpose of this Net Energy Metering (NEM) Application and Interconnection Agreement for Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less (Agreement) is to allow Customer to interconnect with Pacific Gas and Electric Company's (PG&E) Distribution System, subject to the provisions of this Agreement and PG&E's Electric Schedule Net Energy Metering (NEM). Customer has elected to interconnect and operate its solar and/or wind electric Generating Facility in parallel with PG&E's Distribution System to offset part or all of the Customer's own electrical requirements at this service point. Customer shall comply at all times with this Agreement as well as with all applicable laws, tariffs and requirements of the California Public Utilities Commission (CPUC).

### B. Applicability

This Agreement applies to Electric Schedule NEM Customer-Generators (Customer) who interconnect a solar and/or wind turbine electrical Generating Facility, or a hybrid system of both, with an aggregate capacity of 30 kilowatts or less that is located on Customer's premises and that operates in parallel with PG&E's Distribution System.

### C. NEM Transition

Customers receiving service on the current NEM tariff prior to the date that PG&E reaches its NEM Cap or July 1, 2017, whichever is earlier, are subject to the NEM Transition Provisions outlined in Rate Schedule NEM. Please see Rate Schedule NEM at [http://www.pge.com/tariffs/tm2/pdf/ELEC\\_SCHEDS\\_NEM.pdf](http://www.pge.com/tariffs/tm2/pdf/ELEC_SCHEDS_NEM.pdf) for more details.

### D. Permission to Operate

Customer may not operate their generator while interconnected to the PG&E system until receiving written permission from PG&E. Unauthorized Parallel Operation could result in injury to persons and/or damage to equipment and/or property for which the Customer may be liable.





# **AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification**

## **E. Safety**

Customer shall meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, accredited testing laboratories such as Underwriters Laboratories and, where applicable, PG&E's Electric Rule 21, and other rules approved by the CPUC regarding safety and reliability. A Customer with a solar or wind-turbine electrical generating system, or a hybrid system of both, that meets those standards and rules shall not be required to install additional controls, perform or pay for additional tests, or purchase additional liability insurance.

## **F. Safe Operation of your Generating Facility**

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

## **G. AC Disconnect Switch**

PG&E recommends that a customer installing an inverter-based generator consider also installing an AC Disconnect Switch to facilitate maintenance of the Customer's equipment (i.e. inverter, PV arrays, etc.). If an AC Disconnect Switch is not installed, the revenue meter may be temporarily removed by PG&E due to an emergency or maintenance on PG&E's system to isolate the Customer's generator from the electric distribution system. Removal of the revenue meter will result in loss of electrical service to the Customer's facility or residence. AC Disconnect Switch requirements are available in PG&E's Greenbook [www.pge.com/greenbook](http://www.pge.com/greenbook).

## **H. Rate**

Customer has confirmed their otherwise applicable rate schedule (OAS), establishing how Customer's monthly usage or net generation will be charged/credited when submitting this Agreement. Further Customer-initiated rate changes are governed in accordance with PG&E's Electric Rule 12.

## **I. NEM Billing**

PG&E installs a "net meter" on a customer's property that measures the net energy, defined as the difference between the amount of electricity supplied by the energy service provider and the amount of electricity exported to the grid over the course of a month. The Customer's account is enrolled in the NEM program and put on an annual (12- billing months) true-up cycle.

The meter is read monthly and an amount is calculated based on the net energy recorded in kilowatt hours (kWh). If a customer exported more electricity than they drew from PG&E in a given billing cycle, the amount is deemed a surplus. If a customer received more electricity from PG&E than they exported, the amount is deemed a charge. The rate at which the charge or surplus is calculated is based on the customer's OAS which is requested by the Customer in this Agreement.

After 12 billing cycles, the corresponding charges and surpluses are reconciled in the annual true-up bill. Any remaining charges must be paid and any excess surpluses are typically zeroed out. More information about NEM billing is available at [www.pge.com/nembilling](http://www.pge.com/nembilling).



# **AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification**

## **J. Net Surplus Compensation (NSC)**

NSC payments are made to NEM customers who produce more electricity than they use during the Relevant Period. The payment rate is based on a rolling 12-month average of spot market prices and may fluctuate on a monthly basis. The historical range of the NSC rate at the time of this Advice Filing is approximately \$0.03 to \$0.04. A history of NSC rates is available at [www.pge.com/nembilling](http://www.pge.com/nembilling). If a customer would like to opt out from receiving this payment, please visit [www.pge.com/nscoptout](http://www.pge.com/nscoptout) to complete Form 79-1130. Participants in NEMA, please see provisions in Form 79-1153.

## **K. Limitation of Liability**

PG&E's and Customer's (Individually Party or together Parties) liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages of any kind whatsoever.

## **L. Governing Law**

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

## **M. Governing Authority**

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

## **N. Term of Agreement**

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

## **O. Meter Access**

The electric meter must be installed in a safe location easily accessible upon PG&E request.

## **P. Stale Agreements**

If this agreement is still pending one year from the date it is received by PG&E and Customer has not met all of the requirements, PG&E will close this application and Customer will be required to submit a new Agreement and Application should Customer wish to take service on Schedule NEM.



# AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification

## Q. Smart Inverters

For Customer applications received on or after September 9, 2017, the Customer certifies that their inverter-based Generating Facilities fully comply with Section Hh of Rule 21, including configuration of protective settings and default settings, in accordance with the specifications therein.

Distribution Provider may require a field verification of the Customer's inverter. Customer further agrees to cooperate fully with any such request and make their inverter available to the Distribution Provider for such verification. Customer understands that in the event the inverter is not set in accordance with Section Hh of Rule 21, Customer will need to cease operation of generating facility until verification is confirmed by Distribution Provider.

Solar inverter models and firmware versions that comply with Rule 21 Section Hh can be found at <https://www.energy.ca.gov/programs-and-topics/topics/renewable-energy/solar-equipment-lists>.

Verification of compliance with such requirements shall be provided by the Customer upon request by PG&E in accordance with PG&E's Electric Rule 21.

An "existing inverter" is defined as an inverter that is a component of an existing Generating Facility that meets one or more of the following conditions:

- (a) it is already approved by PG&E for interconnection prior to September 9, 2017
- (b) the Customer has submitted the interconnection application prior to September 9, 2017,
- (c) the Customer provides evidence of having applied for an electrical permit for the Generating Facility installation that is dated prior to September 9, 2017 and submitted a complete interconnection application<sup>E</sup> no later than March 31, 2018, or
- (d) the Customer provides evidence of a final inspection clearance from the governmental authority having jurisdiction over the Generating Facility prior to September 9, 2017.

All "existing inverters" are not required to be Smart Inverters and are only subject to Section H of Rule 21. Customer replacing an "existing inverter" certifies it is being replaced with either:

- (i) inverter equipment that complies with Section Hh of Rule 21, (encouraged); or
- (ii) a conventional inverter that is of the same size and equivalent ability to that of the inverter being replaced, as allowed in Rule 21 Section H.3.d.ii.

## R. Power Control System Certification

By signing below, customer confirms that Energy Storage over 10 kW has received UL 1741 CRD **for** Power Control Systems (PCS) certification that will comply with either No Grid Charge or No Storage Export as defined in Schedule NEM2.

<sup>E</sup> A complete application consists all of the following without deficiencies:

1. A completed Interconnection Application including all supporting documents and required payments
2. A completed signed Interconnection Agreement
3. Evidence of the Customer final inspection clearance from the governmental authority having jurisdiction over the generating system.



# AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification

## Part V – Signature

**IMPORTANT INFORMATION FOR CUSTOMERS – BE SURE TO READ THIS ENTIRE DOCUMENT BEFORE SIGNING – THIS IS A LEGALLY BINDING CONTRACT – READ IT CAREFULLY.**

**THIS FORM MUST BE SIGNED BY AN EXISTING PG&E CUSTOMER.**

Under Pacific Gas and Electric Company's (PG&E's) privacy policies, which can be found at [www.pge.com/about/company/privacy/customer], PG&E generally does not sell or disclose personal information about you, such as your name, address, phone number, or electric account and billing information, to third parties unless you expressly authorize us to do so. The purpose of this form is to allow you, the customer, to exercise your right to choose whether to disclose your personal electricity usage data and other personal information to a third party. Once you authorize a third party to access personal information about you, you are responsible for ensuring that the third party safeguards the personal information from further disclosure without your consent.

By signing below, I declare under penalty of perjury under the laws of the State of California that:

- 1) The information provided in this Agreement is true and correct.
- 2) By completing the fields and checking the box in Part I Section C, I authorize the identified third party (Company) to receive my information and act on my behalf, which includes submitting or revising my Interconnection Application.
- 3) I have completed and reviewed Part II to determine if my system is sized to meet no more than my projected energy usage.
- 4) I have read in its entirety and agree to all the terms and conditions in this Interconnection Agreement and agree to comply with PG&E's Electric Rule 21.

\_\_\_\_\_  
(Print Customer Name as it appears on the PG&E Bill)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print name and title of signee, applicable if customer is a Company)  
(e.g. John Doe, Manager)

\_\_\_\_\_  
(Date)

Note: PG&E will accept electronic signatures that are verified by qualified Third Parties such as, Adobe EchoSign, e-SignLive, and DocuSign for this Agreement if the Agreement is completed in its entirety before signing.

To confirm project approval, the Customer should retain a copy of this signed agreement and a copy of the Permission to Operate (PTO) letter from PG&E authorizing the Customer to operate the Generating Facility after PG&E deems satisfactory compliance with all NEM requirements.



**Electric Sample Form No. 79-1193-02**

Sheet 1

Agreement and Customer Authorization Net Energy Metering (NEM2) Interconnection for Solar and/or  
Wind Electric Generating Facilities of 30 kW or Less with Energy Storage of 10 kW or Less or Energy  
Storage with Power Control System Certification (T)

**Please Refer to Attached  
Sample Form**

(Continued)

Advice 5938-E  
Decision

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

Submitted September 15, 2020  
Effective  
Resolution



# AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification

## IMPORTANT NOTES:

- Customers may not operate their Generating Facility while interconnected to the PG&E system until they receive written permission from PG&E.
- City and County of San Francisco ("CCSF") owned generating facilities seeking Schedule NEMCCSF or participants in the Demand Response Programs below are not eligible to participate in NEM2.
  - Scheduled Load Reduction Program (SLRP)
  - SmartRate
- Customers who participate in Direct Access and Community Choice Aggregation must contact their Energy Service Provider directly regarding their NEM2 program.

## Part I – Generating Facility Information and Responsible Parties

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

Standard NEM2 Agreement Type: ☐ Single Account ☐ Multiple Aggregated Accounts

Note: Net Energy Metering Aggregation 2 (NEM2A) is a program that allows customers with multiple meters to use the renewable energy generated at one meter to be credited against other meters that are located on parcel(s) that is/are contiguous or adjacent to the parcel that has the renewable generator.

Customer Sector (check only one): ☐ Residential ☐ Educational  
☐ Commercial ☐ Military  
☐ Industrial ☐ Other Government  
☐ Non-Profit

Account Holder Name* (Individual or Company)	Electric Service Agreement ID *	Meter Number*
		CA
Service Address*	City*	State Zip*
Customer Phone Number	Email (if blank, Permission to Operate (PTO) letter will be mailed to mailing address on record)	

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

### B. Meter Access Issues (if applicable, check all that apply and provide contact information to request access):

☐ Meter in building or behind locked gate ☐ Unrestrained animal at meter or AC Disconnect Switch ☐ Other: \_\_\_\_\_

Contact Name to Request Access (if access issues exist)	Contact Phone
---	---------------



# AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification

## C. Authorized Contact Information (required if Customer is authorizing a third party to act on Customer's behalf):

Company Name

Contact Person

Contact Phone Number

Email

- ☐ By checking this box and signing this Agreement, I (Customer) authorize PG&E to release my PG&E Electric Account information to the Company above limited to kilowatt hour (kWh) usage, operational characteristics, and other information related to my Generating Facility application. Company is also authorized to submit an Interconnection Request and act on my behalf with regard to the interconnection and receive copies of this executed Interconnection Agreement and the Permission to Operate Letter when issued.

## Part II – NEM2 Generator System Size

### A. Interconnection Study and Requirements

This Agreement covers the installed Generating Facility nameplate listed in the associated Interconnection Request.

The interconnection study will use the nameplate to determine if Interconnection Facilities or Distribution or Network Upgrades are required and the responsible party for the associated costs. If upgrades are required, this will increase the time it will take for PG&E to approve your interconnection.

In order for PG&E to approve your system, you will need to provide (1) this signed Agreement, (2) **a valid Interconnection Request**, and (3) a copy of the final signed jurisdiction approval (building permit) for your project.

NEM2 systems should be sized with an estimated annual production no larger than 100% of the Customer's total previous 12 months of usage (annual usage) and projected future increase. All NEM2 customers must take service on a Time-of-Use rate schedule and sizing your system to offset 80%-85% of your average electricity usage could be an effective way to minimize your electricity bill<sup>A</sup>. Of course, individual circumstances may vary. Customers can obtain their usage data by following the instructions on [www.pge.com](http://www.pge.com) on the page titled "[Access, download, or share usage data.](#)"

<sup>A</sup> Customers on rate schedules such as ET, ES, and ESR, which do not have a corresponding TOU Rate, are not required to switch to TOU rates, unless and until such a rate becomes available.





# AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification

## B. Generator System Sizing

Please complete this section only if installing a new Solar or Wind system or modifying an existing Solar or Wind system. This section is not applicable if only adding energy storage to an existing previously interconnected Solar or Wind system.

The individual Solar CEC-AC KW and/or the Wind Turbine and/or Storage rating(s) calculated on the application cannot exceed 5% of the listed value(s) on this Agreement and Authorization.

Generator System Type: ☐ Solar ☐ Wind ☐ Both

### Estimated Annual Production:

(1) Solar CEC-AC rating<sup>B</sup> \_\_\_\_\_ (kW) X 1,500<sup>C</sup> = \_\_\_\_\_ (kWh)  
AND/OR (2) Wind Nameplate rating \_\_\_\_\_ (kW) X 2,190<sup>D</sup> = \_\_\_\_\_ (kWh)  
(3) Total Energy Production \_\_\_\_\_ (1) + (2) = \_\_\_\_\_ (kWh)

### Estimated Annual Energy Usage:

(Solar systems ≤ 5 kW (CEC-AC) do not need to complete this section)

(4) Recent annual usage \_\_\_\_\_ (kWh) X 1.0 = \_\_\_\_\_ (kWh)  
OR (If 12 months usage not available) (5) Building size \_\_\_\_\_ (sq ft) X 3.00<sup>E</sup> = \_\_\_\_\_ (kWh)  
AND (6) I plan to increase my annual usage (kWh) by \_\_\_\_\_ (kWh)  
(7) Total Energy Usage (4 or 5) + (6) = \_\_\_\_\_ (kWh)

### Net Generation:

(8) Production – Usage (3) – (7) = \_\_\_\_\_ (kWh)\*

\*Positive number indicates that the system is estimated to generate more than the estimated usage. Please refer to Part IV, Section H to read the provisions around Net Surplus Compensation (NSC).

## A Non-NEM Eligible Energy Storage System or an Energy Storage System with a Certified Power Control System (see Section R):

Energy Storage Rating \_\_\_\_\_ kW

Does the energy storage system share an inverter with the NEM system? ☐ Yes ☐ No

If not, please provide:

Energy Storage Inverter Rating \_\_\_\_\_ kW

<sup>B</sup> CEC-AC (kW) = California Energy Commission Alternating Current, refers to the inverter efficiency rating (Quantity of PV Modules x PTC Rating of PV Modules x CEC Inverter Efficiency Rating)/1000

<sup>C</sup> 8,760 hrs/yr x 0.17123 solar capacity factor = 1,500

<sup>D</sup> 8,760 hrs/yr x 0.25 wind capacity factor = 2,190

<sup>E</sup> 2 watts/ sq ft x 1/1,000 watts x 8,760 hrs/yr x 0.17123 solar capacity factor = 3.00





# AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification

## Part III – Rate Selection

**A. Current Rate:** Please identify your existing rate by reviewing your PG&E energy statement or by calling the phone number listed below.

**Otherwise Applicable Rate Schedule (OAS) for NEM2 Account:** Select one rate from the category applicable to you. NEM2 residential customers must be an applicable time-of-use rate<sup>F</sup> schedule. If you are currently on a rate that is no longer open to new customers and are opting to move to a different rate, by signing this Agreement and Customer Authorization you are acknowledging that you are leaving the current rate and will not be able to return to this rate in the future. Visit [www.pge.com/rateoptions](http://www.pge.com/rateoptions) or call (800)-PGE-5000 for rate information.

☐ Stay on existing rate

☐ Requested new rate \_\_\_\_\_

## Part IV – Interconnection Agreement Provisions

### A. Applicability

This Agreement applies to Electric Schedule NEM2 Customer-Generators (Customer) who interconnect a solar and/or wind turbine electric Generating Facility, or a hybrid system of both, with an aggregate capacity of 30 kilowatts or less that is located on Customer's premises and that operates in parallel with PG&E's Distribution System.

### B. Permission to Operate

Customer may not operate their generator while interconnected to the PG&E system until receiving written permission from PG&E. Unauthorized Parallel Operation could result in injury to persons and/or damage to equipment and/or property for which the Customer may be liable.

### C. Safety

Customer shall meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, accredited testing laboratories such as Underwriters Laboratories and, where applicable, PG&E's Electric Rule 21, and other rules approved by the CPUC regarding safety and reliability. A Customer with a solar or wind-turbine electric generating system, or a hybrid system of both, that meets

those standards and rules shall not be required to install additional controls, perform or pay for additional tests, or purchase additional liability insurance.

### D. Safe Operation of your Generating Facility

Notwithstanding any other provision of this Agreement, if at any time PG&E determines that the Customer's Facility, or its operation, may endanger (a) the public, (b) PG&E personnel, or (c) the safe and reliable operation of PG&E's electric

<sup>F</sup> Schedules such as ES, ESR or ET, which have no available corresponding time-of-use rate, are not required to switch to time-of-use rates, unless and until such a rate becomes available.



# AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification

system, PG&E shall have the right to disconnect the Facility from PG&E's system. Customer's Facility shall remain disconnected until such time as PG&E is satisfied that the unsafe condition(s) have been corrected.

## E. AC Disconnect Switch

PG&E recommends that a customer installing an inverter-based generator consider also installing an AC Disconnect Switch to facilitate maintenance of the Customer's equipment (i.e. inverter, PV arrays, etc.). If an AC Disconnect Switch is not installed, the revenue meter may be temporarily removed by PG&E due to an emergency or maintenance on PG&E's system to isolate the Customer's generator from the electric distribution system. Removal of the revenue meter will result in loss of electrical service to the Customer's facility or residence. AC Disconnect Switch requirements are available in PG&E's Greenbook [www.pge.com/greenbook](http://www.pge.com/greenbook).

## F. Rate

Customer has confirmed their otherwise applicable rate schedule (OAS) to establish how the Customer's monthly usage or net generation will be charged/credited when submitting this Agreement. Further Customer-initiated rate changes are governed in accordance with PG&E's Electric Rule 12.

## G. NEM2 Billing

The Customer's meter separately measures exports and imports.

The meter is read monthly and an amount is calculated based on the net energy (kWh) and total energy(kWh) exports recorded in kilowatt hours (kWh). If a customer exported more electricity than they drew from the energy supplier in a given billing cycle, the amount is deemed a surplus. If a customer received more electricity from the energy supplier than they exported, the amount is deemed a charge. The rate at which the charge or surplus is calculated is based on the customer's OAS which is requested by the Customer in this Agreement.

Additionally, the Customer will be billed for non-bypassable charges on all imports from the grid, as describe in Schedule NEM2 Special Condition 2.

After 12 billing cycles, the corresponding charges and surpluses are reconciled in the annual true-up bill. Any remaining charges must be paid and any excess surpluses are typically zeroed out. More information about NEM2 billing is available at [www.pge.com/nembilling](http://www.pge.com/nembilling).

## H. Net Surplus Compensation (NSC)

NSC payments are made to NEM2 customers who produce more electricity than they use during the Relevant Period. The payment rate is based on a rolling 12-month average of spot market prices and may fluctuate on a monthly basis. The historical range of the NSC rate at the time of this Advice Filing is approximately \$0.03 to \$0.04. A history of NSC rates is available at [www.pge.com/nembilling](http://www.pge.com/nembilling). If a customer would like to opt out from receiving this payment, please visit [www.pge.com/nscoptout](http://www.pge.com/nscoptout) to complete Form 79-1130. Participants in NEM2A, please see provisions in *NEM2 Load Aggregation Appendix (Form 79-1153)*.

## I. Limitation of Liability

PG&E's and Customer's (Individually Party or together Parties) liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages of any kind whatsoever.

## J. Governing Law

**Please complete this agreement in its entirety**



# **AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification**

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

## **K. Governing Authority**

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

## **L. Term of Agreement**

This Agreement shall become effective as of the date of PG&E's issuance of the permission to operate letter after receipt of all applicable fees, required documents, and this completed Agreement. This Agreement shall continue in full force and effect until terminated by either Party providing 30-days prior written notice to the other Party, or when a new Customer takes service with PG&E operating this approved generating facility. This new Customer will be interconnected subject to the terms and conditions as set forth in Schedule NEM2.

## **M. Meter Access**

The electric meter must be installed in a safe location easily accessible upon PG&E request.

## **N. Stale Agreements**

If this agreement is still pending one year from the date it is received by PG&E and Customer has not met all of the requirements, PG&E will close this application and Customer will be required to submit a new Agreement and Application should Customer wish to take service on Schedule NEM2.

## **O. 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.

## **P. 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.



# AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification

## Q. Smart Inverters

For Customer applications received on or after September 9, 2017, the Customer certifies that their inverter-based Generating Facilities fully comply with Section Hh of Rule 21, including configuration of protective settings and default settings, in accordance with the specifications therein.

Distribution Provider may require a field verification of the Customer's inverter. Customer further agrees to cooperate fully with any such request and make their inverter available to the Distribution Provider for such verification. Customer understands that in the event the inverter is not set in accordance with Section Hh of Rule 21, Customer will need to cease operation of generating facility until verification is confirmed by Distribution Provider.

Solar inverter models and firmware versions that comply with Rule 21 Section Hh can be found at <https://www.energy.ca.gov/programs-and-topics/topics/renewable-energy/solar-equipment-lists>.

Verification of compliance with such requirements shall be provided by the Customer upon request by PG&E in accordance with PG&E's Electric Rule 21.

An "existing inverter" is defined as an inverter that is a component of an existing Generating Facility that meets one or more of the following conditions:

- (a) it is already approved by PG&E for interconnection prior to September 9, 2017
- (b) the Customer has submitted the interconnection application prior to September 9, 2017,
- (c) the Customer provides evidence of having applied for an electrical permit for the Generating Facility installation that is dated prior to September 9, 2017 and submitted a complete interconnection application<sup>G</sup> no later than March 31, 2018, or
- (d) the Customer provides evidence of a final inspection clearance from the governmental authority having jurisdiction over the Generating Facility prior to September 9, 2017.

All "existing inverters" are not required to be Smart Inverters and are only subject to Section H of Rule 21. A Customer replacing an "existing inverter" certifies it is being replaced with either:

- (i) inverter equipment that complies with Section Hh of Rule 21, (encouraged); or
- (ii) a conventional inverter that is of the same size and equivalent ability to that of the inverter being replaced, as allowed in Rule 21 Section H.3.d.ii.

## R. Power Control System Certification

By signing below, customer confirms that Energy Storage over 10 kW has received UL 1741 CRD **for** Power Control Systems (PCS) certification that will comply with either No Grid Charge or No Storage Export as defined in Schedule NEM2.

<sup>G</sup> A complete application consists all of the following without deficiencies:

1. A completed Interconnection Application including all supporting documents and required payments
2. A completed signed Interconnection Agreement
3. Evidence of the Customer final inspection clearance from the governmental authority having jurisdiction over the generating system.



# AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification

## Part V – Signature

**IMPORTANT INFORMATION FOR CUSTOMERS – BE SURE TO READ THE FULLY POPULATED DOCUMENT BEFORE SIGNING – THIS IS A LEGALLY BINDING CONTRACT – READ IT CAREFULLY. THIS FORM MUST BE SIGNED BY THE EXISTING PG&E CUSTOMER LISTED IN PART I.**

Under Pacific Gas and Electric Company's (PG&E's) privacy policies, which can be found at [www.pge.com/about/company/privacy/customer], PG&E generally does not sell or disclose personal information about you, such as your name, address, phone number, or electric account and billing information, to third parties unless you expressly authorize us to do so. The purpose of this form is to allow you, the customer, to exercise your right to choose whether to disclose your personal electricity usage data and other personal information to a third party. Once you authorize a third party to access personal information about you, you are responsible for ensuring that the third party safeguards the personal information from further disclosure without your consent.

By signing below, I declare under penalty of perjury under the laws of the State of California that:

- 1) The information provided in this Agreement is true and correct.
- 2) By completing the fields and checking the box in Part I Section C, I authorize the identified third party (Company) to receive my information and act on my behalf, which includes submitting or revising my Interconnection Application.
- 3) I have completed and reviewed Part II to determine if my system is sized to meet no more than my projected energy usage.
- 4) I have read in its entirety and agree to all the terms and conditions in this Interconnection Agreement and agree to comply with PG&E's Electric Rule 21.

\_\_\_\_\_  
(Print Customer Name as it appears on the PG&E Bill)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print name and title of signee, applicable if customer is a Company)  
(e.g. John Doe, Manager)

\_\_\_\_\_  
(Date)

Note: PG&E can request additional documentation to verify the authenticity of the externally signed Agreement and Customer Authorization.

To confirm project approval, the Customer should retain a copy of this signed agreement and a copy of the Permission to Operate (PTO) letter from PG&E authorizing the Customer to operate the Generating Facility after PG&E deems satisfactory compliance with all NEM2 requirements.



**Pacific Gas and  
Electric Company®**

U 39

*San Francisco, California*

Cancelling Revised  
Revised

Cal. P.U.C. Sheet No. 47357-E  
Cal. P.U.C. Sheet No. 46788-E

**Electric Sample Form No. 79-1202**  
Load Aggregation Appendix

Sheet 1

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 5938-E  
*Decision*

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

*Submitted* September 15, 2020  
*Effective* \_\_\_\_\_  
*Resolution* \_\_\_\_\_

## LOAD AGGREGATION APPENDIX

(If Applicable)

**List of Qualifying Accounts Eligible for Net Energy Metering (NEM & NEM2)  
Load Aggregation,  
Load Aggregation Sizing Affidavit, and  
Customer-Generator Declaration Warranting Load Aggregation Arrangement Is Located  
On The Same or Adjacent or Contiguous Property to Generator Parcel**

This is an appendix to Schedules NEM and NEM2 involving load aggregation<sup>1</sup>. As described in the special condition titled “Load Aggregation”, PG&E will aggregate the load of the Customer-Generator’s accounts listed below where the Customer-Generator is the customer of record and the accounts continue to meet the requirements as outlined in the Customer Declaration on the last page of this Appendix.

In accordance with this appendix and pursuant to the applicable net energy metering tariff:

- (i) The electricity generated by the Renewable Electrical Generation Facility (REGF) and exported to the grid shall be allocated to each of the aggregated meters in proportion to the electrical load served by those meters, and
- (ii) Customer-Generator shall remit the associated service charges to PG&E for its cost of providing billing service to those meters (one-time setup charge of \$25 per meter, no more than \$500, and an ongoing monthly charge of \$5 per meter, all billed on the generator account), and
- (iii) Customer-Generator shall permanently be ineligible to receive AB 920 Net Surplus electricity Compensation (NSC), and PG&E shall retain any kilowatt-hours (kWh) in excess of the eligible Customer-Generator’s electrical load as determined for each aggregated meter individually. However, if an Aggregated Account that is not a Generating Account is separated from the Arrangement, and subsequently qualifies for a net energy metering program, it may be eligible for NSC.

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

### **Net Energy Metering Aggregation Sizing Affidavit**

For Net Energy Metering projects, the REGF size should be “intended primarily to offset part or all of the customer’s own electrical requirements.”<sup>2</sup> For NEM or NEM2, not including Load Aggregation, this means that the annual kilowatt-hours (kWh) produced by the REGF (e.g. solar system) should not exceed the kWh of annual usage associated with the PG&E meter at the Point of Interconnection. Annual usage is determined by referencing the previous 12 months of usage records for the meter, plus any additional kWh representing future additional usage.

For Load Aggregation, under NEM Aggregation (NEM2A), the REGF should be sized to produce no greater than the total annual kWh of all the aggregated meters within your Arrangement, plus any additional kWh representing future additional usage. The sizing determination should be based on recent annual usage of all the load accounts in the Arrangement plus additional usage for the Arrangement<sup>3</sup> As stated above in (iii), NEM2A REGFs are not eligible for NSC. At the time of true-up, any Net Surplus

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<sup>1</sup> Customers either requesting to take service on or are already taking service on Schedules NEM and NEM2 must complete this Appendix to apply for Load Aggregation or make changes to their existing Load Aggregation Arrangement. See the special condition titled “Load Aggregation” in the applicable net energy metering tariff.

<sup>2</sup> Per State Public Utilities Code Section 2827(a)(4)(A))

<sup>3</sup> The Arrangement is defined as the aggregated (or “benefitting”) accounts and the single generating account loads, which may or may not have load.



Electricity<sup>4</sup> that was produced by the REGF that was not attributed to an Aggregated Accounts (benefitting load accounts) within the Arrangement would not be compensated.

### **What size system do I need?**

Some factors to consider when sizing your system are your project budget, return on investment expectations, current and future energy needs, and the location and amount of your property dedicated to the system.

To find additional resources, please visit <https://pge.wattplan.com/>

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<sup>4</sup> **Net Surplus Electricity** - (defined as all electricity generated by an eligible customer measured in kilowatt-hours over a Relevant Period – as defined in Special Condition 2.h of the NEM2 tariff – that exceeds the amount of electricity consumed by that eligible customer)

### Completing this Appendix

This Load Aggregation appendix is composed of three sections where Applicants should complete the applicable Worksheet located in either Section I or II and sign the Customer-Generator Declaration (Section III). Please read through this entire Appendix (confirming your eligibility and request), complete the associated Worksheet on the following pages, and sign the Customer-Generator Declaration.

#### Sections (Identifying Your Request)

##### I. New Load Aggregation Requests Worksheet

- All new load aggregation requests and requests that do not meet the definition of either Conversion, Rearrangement or Change Party (as defined below) must complete the table in Section I
- All accounts in the Arrangement must be included in this table with the requested information. As described in the Net Energy Metering Aggregation Sizing Affidavit section above, customers with insufficient recent annual usage may include their estimated proposed future load in the “Annual kWh Load” column.
- If you are also requesting a new service for the Generator<sup>5</sup>, check the box below:

☐ Yes, I am requesting a new service for the Generator

##### II. Rearrangement/Change Party Requests Worksheet

- Load aggregation requests that meet the criteria included in Section II and are requesting to do a Rearrangement or Change Party should only complete the table in Section II
- Rearrangement/Change Party requests are defined as follows:
  - i. **Conversion Requests:** A request by an existing NEM customer to enter into a Load Aggregation arrangement for the previously approved REGF. The REGF must not have been modified since the Permission to Operate was issued. The new Load Aggregation arrangement must have at least two load accounts.
  - ii. **Rearrangement Requests:** A request by the same customer of record to modify the aggregated accounts in an approved Load Aggregation arrangement (i.e. add and/or remove aggregated accounts). The new Load Aggregation arrangement must have at least two load accounts.
  - iii. **Change Party Requests:** A request to take over the generator account and at least two load accounts from the previously approved Load Aggregation arrangement. The request can only be made after the new owner has started service as the new customer of record for the applicable electric services (i.e. the services are in the new customer’s name). For assistance with this request, contact the Solar Customer Service Center at 877-743-4112.

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<sup>5</sup> For Load Aggregation arrangements requesting an additional service for Generator, subject to all other applicable rules, an additional service may be allowed for the Generating Account if it has no load other than that associated directly with the Renewable Electric Generation Facility. However, a customer may not subsequently add load to that additional service, and if the Renewable Electrical Generation Facility is removed, the additional service, may not be converted to a load account. Note: there must be at least two load accounts to be eligible for Load Aggregation.

## LOAD AGGREGATION APPENDIX

### Section I: New Load Aggregation Requests Worksheet (If Applicable)

**Table 1: Load Information**

ACCOUNT <sup>6</sup>	PARCEL NUMBER	ACCOUNT NAME <sup>7 8</sup>	SERVICE ADDRESS (Street, City, Zip Code – no P.O. boxes) <sup>2</sup>	ELECTRIC SERVICE AGREEMENT NUMBER <sup>2</sup>	ELECTRIC METER NUMBER <sup>2</sup>	ESTIMATED ANNUAL KWH LOAD <sup>9</sup>
SAMPLE 1 (New Service)	000-000-000	New	123 AG ST, Anywhere, 00000	New	New	5000
SAMPLE 2	111-111-111	John Doe	123 House ST, Anywhere, 00000	1111111112	2222222222	7000
REGF Load						
Load Acct 1						
Load Acct 2						
Load Acct 3						
Load Acct 4						
Load Acct 5						
Load Acct 6						
Load Acct 7						
Load Acct 8						
Load Acct 9						
Load Acct 10						
Total Estimated Annual kWh Load (100%) *						
*Sum of all Annual KWH Load cells above						

<sup>6</sup> When required by an existing tariff (e.g. Schedule NEM2), any load aggregation account not on a Time-of-Use (TOU) rate at the time of Permission to Operate will be defaulted to an applicable TOU rate.

<sup>7</sup> If this is a new account, enter NEW in this column,

<sup>8</sup> As listed on your most recent Energy Statement

<sup>9</sup> Provide the previous twelve (12) months of the current customer's recent annual usage (from the date of signature). The "previous 12 months" requirement has two exceptions: (1) Standard NEM (SNEM) projects who were sized appropriately at the time of PTO who later convert to SNEMA without increasing the generator size and (2) first-time (i.e. no previous PTO issued for the generator) SNEM Aggregation requests who have sufficient load at the time of application submittal. In the case of proposed future load and/or load that you may have recently added, place the sum (total annual kWh) of your current annual usage and your proposed annual usage increase as one value. When including proposed future load for a Load Account, all columns for that entry must have a value. If there is no load or proposed future load, place zero.

## LOAD AGGREGATION APPENDIX

**Table 1.2: Comparison of Aggregated Load kWh to Estimated Annual kWh Production**

<b>Estimate of Total Aggregated Load</b>	100% of Total Estimated Annual kWh Load* *Use value from "Total Estimated Annual kWh Load (100%)" from table 1.1 above.	
<b>Estimate of Total Annual kWh Production</b>	<b>Solar</b> = CEC-AC <sup>10</sup> rating X 1,500 <sup>11</sup> <b>Wind</b> = Total Inverter Nameplate Rating X 2,190 <sup>12</sup> <b>Other Technologies</b> = Total Inverter Nameplate Rating X 7,008 <sup>13</sup>	
<b>kWh production greater than load?</b>	<p>Yes : If "Estimate of Total Annual kWh Production" is greater than "Estimate of Total Aggregated Load" = Yes. Applicant must downsize REGF kW.</p> <p>No: If "Estimate of Total Annual kWh Production" is less than "Estimate of Total Aggregated Load" = No. Project meets sizing to load limitation.</p>	

<sup>10</sup> CEC-AC (kW) = California Energy Commission Alternating Current, refers to inverter efficiency rating (Quantity of PV Modules x PTC Rating of PV Modules x CEC Inverter Efficiency Rating)/1000

<sup>11</sup> Estimated Solar Production = 8,760 hrs/yr X 0.17123 solar capacity factor = 1,500

<sup>12</sup> Estimated Wind Production = 8,760 hrs/yr X 0.25 wind capacity factor = 2,190

<sup>13</sup> Estimated Other Technologies = 8,760 hrs/yr X 0.80 other technologies capacity factor = 7,008

# LOAD AGGREGATION APPENDIX

## Section II: Rearrangement/Change Party Requests Worksheet (If Applicable)

### Applicability

The Rearrangement/Change Party table below should only be completed in lieu of the table under Section I above if:

1. Your request complies with the definition of Rearrangement or Change Party (as described above),
2. You are submitting either a Rearrangement or Change Party Request, AND
3. The size of the generating facility connected to the Generator Account is not increasing<sup>14</sup>

### Reminders

1. The new Load Aggregation arrangement must continue to meet all of the requirements specified in the Customer-Declaration section below to be approved.
2. As described earlier in this Appendix, overgeneration should be avoided.

**Table 2.1: Conversion/Rearrangement/Change Party Requests Worksheet (If Applicable)**

ACCOUNT <sup>15</sup>	PARCEL NUMBER	ACCOUNT NAME <sup>16 17</sup>	SERVICE ADDRESS (Street, City, Zip Code – no P.O. boxes) <sup>2</sup>	ELECTRIC SERVICE AGREEMENT NUMBER <sup>2</sup>	ELECTRIC METER NUMBER <sup>2</sup>
SAMPLE 1	000-000-000	New	123 House ST, Anywhere, 00000	New	New
SAMPLE 2	111-111-111	John Doe	123 House ST, Anywhere, 00000	1111111112	2222222222
Generator					
Load Acct 1					
Load Acct 2					
Load Acct 3					
Load Acct 4					
Load Acct 5					
Load Acct 6					
Load Acct 7					
Load Acct 8					

(Use more sheets as necessary. Do not restate the Generator Account on additional sheets.) Page: \_\_\_ of \_\_\_

<sup>14</sup> If the system size is increasing, you are ineligible to submit either a Rearrangement or Change Party request and must instead complete the table in Section I. Note: Any modifications to the generating facility connected to the Generator Account must submit a new interconnection application online.

<sup>15</sup> When required by an existing tariff (e.g. Schedule NEM2), any load aggregation account not on a Time-of-Use (TOU) rate at the time of Permission to Operate will be defaulted to an applicable TOU rate.

<sup>16</sup> If this is a new account, enter NEW in this column,

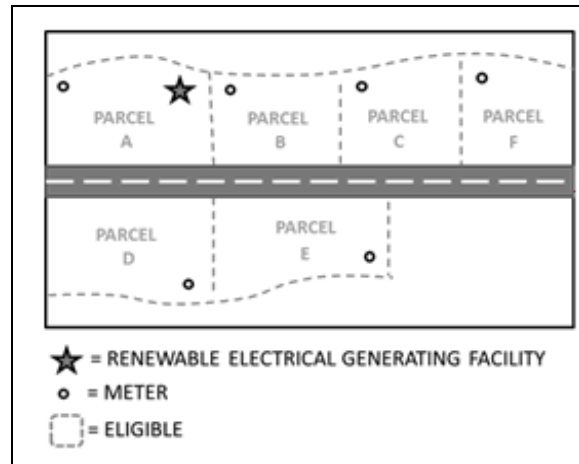
<sup>17</sup> As listed on your most recent Energy Statement

## Section III: Customer-Generator Declaration

I, Customer-Generator, represent and warrant under penalty of perjury that:

- 1) I have received and read this Appendix in its entirety, understand the importance of properly sizing the net energy metering generator, and agree to remit all charges associated with being billed on Load Aggregation; and
- 2) The total annual output in kWh of the generator is less than or equal to 100% of the annual aggregated electrical load in kWh of the meters within the arrangement, including the load on the generating account itself (before being offset by the generator), and including any estimated future additional load; and
- 3) All of the aggregated account meters associated with this generator account are located either on the property where the electrical generation facility is located or are located within an unbroken chain of contiguous parcels that are all solely owned, leased or rented by the customer-generator. For purposes of Load Aggregation, parcels that are divided by a street, highway, or public thoroughfare are considered contiguous, provided they are within an unbroken chain of otherwise contiguous parcels that are all solely owned leased or rented by the customer-generator.

For example, assume there are five parcels (A, B, C, D, E, and F) that form a cluster of contiguous parcels and D and E are separated from A, B, C and F by a street, highway, or public thoroughfare. For the purposes of participating in Load Aggregation, all five parcels are considered contiguous, provided they are otherwise contiguous, and all are solely owned, leased or rented by the customer-generator. Refer to the diagram on the right (for illustrative purposes only.)



- 4) I agree to notify PG&E if there is any change of status that makes any of the meters listed in this Appendix ineligible for Load Aggregation to ensure that only eligible meters are participating; PG&E will require an updated version of this Load Aggregation Appendix form; and

- 5) Upon request by PG&E, I agree to provide documentation that all aggregated meters meet the requirements of Load Aggregation including, but not limited to, parcel maps and ownership records.

Customer Generator's Name

Signature

Date

Print Name and title of signee, applicable if customer is a Company (e.g. John Doe, Manager)



**ELECTRIC SCHEDULE NEM  
NET ENERGY METERING SERVICE**

Sheet 12

SPECIAL  
CONDITIONS:  
(Cont'd.)

3. INTERCONNECTION: Prior to receiving approval for Parallel Operation, the customer - generator must submit a completed PG&E application form and interconnection agreement as follows:

Rate Option	Application	Interconnection Agreement
NEMS	For Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less:  <i>Application - Net Energy Metering Interconnection for Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less (Form 79-1151B)<sup>3</sup></i>	<i>Agreement and Customer Authorization – Net Energy Metering Interconnection for Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less (Form 79-1151A)<sup>3</sup></i>
NEMEXP	For Solar and/or Wind Net Energy Metering Generating Facilities of 1,000 Kilowatts or Less, other than Facilities of 30 Kilowatts or Less:  <i>Online Rule 21 Generator Interconnection Application, (Form 79-1174)</i>	<i>Interconnection Agreement for Net Energy Metering of Solar or Wind Electric Generating Facilities of 1,000 Kilowatts or Less, other than Facilities of 30 Kilowatts or Less (Form 79-978)</i>
	For Renewable Electrical Generating Facilities other than Solar and/or Wind Electric Generating Facilities of 1,000 Kilowatts or Less:  <i>(same as for Solar and/or Wind NEMEXP)</i>	<i>Interconnection Agreement for Net Energy Metering For A Renewable Electrical Generation Facility Of 1,000 Kilowatts Or Less (Form 79-1137)</i>
NEMEXPM	For all other commercial, industrial customer-generators, and agricultural customers billed monthly under Special Condition 2 with (i) Solar and/or Wind Generating Facilities of 1,000 Kilowatts or Less, other than Facilities of 30 Kilowatts or Less, (ii) or any other Renewable Electrical Generation Facility of 1,000 Kilowatts or Less:  <i>(same as for NEMEXP)</i>	<i>(same as for NEMEXP)</i>
NEMMT	For customer-generators taking service as a Multiple Tariff Facility under Special Condition 4 of this tariff:  <i>Online Rule 21 Generator Interconnection Application (Form 79-1174)</i>	<i>Generating Facility Interconnection Agreement (Multiple Tariff) (Form 79-1069)</i>
NEM Inspection Report	To accompany a new interconnection agreement, as required under Special Condition 6 of this tariff:	<i>NEM/NEMVMASH Inspection Report – (Form 79-1125)</i>

<sup>3</sup> Both the Agreement and Customer Authorization (79-1151A) and Application (79-1151B) forms must have been submitted before PG&E will issue the Permission to Operation (PTO) letter. Information in the Application can be submitted by the Company or Customer in an electronic format, subject to approval by PG&E.

(Continued)



**ELECTRIC SCHEDULE NEM**  
**NET ENERGY METERING SERVICE**

Sheet 13

SPECIAL  
CONDITIONS:  
(Cont'd.)

3. INTERCONNECTION (Cont'd):

Rate Option	Application	Interconnection Agreement	
NEMPS	For NEMPS (Special Condition 8) for projects that meet NEM integrity requirements		(N)
	<i>Online Rule 21 Generator Interconnection Application (Form 79-1174)</i>	<b>79-1193 - AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification</b>	(N)
NEMCDCR	See Special Condition 8		(L)
NEMUSAF	See Special Condition 9		(L)

For Load Aggregation, a completed and signed "NEM Load Aggregation Appendix" (Form 79-1202) must be submitted together with the appropriate NEM interconnection agreement listed above.

The eligible customer-generator must meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, and accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules of the California Public Utilities Commission regarding safety and reliability.

For Load Aggregation Arrangements Requesting an additional service for Generator – Subject to all other applicable rules, an additional service may be allowed for the Generating Account if it has no load other than that associated directly with the Renewable Electric Generation Facility. However, a customer may not subsequently add load to that additional service, and if the Renewable Electrical Generation Facility is removed, the additional service, may not be converted to a load account.

(Continued)





**ELECTRIC SCHEDULE NEM2**  
**NET ENERGY METERING SERVICE**

Sheet 14

SPECIAL  
CONDITIONS:  
(Cont'd.)

3. INTERCONNECTION: (Cont'd.)

Rate Option	Application	Interconnection Agreement	
NEMPS	For NEMPS (Special Condition 9) for projects that meet NEM integrity requirements		(N)
	<i>Generating Facility Interconnection Application, (Form 79-1174-02)</i>	<b>79-1193-02- AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification</b>	(N)
NEM2, NEM2EXP, NEM2A, or NEM2MT > 1,000 kW	<i>Generating Facility Interconnection Application (Form 79-1174-02)</i>	<i>Rule 21 Generator Interconnection Agreement for New Energy Metering (NEM-2) Generating Facilities Greater than 1,000 Kilowatts Interconnecting Under the Fast Track Process (Form 79-1144-02)</i>  <i>Rule 21 Generator Interconnection Agreement (GIA) for Net Energy Metering (NEM2) Generating Facilities Greater than 1,000 Kilowatts Interconnecting Under the Independent Study, Distribution Study, or Transmission Cluster Process (Form 79-1161-02)</i>	
NEM2MT	For customer-generators ≤ 1 MW taking service as a Multiple Tariff Facility under Special Condition 4 of this tariff:		
	<i>Generating Facility Interconnection Application (Form 79-1174-02)</i>	<i>Generating Facility Interconnection Agreement (NEM2MT - Multiple Tariff) (Form 79-1069-02)</i>	
NEM2A	NEM2 Load Aggregation ≤ 1 MW  Along with the applicable interconnection form above, also submit:  <i>NEM2 Load Aggregation Appendix (Form 79-1202)</i>		
NEM2CDCR	See Special Condition 7		

(Continued)



**ELECTRIC SCHEDULE NEM2**  
**NET ENERGY METERING SERVICE**

Sheet 30

SPECIAL  
CONDITIONS:  
(Cont'd.)

9. NEM Paired Storage

c. Types of NEM Paired Storage

1) Integrated Storage: (Cont'd.)

Note that, for battery-based storage, the storage device must **only** be capable of storing energy from the REGF to be considered Integrated Storage.

INTEGRATED STORAGE (By definition the storage device must only be capable of storing energy from the REGF)			
SCENARIO	Billed As	Interconnection Agreements	Interconnection Costs
AC Coupled Or DC Coupled	billed as if storage and REGF were all one generator (e.g. NEMS, NEMEXP)	≤ 1 MW apply with 79-1174-02 and Interconnection agreement 79-1193-02	Per 5.i
		> 1 MW apply with 79-1174-02 and Interconnection agreement 79-1198-02	Per 5.ii or iii

(T)

2) Directly Connected:

Directly Connected NEM Paired Storage is defined in the RPS guidelines as meeting the following requirements:

(i) The storage device is directly connected to the REGF via an internal power line (i.e., power may not be transmitted from the renewable facility to the energy storage via an external distribution line) and

(ii) The storage device must be operated as part of the NEM eligible facility.

Note that the storage device is **not** required to be exclusively charged by the REGF.

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 258

<b>Appendix A (Cont'd.)</b> Forms Associated with Rule 21 Generating Facility Interconnections			
Form Number	Title	Associated Tariffs	Use Guidance
<b>NEM and Non-Export Interconnection Forms (Cont'd.)</b>			
79-1193	AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification	NEM	For NEM pair storage scenarios using Power Control Systems to ensure NEM integrity
79-1193-02	AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification	NEM2	For NEM2 pair storage scenarios using Power Control Systems to ensure NEM integrity
79-1109-02***	NEM2VMASH Virtual Net Energy Metering Application and Interconnection Agreement for the Building Owner of Multifamily Affordable Housing with a Solar Generating Facility of 1 Megawatt or Less	NEM2VMASH, Rule 21	NEM2VMASH Interconnection Agreement used with Form 79-1174-02
79-1151A	Net Energy Metering Interconnection for Solar And/or Wind Electric Generating Facilities Of 30 Kilowatts Or Less Agreement and Customer Authorization	NEM, Rule 21	NEMS Interconnection Agreement be used with 79-1151B Application
79-1151A-02	Agreement And Customer Authorization - Net Energy Metering (NEM2) Internconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less	NEM2, Rule 21	NEM2S Application to be used with 79-1151A Interconnection Agreement
79-1151B	Net Energy Metering Interconnection For Solar And/or Wind Electric Generating Facilities Of 30 Kilowatts Or Less Application	NEM, Rule 21	NEMS Application to be used with 79-1151A Interconnection Agreement
79-1151B-02	Application - Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less	NEM2, Rule 21	NEM2S Application to be used with 79-1151A-02 Interconnection Agreement
79-1124***	Eligible Low Income Development Virtual Net Energy Metering Application and Interconnection Agreement for Multifamily Affordable Housing with Solar Generation Totaling 1 Megawatt or Less	NEMVMASH, Rule 21	NEMVMASH Interconnection Agreement

(N)

(N)

(L)

(L)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 259

<b>Appendix A (Cont'd.)</b> Forms Associated with Rule 21 Generating Facility Interconnections			
Form Number	Title	Associated Tariffs	Use Guidance
<b>NEM and Non-Export Interconnection Forms (Cont'd.)</b>			
79-1124-02***	Eligible Low Income Development Virtual Net Energy Metering (NEM2VMSH) Application and Interconnection Agreement for Multifamily Affordable Housing with Solar Generation Totaling 1 Megawatt or Less	NEM2VMSH, Rule 21	NEM2VMSH Interconnection Agreement
79-1131***	NEMV Application and Interconnection Agreement for a Solar (PV) or Wind Generating Facility of 1 MW or Less <i>Serving Multiple Tenants Served at a Single Property Delivery Point</i>	NEM, Rule 21	NEMV Interconnection Agreement
79-1131-02***	NEM2V Application and Interconnection Agreement for a Solar (PV) or Wind Generating Facility of 1 MW or Less <i>Serving Multiple Tenants Served at a Single Property Delivery Point</i>	NEM2V, Rule 21	NEM2V Interconnection Agreement
79-1137	Interconnection Agreement for Net Energy Metering for a Renewable Electrical Generation Facility of 1,000 kW or Less, Except Solar or Wind (SB 489)	NEM, Rule 21	NEMV, NEMEXP, NEMEXPM Interconnection Agreement typically used with Forms 79-974 and 79-1142 Applications
79-1137-02	Interconnection Agreement for Net Energy Metering (NEM2/NEM2V) for a Renewable Electricity Generation Facility of 1,000 Kilowatts or Less, Except Solar or Wind	NEM2, NEM2V, Rule 21	NEM2V, NEM2EXP, NEM2EXPM Interconnection Agreement typically used with Forms 79-1174-02
79-1142***	NEMV Interconnection Application for a Renewable Electrical Generation Facility of 1 Megawatt or Less	NEM, Rule 21	Used with Form 79-1137 (L)
79-973	Generating Facility Interconnection Agreement For Non-Export Generating Facilities (Rule 21 Interconnection Agreement)	Rule 21	Interconnection Agreement used for RESBCT and non-NEM generation with Application 79-974 and 79-1112
79-992	Customer Generation Agreement (Third party Generator on Premises, Non-Exporting)	Rule 21	Used with Forms 79-1174
79-1070	Export Addendum to Generating Facility Interconnection Agreement for Non-Export Generating Facilities (Form 79-973) Sized 2 Megawatts or Less	Rule 21	Export addendum used with Form 79-973
79-1136	PG&E Interconnection Agreement For an Existing Small Generating Facility Interconnecting to the Distribution System under Rule 21	Rule 21	Used for existing QFs with Form 79-974 (L)

(L)

(L)

(L)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 260

<b>Appendix A (Cont'd.)</b> Forms Associated with Rule 21 Generating Facility Interconnections			
Form Number	Title	Associated Tariffs	Use Guidance
<b>Other NEM and Non-Export Forms (Cont'd.)</b>			
79-1192	Interconnection Agreement for Non-Export Storage Generating Facilities 500KW or Less	Rule 21	Used for expedited interconnection of non-export energy storage, pursuant to Rule 21 Section N, PG&E AL 4941-E & E-A and D.16-06-052, & Attachment C, Section II.1
79-1199	Agreement And Customer Authorization Non-Export Stand-Alone Energy Storage Of 30 Kilowatts Or Less	Rule 21	Interconnection Agreement For non-export storage ≤ 30 kW
79-1206-02	Eligible Low-Income Development Virtual Net Energy Metering (NEM2VSOM) Interconnection Agreement For The Solar On Multifamily Affordable Housing (SOMAH) Program With Solar Generation Totaling 1 Mw Or Less	NEM2VSOM	NEM2VSOM Interconnection agreement for solar 1 MW or less.
79-1130	Request to Opt-out of / Opt-in to Compensation for Surplus Electricity	NEM	AB 920- Opt not to receive compensation for net annual excess energy
79-1202 ****	Load Aggregation Appendix	NEM, NEM2, Rule 21	Use as an Appendix with Form 79-1151A, 79-1151A-02, 79-978, 79-978-02, 79-1137, 79-1137-02, 79-1069 or 79-1069-02
79-1155	Schedules NEM, NEMV, NEMVMASH, Net Surplus Electricity (NSE) Renewable Energy Credits Compensation	NEM, Rule 21	
79-1155-02	Schedules NEM2, NEM2V, NEM2VMASH, Net Surplus Electricity (NSE) Renewable Energy Credits Compensation	NEM2 NEM2V NEM2VMASH, Rule 21	
79-1174	Rule 21 Generator Interconnection Application	NEM (NEMEXP, NEMMT and NEMA), NEMFC, NEMV, NEMVMASH, RES-BCT, Rule 21	Rule 21 customer interconnection application form for expanded net-energy metered (all NEM > 30 kw and all non-Solar/Wind NEM), NEMFC, NEMV, NEMVMASH, RES-BCT, and non-export and limited export Rule 21 generation. (Standard NEM for solar and/or wind ≤ 30 kw will continue to use the 79-1151B application.)

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**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

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<b>Appendix A (Cont'd.)</b> Forms Associated with Rule 21 Generating Facility Interconnections			
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<b>Other NEM and Non-Export Forms (Cont'd.)</b>			
79-1174-02	Rule 21 Generator Interconnection Application	NEM2 (NEM2EXP, NEM2MT and NEM2A), NEMFC, NEM2V, NEM2VMESH, RES-BCT, Rule 21	Rule 21 customer interconnection application form for expanded net-energy metered (all NEM2 > 30 kw and all non-Solar/Wind NEM), NEMFC, NEM2V, NEM2VMESH, RES-BCT, and non-export and limited export Rule 21 generation. (Standard NEM for solar and/or wind ≤ 30 kw will continue to use the 79-1151B application.)
<b>Export for Sale Interconnection Forms</b>			
79-1145	Rule 21 Exporting Generator Interconnection Request	Rule 21	Preferred online application: <a href="https://www.pge.com/en_US/large-business/services/alternatives-to-pge/electric-generation-interconnection.page">https://www.pge.com/en_US/large-business/services/alternatives-to-pge/electric-generation-interconnection.page</a>
79-1197	Local Government Renewable Energy Self-Generation Bill Credit Transfer (RES-BCT) Re-Allocation Request	RES-BCT	Use to establish RES-BCT benefiting account re-allocations
79-1198-02	Interconnection Agreement For Net Energy Metering (NEM2) And Renewable Electrical Generating Facility Sized Greater Than 1,000 Kw	NEM2	FT and Detailed Study Interconnection Agreement for >1MW NEM2 Generating Facilities
79-1200	Rule 21 Generator Interconnection Agreement For Exporting Generating Facilities	Rule 21	FT and Detailed Study Interconnection Agreement for Exporting Generating Facilities
<b>Other Agreements</b>			
79-280	Agreement for Installation of Allocation of Special Facilities for Parallel Operation of Non-Utility-Owned Generation and/or Electrical Standby Service (Electric Rules 2 and 21)	Rule 21	Special Facilities Agreement to be used with Form 79-702
79-702	Appendix A: Detail of Special Facilities Charges to be used in concert with form 79-280	Rule 21	Used with Form 79-280

\*\*\* The application section of these forms is replaced by 79-1174.

\*\*\*\* For NEMA expanded customers, use the online 79-1174 form.

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Advice 5938-E  
Decision

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

Submitted  
Effective  
Resolution

September 15, 2020





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



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

#### IMPORTANT NOTES:

- Customers may not operate their Generating Facility while interconnected to the PG&E system until they receive written permission from PG&E.
- City and County of San Francisco ("CCSF") owned generating facilities seeking Schedule NEMCCSF and participants in the Demand Response Programs below are not eligible to participate in NEM.
  - Peak Day Pricing (PDP)
  - Scheduled Load Reduction Program (SLRP)
  - SmartRate
- Customers who participate in Direct Access and Community Choice Aggregation must contact their Energy Service Provider directly regarding their NEM program.

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

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

—Standard NEM Agreement Type: ☐ Single Account ☐ Multiple Aggregated Accounts

Note: Net Energy Metering Aggregation (NEMA) is a program that allows customers with multiple meters to use the renewable energy generated at one meter (up to 1MW) to be credited against other meters that are located on parcel(s) that is/are contiguous or adjacent to the parcel that has the renewable generator.

-Customer Sector (check only one): ☐ Residential ☐ Educational  
☐ Commercial ☐ Military  
☐ Industrial ☐ Other Government  
☐ Non-Profit

Account Holder Name* (Individual or Company)	Electric Service Agreement ID *	Meter Number*
		CA
Service Address*	City*	State Zip*
Customer Phone Number	Email (if blank, Permission to Operate (PTO) letter will be mailed to mailing address on record)	

##### B. Meter Access Issues (if applicable, check all that apply and provide contact information to request access):

☐ Meter in building or behind locked gate ☐ Unrestrained animal at meter or AC Disconnect Switch ☐ Other: \_\_\_\_\_

Contact Name to Request Access (if access issues exist)	Contact Phone
---	---------------

##### C. Authorized Contact Information (required if Customer is authorizing a third party to act on Customer's behalf):

Company Name	Contact Person
Contact Phone Number	Email

☐ By checking this box and signing this Agreement, I (Customer) authorize PG&E to release my PG&E Electric Account information to the Company above limited to kilowatt hour (kWh) usage, operational characteristics, and other information related to my Generating Facility application. Company is also authorized to submit Application Form 79-1151B and act on my behalf with regard to the interconnection and receive copies of this executed Interconnection Agreement and the Permission to Operate Letter when issued.



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

#### Part II – NEM Generator System Size

##### A. Interconnection Study and Requirements

This Agreement covers the installed Generating Facility nameplate listed in the accompanying Application Form 79-1151B.

The interconnection study will use the nameplate to determine if Interconnection Facilities or Distribution or Network Upgrades are required and the responsible party for the associated costs. If upgrades are required, this will increase the time it will take for PG&E to approve your interconnection.

In order for PG&E to approve your system, you will need to provide (1) this signed Agreement, (2) Application Form 79-1151B, and (3) a copy of the final signed jurisdiction approval (building permit) for your project.

NEM systems should be sized with an estimated annual production no larger than 100% of the Customer's total previous 12 months of usage (annual usage) and projected future increase. For customers on a Time-of-Use rate, sizing your system to offset 80%-85% of your average electricity usage could be an effective way to minimize your electricity bill. For customer who are not on a Time-of-Use rate, you might want to size your system larger (90-95% of your annual load), in order to minimize your electricity bill. Of course, individual circumstances may vary. Customers can obtain their usage data by following the instructions on [www.pge.com](http://www.pge.com) on the page titled "[Access, download, or share usage data](#)." System sizing eligibility will be reviewed using the criteria below.

##### B. Generator System Sizing

The individual Solar CEC-AC kW and/or the Wind Turbine and/or Storage rating(s) calculated on the application cannot exceed 5% of the listed value(s) on this Agreement and Authorization.

Generator System Type: ☐ Solar ☐ Wind ☐ Both

##### Estimated Annual Production:

~~Solar Systems > 5 kW (CEC-AC kW) or any system with wind, size is determined below. Please continue to fill out all of Section B.~~

~~The Solar CEC-AC kW calculated from the Application cannot exceed 5% of the CEC-AC kW listed above~~

(1) Solar CEC-AC rating <sup>A</sup>	_____ (kW) X 1,500 <sup>B</sup>	=	_____ (kWh)
AND/OR (2) Wind Nameplate rating	_____ (kW) X 2,190 <sup>C</sup>	=	_____ (kWh)
(3) Total Energy Production	_____ (1) + (2)	=	_____ (kWh)

##### Estimated Annual Energy Usage:

(Solar systems ≤ 5 kW (CEC-AC) do not need to complete this section)

##### Estimated Annual Energy Usage:

(4) Recent annual usage	_____ (kWh) X 1.01	=	_____ (kWh)
OR (If 12 months usage not available) (5) Building size	_____ (sq ft) X 3.0032 <sup>D</sup>	=	_____ (kWh)
AND (6) I plan to increase my annual usage (kWh) by	_____	=	_____ (kWh)
(7) Total Energy Usage	(2 or 3) + (4)	=	_____ (kWh)

<sup>A</sup> CEC-AC (kW) = California Energy Commission Alternating Current, refers to the inverter efficiency rating (Quantity of PV Modules x PTC Rating of PV Modules x CEC Inverter Efficiency Rating)/1000

<sup>B</sup> 8,760 hrs/yr x 0.17123 solar capacity factor = 1,500

<sup>C</sup> 8,760 hrs/yr x 0.25 wind capacity factor = 2,190

<sup>D</sup> 2 watts/ sq ft x 1/1,000 watts x 8,760 hrs/yr x 0.197123 solar capacity factor = 3.0032



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

Net Generation:

(8) Production - Usage

(3) ~~---~~ (7) =            (kWh)\*

\*Positive number indicates that the system is estimated to generate more than the estimated usage. Please refer to Part IV, Section J to read the provisions around Net Surplus Compensation (NSC).

#### Part III – Rate Selection

**A. Current Rate:** Please identify your existing rate by reviewing your PG&E energy statement or by calling the phone number listed below.

**Otherwise Applicable Rate Schedule (OAS) for NEM Account:** Select one rate from the category applicable to you. Visit [www.pge.com/rateoptions](http://www.pge.com/rateoptions) or call (800)-PGE-5000 for rate information.

**Residential Service Rate (Select one):**

- ☐ ~~E-1 Non Time-of Use~~
- ☐ ~~E-6 Time-of Use~~
- ☐ ~~E-7<sup>F</sup> Time-of Use~~
- ☐ ~~E-8<sup>F</sup> Non Time-of Use~~
- ☐ ~~E-9A<sup>F</sup> Time-of Use for Customers with a single meter for Electric Vehicle (EV) recharging station and home~~
- ☐ ~~E-9B<sup>F</sup> Time-of Use for Customers with a separately metered EV recharging station~~
- ☐ ~~EV-A<sup>F</sup> Time-of Use for Customers with a single meter for Electric Vehicle (EV) recharging station and home~~
- ☐ ~~EV-B<sup>G</sup> Time-of Use for Customers with a separately metered EV recharging station~~
- ☐ ~~Other ( )~~

**Small and Medium Commercial Service Rate (Select one rate and primary or secondary service voltage):**

	<u>Primary</u>	<u>Secondary</u>
<input type="checkbox"/> <del>A-1 Small General Service</del>	<input type="checkbox"/> <del></del>	<input type="checkbox"/> <del></del>
<input type="checkbox"/> <del>A-6 Small General Time-of Use Service</del>	<input type="checkbox"/> <del></del>	<input type="checkbox"/> <del></del>
<input type="checkbox"/> <del>A-10 Medium General Demand Metered Service</del>	<input type="checkbox"/> <del></del>	<input type="checkbox"/> <del></del>
<input type="checkbox"/> <del>A-10 Medium General Time-of use Service</del>	<input type="checkbox"/> <del></del>	<input type="checkbox"/> <del></del>
<input type="checkbox"/> <del>B-1 Small General Service</del>	<input type="checkbox"/> <del></del>	<input type="checkbox"/> <del></del>
<input type="checkbox"/> <del>B-6 Small General Time-of Use Service</del>	<input type="checkbox"/> <del></del>	<input type="checkbox"/> <del></del>
<input type="checkbox"/> <del>B-10 Medium General Time-of Use Service</del>	<input type="checkbox"/> <del></del>	<input type="checkbox"/> <del></del>
<input type="checkbox"/> <del>Other ( )</del>	<input type="checkbox"/> <del></del>	<input type="checkbox"/> <del></del>

**Agricultural Power Service Rate: (Select one rate and rate option):**

- ☐ ~~Stay on existing rate~~
- ☐ ~~Requested new rate~~

<sup>F</sup> E-7, E-8, E-9A, E-9B, AG-R, and AG-V are closed to all new customers and are only available to Customers that are currently on the rate  
<sup>F</sup> Rates effective August 1, 2013 for Customers with Electric Vehicles. Please visit [www.pge.com/electricvehicles](http://www.pge.com/electricvehicles) for more rate information





## AGREEMENT AND CUSTOMER AUTHORIZATION

### Net Energy Metering Interconnection

### For Solar And/Or Wind Electric Generating

### Facilities Of 30 Kilowatts Or Less

If your current rate is a closed rate, as identified in Footnote F, and you are now opting to move to a non-closed rate per the Otherwise Applicable Rate Schedule (OAS) for NEM Account, please check the box below acknowledging that you are leaving the closed rate and will not be able to select the closed rate in the future.

☐ I acknowledge and consent to leaving my current rate that is a closed rate





# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

#### Part IV – Interconnection Agreement Provisions

##### **A. Purpose**

The purpose of this Net Energy Metering (NEM) Application and Interconnection Agreement for Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less (Agreement) is to allow Customer to interconnect with Pacific Gas and Electric Company's (PG&E) Distribution System, subject to the provisions of this Agreement and PG&E's Electric Schedule Net Energy Metering (NEM). Customer has elected to interconnect and operate its solar and/or wind electric Generating Facility in parallel with PG&E's Distribution System to offset part or all of the Customer's own electrical requirements at this service point. Customer shall comply at all times with this Agreement as well as with all applicable laws, tariffs and requirements of the California Public Utilities Commission (CPUC).

##### **B. Applicability**

This Agreement applies to Electric Schedule NEM Customer-Generators (Customer) who interconnect a solar and/or wind turbine electrical Generating Facility, or a hybrid system of both, with an aggregate capacity of 30 kilowatts or less that is located on Customer's premises and that operates in parallel with PG&E's Distribution System.

##### **A.C. NEM Transition**

Customers receiving service on the current NEM tariff prior to the date that PG&E reaches its NEM Cap or July 1, 2017, whichever is earlier, are subject to the NEM Transition Provisions outlined in Rate Schedule NEM. Please see Rate Schedule NEM at [https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC\\_SCHEDULE\\_NEM.pdf](https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_SCHEDULE_NEM.pdf) for more details.

##### **B.D. Permission to Operate**

Customer may not operate their generator while interconnected to the PG&E system until receiving written permission from PG&E. Unauthorized Parallel Operation could result in injury to persons and/or damage to equipment and/or property for which the Customer may be liable.

##### **C.E. Safety**

Customer shall meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, accredited testing laboratories such as Underwriters Laboratories and, where applicable, PG&E's Electric Rule 21, and other rules approved by the CPUC regarding safety and reliability. A Customer with a solar or wind-turbine electrical generating system, or a hybrid system of both, that meets those standards and rules shall not be required to install additional controls, perform or pay for additional tests, or purchase additional liability insurance.



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

#### **D.F. Safe Operation of your Generating Facility**

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

#### **Part IV – Interconnection Agreement Provisions – Continued**

#### **E.G. AC Disconnect Switch**

PG&E recommends that a customer installing an inverter-based generator consider also installing an AC Disconnect Switch to facilitate maintenance of the Customer's equipment (i.e. inverter, PV arrays, etc.). If an AC Disconnect Switch is not installed, the revenue meter may be temporarily removed by PG&E due to an emergency or maintenance on PG&E's system to isolate the Customer's generator from the electric distribution system. Removal of the revenue meter will result in loss of electrical service to the Customer's facility or residence. AC Disconnect Switch requirements are available in PG&E's Greenbook [www.pge.com/greenbook](http://www.pge.com/greenbook).

#### **F.H. Rate**

Customer has confirmed their otherwise applicable rate schedule (OAS), establishing how Customer's monthly usage or net generation will be charged/credited when submitting this Agreement. Further Customer-initiated rate changes are governed in accordance with PG&E's Electric Rule 12.

#### **G.I. NEM Billing**

PG&E installs a "net meter" on a customer's property that measures the net energy, defined as the difference between the amount of electricity supplied by the energy provider and the amount of electricity exported to the grid over the course of a month. The Customer's account is enrolled in the NEM program and put on an annual (12- billing months) true-up cycle.

The meter is read monthly and an amount is calculated based on the net energy recorded in kilowatt hours (kWh). If a customer exported more electricity than they drew from PG&E in a given billing cycle, the amount is deemed a surplus. If a customer received more electricity from PG&E than they exported, the amount is deemed a charge. The rate at which the charge or surplus is calculated is based on the customer's OAS which is requested by the Customer in this Agreement.

After 12 billing cycles, the corresponding charges and surpluses are reconciled in the annual true-up bill. Any remaining charges must be paid and any excess surpluses are typically zeroed out. More information about NEM billing is available at [www.pge.com/nembilling](http://www.pge.com/nembilling).

#### **H.J. Net Surplus Compensation (NSC)**

NSC payments are made to NEM customers who produce more electricity than they use during the Relevant Period. The payment rate is based on a rolling 12-month average of spot market prices and may fluctuate on a monthly basis. The historical range of the NSC rate at the time of this Advice Filing is approximately \$0.03 to \$0.04. A history of NSC rates is available at [www.pge.com/nembilling](http://www.pge.com/nembilling). If a customer would like to opt out from receiving this payment, please visit [https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC\\_FORMS\\_79-1130.pdf](https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_FORMS_79-1130.pdf). Participants in NEMA, please see provisions in Form 79-1153.

#### **I.K. Limitation of Liability**

PG&E's and Customer's (Individually Party or together Parties) liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages of any kind whatsoever.

#### **J.L. Governing Law**

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

#### **K.M. Governing Authority**



# **AGREEMENT AND CUSTOMER AUTHORIZATION**

## **Net Energy Metering Interconnection**

### **For Solar And/Or Wind Electric Generating**

### **Facilities Of 30 Kilowatts Or Less**

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



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

#### Part IV—Interconnection Agreement Provisions—Continued

##### **L.N. Term of Agreement**

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

##### **O. Meter Access**

The electric meter must be installed in a safe location easily accessible upon PG&E request.

##### **M.P. Stale Agreements**

If this agreement is still pending one year from the date it is received by PG&E and Customer has not met all of the requirements, PG&E will close this application and Customer will be required to submit a new Agreement and Application should Customer wish to take service on Schedule NEM.

##### **N.Q. Smart Inverters**

For Customer applications received on or after September 9, 2017, the Customer certifies that their inverter-based Generating Facilities fully comply with Section Hh of Rule 21, including configuration of protective settings and default settings, in accordance with the specifications therein.

Distribution Provider may require a field verification of the Customer's inverter. Customer further agrees to cooperate fully with any such request and make their inverter available to the Distribution Provider for such verification. Customer understands that in the event the inverter is not set in accordance with Section Hh of Rule 21, Customer will need to cease operation of generating facility until verification is confirmed by Distribution Provider.

(Solar inverter models and firmware versions that comply with Rule 21 Section Hh can be found at <https://www.energy.ca.gov/programs-and-topics/topics/renewable-energy/solar-equipment-lists> (<http://www.gosolarcalifornia.org/equipment/inverters.php>.)

Verification of compliance with such requirements shall be provided by the Customer upon request by PG&E in accordance with PG&E's Electric Rule 21.

An "existing inverter" is defined as an inverter that is a component of an existing Generating Facility that meets one or more of the following conditions:

- (a) ~~(a)~~ it is already approved by PG&E for interconnection prior to September 9, 2017
- (b) ~~(b)~~ the Customer has submitted the interconnection application prior to September 9, 2017,
- (c) ~~(c)~~ the Customer provides evidence of having applied for an electrical permit for the Generating Facility installation that is dated prior to September 9, 2017 and submitted a complete interconnection application<sup>G</sup> no later than March 31, 2018, or
- (d) ~~(d)~~ the Customer provides evidence of a final inspection clearance from the governmental authority having jurisdiction over the Generating Facility prior to September 9, 2017.

All "existing inverters" are not required to be Smart Inverters and are only subject to Section H of Rule 21. Customer replacing an "existing inverter" certifies it is being replaced with either:

- (i) inverter equipment that complies with Section Hh of Rule 21, (encouraged); or

<sup>G</sup> A complete application consists all of the following without deficiencies:

1. A completed Interconnection Application including all supporting documents and required payments,
2. A completed signed Interconnection Agreement,
3. Evidence of the Customer final inspection clearance from the governmental authority having jurisdiction over the generating system.



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering Interconnection

### For Solar And/Or Wind Electric Generating

### Facilities Of 30 Kilowatts Or Less

- (ii) a conventional inverter that is of the same size and equivalent ability to that of the inverter being replaced, as allowed in Rule 21 Section H.3.d.ii.



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

#### Part IV – ~~Interconnection Agreement Provisions~~ – Continued Signature

**IMPORTANT INFORMATION FOR CUSTOMERS – BE SURE TO READ THIS ENTIRE DOCUMENT BEFORE SIGNING – THIS IS A LEGALLY BINDING CONTRACT – READ IT CAREFULLY.**

**THIS FORM MUST BE SIGNED BY AN EXISTING PG&E CUSTOMER.**

Under Pacific Gas and Electric Company's (PG&E's) privacy policies, which can be found at <http://www.pge.com/about/company/privacy/customer>, PG&E generally does not sell or disclose personal information about you, such as your name, address, phone number, or electric account and billing information, to third parties unless you expressly authorize us to do so. The purpose of this form is to allow you, the customer, to exercise your right to choose whether to disclose your personal electricity usage data and other personal information to a third party. Once you authorize a third party to access personal information about you, you are responsible for ensuring that the third party safeguards the personal information from further disclosure without your consent.

By signing below, I declare under penalty of perjury under the laws of the State of California that:

- 1) The information provided in this Agreement is true and correct.
- 2) By completing the fields and checking the box in Part I Section C, I authorize the identified third party (Company) to receive my information and act on my behalf, which includes submitting or revising my Interconnection Application.
- 3) I have completed and reviewed Part II to determine if my system is sized to meet no more than my projected energy usage.
- 4) I have read in its entirety and agree to all the terms and conditions in this Interconnection Agreement and agree to comply with PG&E's Electric Rule 21.

\_\_\_\_\_  
(Print Customer Name as it appears on the PG&E Bill)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print name and title of signee, applicable if customer is a Company)  
(e.g. John Doe, Manager)

\_\_\_\_\_  
(Date)

Note: PG&E will accept electronic signatures that are verified by qualified Third Parties such as, Adobe EchoSign, e-SignLive, and DocuSign for this Agreement if the Agreement is completed in its entirety before signing.

To confirm project approval, the Customer should retain a copy of this signed agreement and a copy of the Permission to Operate (PTO) letter from PG&E authorizing the Customer to operate the Generating Facility after PG&E deems satisfactory compliance with all NEM requirements.



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering (NEM2) Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

#### IMPORTANT NOTES:

- Customers may not operate their Generating Facility while interconnected to the PG&E system until they receive written permission from PG&E.
- City and County of San Francisco ("CCSF") owned generating facilities seeking Schedule NEMCCSF or participants in the Demand Response Programs below are not eligible to participate in NEM2.
  - Peak Day Pricing (PDP)
  - Scheduled Load Reduction Program (SLRP)
  - SmartRate
- Customers who participate in Direct Access and Community Choice Aggregation must contact their Energy Service Provider directly regarding their NEM2 program.

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

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

Standard NEM2 Agreement Type: ☐ Single Account ☐ Multiple Aggregated Accounts

Note: Net Energy Metering Aggregation 2 (NEM2A) is a program that allows customers with multiple meters to use the renewable energy generated at one meter to be credited against other meters that are located on parcel(s) that is/are contiguous or adjacent to the parcel that has the renewable generator.

Customer Sector (check only one): ☐ Residential ☐ Educational  
☐ Commercial ☐ Military  
☐ Industrial ☐ Other Government  
☐ Non-Profit

Account Holder Name\* (Individual or Company) Electric Service Agreement ID \* Meter Number\*  
CA  
Service Address\* City\* State Zip\*  
Customer Phone Number Email (if blank, Permission to Operate (PTO) letter will be mailed to mailing address on record)

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

##### B. Meter Access Issues (if applicable, check all that apply and provide contact information to request access):

☐ Meter in building or behind locked gate ☐ Unrestrained animal at meter or AC Disconnect Switch ☐ Other: \_\_\_\_\_

Contact Name to Request Access (if access issues exist) Contact Phone

##### C. Authorized Contact Information (required if Customer is authorizing a third party to act on Customer's behalf):

Company Name Contact Person  
Contact Phone Number Email



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering (NEM2) Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

- ☐ By checking this box and signing this Agreement, I (Customer) authorize PG&E to release my PG&E Electric Account information to the Company above limited to kilowatt hour (kWh) usage, operational characteristics, and other information related to my Generating Facility application. Company is also authorized to submit Application Form 79-1151B-02B and act on my behalf with regard to the interconnection and receive copies of this executed Interconnection Agreement and the Permission to Operate Letter when issued.

#### Part II – NEM2 Generator System Size

##### A. Interconnection Study and Requirements

This Agreement covers the installed Generating Facility nameplate listed in the accompanying Application Form 79-1151B-02B.

The interconnection study will use the nameplate to determine if Interconnection Facilities or Distribution or Network Upgrades are required and the responsible party for the associated costs. If upgrades are required, this will increase the time it will take for PG&E to approve your interconnection.

In order for PG&E to approve your system, you will need to provide (1) this signed Agreement, (2) Application Form 79-1151B-02B, and (3) a copy of the final signed jurisdiction approval (building permit) for your project.

NEM2 systems should be sized with an estimated annual production no larger than 100% of the Customer's total previous 12 months of usage (annual usage) and projected future increase. All NEM2 customers must take service on a Time-of-Use rate schedule and sizing your system to offset 80%-85% of your average electricity usage could be an effective way to minimize your electricity bill<sup>A</sup>. Of course, individual circumstances may vary. Customers can obtain their usage data by following the instructions on [www.pge.com](http://www.pge.com) on the page titled "[Access, download, or share usage data](#)."

<sup>A</sup> Customers on rate schedules such as ET, ES, and ESR, which do not have a corresponding TOU Rate, are not required to switch to TOU rates, unless and until such a rate becomes available.





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

## B. Generator System Sizing

The individual Solar CEC-AC KW and/or the Wind Turbine and/or Storage rating(s) calculated on the application cannot exceed 5% of the listed value(s) on this Agreement and Authorization.

Generator System Type: ☐ Solar ☐ Wind ☐ Both

### Estimated Annual Production:

(1) Solar CEC-AC rating <sup>B</sup>	_____ (kW) X 1,500 <sup>C</sup>	=	_____ (kWh)
AND/OR (2) Wind Nameplate rating	_____ (kW) X 2,190 <sup>D</sup>	=	_____ (kWh)
(3) Total Energy Production	_____ (1) + (2)	=	_____ (kWh)

### **Estimated Annual Energy Usage:**

(Solar systems ≤ 5 kW (CEC-AC) do not need to complete this section)

(4) Recent annual usage	_____ (kWh) X 1.04	=	_____ (kWh)
OR (If 12 months usage not available) (5) Building size	_____ (sq ft) X 3.0032 <sup>E</sup>	=	_____ (kWh)
AND (6) I plan to increase my annual usage (kWh) by	_____ (kWh)		_____ (kWh)
(7) Total Energy Usage	(4 or 5) + (6)	=	_____ (kWh)

### **Net Generation:**

(8) Production – Usage	(3) – (7)	=	_____ (kWh)*
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\*Positive number indicates that the system is estimated to generate more than the estimated usage. Please refer to Part IV, Section H to read the provisions around Net Surplus Compensation (NSC).

## Part III – Rate Selection

**A. Current Rate:** Please identify your existing rate by reviewing your PG&E energy statement or by calling the phone number listed below.

**Otherwise Applicable Rate Schedule (OAS) for NEM2 Account:** Select one rate from the category applicable to you. NEM2 residential customers must be an applicable time-of-use rate<sup>F</sup> schedule. If you are currently on a rate that is no longer open to new customers and are opting to move to a different rate, by signing this Agreement and Customer

<sup>B</sup> CEC-AC (kW) = California Energy Commission Alternating Current, refers to the inverter efficiency rating (Quantity of PV Modules x PTC Rating of PV Modules x CEC Inverter Efficiency Rating)/1000

<sup>C</sup> 8,760 hrs/yr x 0.17123 solar capacity factor = 1,500

<sup>D</sup> 8,760 hrs/yr x 0.25 wind capacity factor = 2,190

<sup>E</sup> 2 watts/ sq ft x 1/1,000 watts x 8,760 hrs/yr x 0.171239 solar capacity factor = 3.0032

<sup>F</sup> Schedules such as ES, ESR or ET, which have no available corresponding time-of-use rate, are not required to switch to time-of-use rates, unless and until such a rate becomes available.



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering (NEM2) Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

Authorization you are acknowledging that you are leaving the current rate and will not be able to return to this rate in the future. Visit [www.pge.com/rateoptions](http://www.pge.com/rateoptions) or call (800)-PGE-5000 for rate information.

☐ Stay on existing rate

☐ Requested new rate \_\_\_\_\_

~~Residential Service Rate (Select one):~~

~~[Rate Schedule to be Selected online from Currently Available Residential Rates]~~

~~Small and Medium Commercial Service Rate (Select one rate and primary or secondary service voltage):~~

~~[Rate Schedule to be Selected online From Currently Available Small & Medium Commercial Rates]~~

~~Agricultural Power Service Rate: (Select one rate and rate option):~~

~~[Rate Schedule to be Selected online From Currently Available Agricultural Rates]~~

#### Part IV – Interconnection Agreement Provisions

##### A. Applicability

\_\_\_\_ This Agreement applies to Electric Schedule NEM2 Customer-Generators (Customer) who interconnect a solar and/or wind turbine electric Generating Facility, or a hybrid system of both, with an aggregate capacity of 30 kilowatts or less that is located on Customer's premises and that operates in parallel with PG&E's Distribution System.

##### A.B. Permission to Operate

\_\_\_\_ Customer may not operate their generator while interconnected to the PG&E system until receiving written permission from PG&E. Unauthorized Parallel Operation could result in injury to persons and/or damage to equipment and/or property for which the Customer may be liable.

##### B.C. Safety

\_\_\_\_ Customer shall meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, accredited testing laboratories such as Underwriters Laboratories and, where applicable, PG&E's Electric Rule 21, and other rules approved by the CPUC regarding safety and reliability. A Customer with a solar or wind-turbine electric generating system, or a hybrid system of both, that meets

those standards and rules shall not be required to install additional controls, perform or pay for additional tests, or purchase additional liability insurance.

##### D. Safe Operation of your Generating Facility

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

##### E. AC Disconnect Switch

\_\_\_\_ PG&E recommends that a customer installing an inverter-based generator consider also installing an AC Disconnect Switch to facilitate maintenance of the Customer's equipment (i.e. inverter, PV arrays, etc.). If an AC Disconnect Switch is not installed, the revenue meter may be temporarily removed by PG&E due to an emergency or maintenance on PG&E's system to isolate the Customer's generator from the electric distribution system. Removal of the revenue meter



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering (NEM2) Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

will result in loss of electrical service to the Customer's facility or residence. AC Disconnect Switch requirements are available in PG&E's Greenbook [www.pge.com/greenbook](http://www.pge.com/greenbook).

#### **F. Rate**

Customer has confirmed their otherwise applicable rate schedule (OAS) to establish how the Customer's monthly usage or net generation will be charged/credited when submitting this Agreement. Further Customer-initiated rate changes are governed in accordance with PG&E's Electric Rule 12.

#### **art IV—Interconnection Agreement Provisions—Continued**

##### **C. Safe Operation of your Generating Facility**

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

~~E.~~

##### **F. AC Disconnect Switch**

~~G. PG&E recommends that a customer installing an inverter-based generator consider also installing an AC Disconnect Switch to facilitate maintenance of the Customer's equipment (i.e. inverter, PV arrays, etc.). If an AC Disconnect Switch is not installed, the revenue meter may be temporarily removed by PG&E due to an emergency or maintenance on PG&E's system to isolate the Customer's generator from the electric distribution system. Removal of the revenue meter will result in loss of electrical service to the Customer's facility or residence. AC Disconnect Switch requirements are available in PG&E's Greenbook [www.pge.com/greenbook](http://www.pge.com/greenbook).~~

#### **H. Rate**

~~Customer has confirmed their otherwise applicable rate schedule (OAS) to establish how the Customer's monthly usage or net generation will be charged/credited when submitting this Agreement. Further Customer-initiated rate changes are governed in accordance with PG&E's Electric Rule 12.~~

#### **I.G. NEM2 Billing**

The Customer's meter separately measures exports and imports.

The meter is read monthly and an amount is calculated based on the net energy (kWh) and total energy(kWh) exports recorded in kilowatt hours (kWh). If a customer exported more electricity than they drew from the energy provider in a given billing cycle, the amount is deemed a surplus. If a customer received more electricity from PG&E than they exported, the amount is deemed a charge. The rate at which the charge or surplus is calculated is based on the customer's OAS which is requested by the Customer in this Agreement.

Additionally, the Customer will be billed for non-bypassable charges on all imports from the grid, as describe in Schedule NEM2 Special Condition 2.

After 12 billing cycles, the corresponding charges and surpluses are reconciled in the annual true-up bill. Any remaining charges must be paid and any excess surpluses are typically zeroed out. More information about NEM2 billing is available at [www.pge.com/nembilling](http://www.pge.com/nembilling).

#### **J.H. Net Surplus Compensation (NSC)**

NSC payments are made to NEM2 customers who produce more electricity than they use during the Relevant Period. The payment rate is based on a rolling 12-month average of spot market prices and may fluctuate on a monthly basis. The historical range of the NSC rate at the time of this Advice Filing is approximately \$0.03 to \$0.04. A history of NSC rates is available at [www.pge.com/nembilling](http://www.pge.com/nembilling). If a customer would like to opt out from receiving this payment, please visit [https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC\\_FORMS\\_79-1130.pdf](https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_FORMS_79-1130.pdf). Participants in NEM2A, please see provisions in NEM2 Load Aggregation Appendix (Form 79-1153).

#### **K.I. Limitation of Liability**

PG&E's and Customer's (Individually Party or together Parties) liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall



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

either Party be liable to the other Party for any indirect, special, consequential, or punitive damages of any kind whatsoever.

## **J. Governing Law**

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

## **K. Governing Authority**

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

## **L. Term of Agreement**

This Agreement shall become effective as of the date of PG&E's issuance of the permission to operate letter after receipt of all applicable fees, required documents, and this completed Agreement. This Agreement shall continue in full force and effect until terminated by either Party providing 30-days prior written notice to the other Party, or when a new Customer takes service with PG&E operating this approved generating facility. This new Customer will be interconnected subject to the terms and conditions as set forth in Schedule NEM2.

## **M. Meter Access**

The electric meter must be installed in a safe location easily accessible upon PG&E request.

## **N. Stale Agreements**

If this agreement is still pending one year from the date it is received by PG&E and Customer has not met all of the requirements, PG&E will close this application and Customer will be required to submit a new Agreement and Application should Customer wish to take service on Schedule NEM2.

## **Governing Authority**

### **art IV — Interconnection Agreement Provisions — Continued**

~~This Agreement shall at all times be subject to such changes or modification by the CPUC as said Commission may, from time to time, direct in the exercise of its jurisdiction.~~

## **Term of Agreement**

~~This Agreement shall become effective as of the date of PG&E's issuance of the permission to operate letter after receipt of all applicable fees, required documents, and this completed Agreement. This Agreement shall continue in full force and effect until terminated by either Party providing 30-days prior written notice to the other Party, or when a new Customer takes service with PG&E operating this approved generating facility. This new Customer will be interconnected subject to the terms and conditions as set forth in Schedule NEM2.~~

## **Meter Access**

~~The electric meter must be installed in a safe location easily accessible upon PG&E request.~~

## **M. Stale Agreements**

~~If this agreement is still pending one year from the date it is received by PG&E and Customer has not met all of the requirements, PG&E will close this application and Customer will be required to submit a new Agreement and Application should Customer wish to take service on Schedule NEM2.~~

## **N.O. 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.

## **O.P. Warranties or Service Agreements**

**Please complete this agreement in its entirety**



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

Customer 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.

## **P.Q. Smart Inverters**

For Customer applications received on or after September 9, 2017, the Customer certifies that their inverter-based Generating Facilities fully comply with Section Hh of Rule 21, including configuration of protective settings and default settings, in accordance with the specifications therein.

Distribution Provider may require a field verification of the Customer's inverter. Customer further agrees to cooperate fully with any such request and make their inverter available to the Distribution Provider for such verification. Customer understands that in the event the inverter is not set in accordance with Section Hh of Rule 21, Customer will need to cease operation of generating facility until verification is confirmed by Distribution Provider.

(Solar inverter models and firmware versions that comply with Rule 21 Section Hh can be found at <https://www.energy.ca.gov/programs-andtopics/topics/renewable-energy/solarequipment-lists>.)

Verification of compliance with such requirements shall be provided by the Customer upon request by PG&E in accordance with PG&E's Electric Rule 21.

An "existing inverter" is defined as an inverter that is a component of an existing Generating Facility that meets one or more of the following conditions:

- (a) ~~(a)~~ it is already approved by PG&E for interconnection prior to September 9, 2017
- (b) ~~(b)~~ the Customer has submitted the interconnection application prior to September 9, 2017,
- (c) ~~(c)~~ the Customer provides evidence of having applied for an electrical permit for the Generating Facility installation that is dated prior to September 9, 2017 and submitted a complete interconnection application <sup>G</sup> no later than March 31, 2018, or
- (d) ~~(d)~~ the Customer provides evidence of a final inspection clearance from the governmental authority having jurisdiction over the Generating Facility prior to September 9, 2017.

All "existing inverters" are not required to be Smart Inverters and are only subject to Section H of Rule 21. Customer replacing an "existing inverter" certifies it is being replaced with either:

- (i) inverter equipment that complies with Section Hh of Rule 21, (encouraged); or
- (ii) a conventional inverter that is of the same size and equivalent ability to that of the inverter being replaced, as allowed in Rule 21 Section H.3.d.ii.

## **Part V – Signature**

**IMPORTANT INFORMATION FOR CUSTOMERS – BE SURE TO READ THE FULLY POPULATED DOCUMENT BEFORE SIGNING – THIS IS A LEGALLY BINDING CONTRACT – READ IT CAREFULLY.**

**THIS FORM MUST BE SIGNED BY THE EXISTING PG&E CUSTOMER LISTED IN PART I.**

<sup>G</sup> A complete application consists all of the following without deficiencies:

1. A completed Interconnection Application including all supporting documents and required payments,
2. A completed signed Interconnection Agreement, (continued on next page)
3. Evidence of the Customer final inspection clearance from the governmental authority having jurisdiction over the generating system.

**Please complete this agreement in its entirety**

Automated Document, Preliminary Statement, Part A.



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering (NEM2) Interconnection

### For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less

Under Pacific Gas and Electric Company's (PG&E's) privacy policies, which can be found at <http://www.pge.com/about/company/privacy/customer>, PG&E generally does not sell or disclose personal information about you, such as your name, address, phone number, or electric account and billing information, to third parties unless you expressly authorize us to do so. The purpose of this form is to allow you, the customer, to exercise your right to choose whether to disclose your personal electricity usage data and other personal information to a third party. Once you authorize a third party to access personal information about you, you are responsible for ensuring that the third party safeguards the personal information from further disclosure without your consent.

By signing below, I declare under penalty of perjury under the laws of the State of California that:

- 1) The information provided in this Agreement is true and correct.
- 2) By completing the fields and checking the box in Part I Section C, I authorize the identified third party (Company) to receive my information and act on my behalf, which includes submitting or revising my Interconnection Application.
- 3) I have completed and reviewed Part II to determine if my system is sized to meet no more than my projected energy usage.
- 4) I have read in its entirety and agree to all the terms and conditions in this Interconnection Agreement and agree to comply with PG&E's Electric Rule 21.

\_\_\_\_\_  
(Print Customer Name as it appears on the PG&E Bill)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print name and title of signee, applicable if customer is a Company)  
(e.g. John Doe, Manager)

\_\_\_\_\_  
(Date)

Note: PG&E can request additional documentation to verify the authenticity of the externally signed Agreement and Customer Authorization.

To confirm project approval, the Customer should retain a copy of this signed agreement and a copy of the Permission to Operate (PTO) letter from PG&E authorizing the Customer to operate the Generating Facility after PG&E deems satisfactory compliance with all NEM2 requirements.





# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering (**NEM**) Interconnection

### For Solar And/Or Wind Electric Generating

### Facilities Of 30 Kilowatts Or Less Paired with

### Energy Storage of 10 Kilowatts Or Less **or Energy**

### **Storage with ~~GRD~~ PCS Power Control System**

### **Certification**

#### IMPORTANT NOTES:

- Customers may not operate their Generating Facility while interconnected to the PG&E system until they receive written permission from PG&E.
- City and County of San Francisco ("CCSF") owned generating facilities seeking Schedule NEMCCSF and participants in the Demand Response Programs below are not eligible to participate in NEM.
  - Scheduled Load Reduction Program (SLRP)
  - SmartRate
- Customers who participate in Direct Access and Community Choice Aggregation must contact their Energy Service Provider directly regarding their NEM program.

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

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

NEM 30 kilowatts or Less Paired with Energy Storage: ☐ Single Account ☐ Multiple Aggregated Accounts

Note: Net Energy Metering Aggregation (NEMA) is a program that allows customers with multiple meters to use the renewable energy generated at one meter (up to 1MW) to be credited against other meters that are located on parcel(s) that is/are contiguous or adjacent to the parcel that has the renewable generator. Energy Storage system must be 10 kilowatts or less.

Customer Sector (check only one):

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

Account Holder Name\* (Individual or Company)

Electric Service Agreement ID \*

Meter Number\*

CA

Service Address\*

City\*

State

Zip\*

Customer Phone Number

Email (if blank, Permission to Operate (PTO) letter will be mailed to mailing address on record)

##### B. Meter Access Issues (if applicable, check all that apply and provide contact information to request access):

- ☐ Meter in building or behind locked gate ☐ Unrestrained animal at meter or AC Disconnect Switch ☐ Other: \_\_\_\_\_

Contact Name to Request Access (if access issues exist)

Contact Phone



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**with ~~CRD-PCS~~ Power Control System Certification**

**C. Authorized Contact Information** (required if Customer is authorizing a third party to act on Customer's behalf):

Company Name

Contact Person

Contact Phone Number

Email





# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering (NEM) Interconnection

### For Solar And/Or Wind Electric Generating

### Facilities Of 30 Kilowatts Or Less with Energy

### Storage of 10 Kilowatts Or Less or Energy Storage

### with ~~CRD~~ PGS Power Control System Certification

☒ By checking this box and signing this Agreement, I (Customer) authorize PG&E to release my PG&E Electric Account information to the Company above limited to kilowatt hour (kWh) usage, operational characteristics, and other information related to my Generating Facility application. Company is also authorized to submit an Interconnection Request and act on my behalf with regard to the interconnection and receive copies of this executed Interconnection Agreement and the Permission to Operate Letter when issued.

☒

☐

## Part II – NEM Generator System Size

### A. Interconnection Study and Requirements

This Agreement covers the installed Generating Facility nameplate listed in the associated Interconnection Request.

The interconnection study will use the nameplate to determine if Interconnection Facilities or Distribution or Network Upgrades are required and the responsible party for the associated costs. If upgrades are required, this will increase the time it will take for PG&E to approve your interconnection.

In order for PG&E to approve your system, you will need to provide (1) this signed Agreement, (2) a valid Interconnection Request, and (3) a copy of the final signed jurisdiction approval (building permit) for your project.

NEM systems should be sized with an estimated annual production no larger than ~~100~~49% of the Customer's total previous 12 months of usage (annual usage) and projected future increase. For customers on a Time-of-Use rate, sizing your system to offset 80%-85% of your average electricity usage could be an effective way to minimize your electricity bill. For customer who are not on a Time-of-Use rate, you might want to size your system larger (90-95% of your annual load), in order to minimize your electricity bill. Of course, individual circumstances may vary. Customers can obtain their usage data by following the instructions on [www.pge.com](http://www.pge.com) on the page titled "Access, download, or share usage data." ~~from [www.pge.com/greenbutton](http://www.pge.com/greenbutton).~~ System sizing eligibility will be reviewed using the criteria below.



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**B. Generator System Sizing**

Please complete this section only if installing a new Solar or Wind system or modifying an existing Solar or Wind system. This section is not applicable if only adding energy storage to an existing previously interconnected Solar or Wind system.

The individual Solar CEC-AC KW and/or the Wind Turbine and/or Storage rating(s) calculated on the application cannot exceed 5% of the listed value(s) on this Agreement and Authorization.

Generator System Type: ☐ Solar ☐ Wind ☐ Both

**Estimated Annual Production:**

(The Solar CEC-AC kW calculated from the Application cannot exceed 5% of the CEC-AC kW listed below)

- ~~Please complete this section only if installing a new Solar or Wind system or modifying an existing Solar or Wind system. This section is not applicable if only adding energy storage to an existing previously interconnected Solar or Wind system.~~
- ~~Solar Systems > 5 kW (CEC-AC kW) or any system with wind, size is determined below. Please continue to fill out all of Section B.~~
- ~~The Solar CEC-AC kW calculated from the Application cannot exceed 5% of the CEC-AC kW listed above~~



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	(1) Solar CEC-AC rating <sup>A</sup>	_____ (kW) X 1,500 <sup>B</sup>	= _____ (kWh)
AND/OR	(2) Wind Nameplate rating	_____ (kW) X 2,190 <sup>C</sup>	= _____ (kWh)
	(3) Total Energy Production	_____ (1) + (2)	= _____ (kWh)
<b>Estimated Annual Energy Usage:</b>			
	(4) Recent annual usage	_____ (kWh) X 1.04	= _____ (kWh)
OR (If 12 months usage not available)	(5) Building size	_____ (sq ft) X 3.0032 <sup>D</sup>	= _____ (kWh)
AND	(6) I plan to increase my annual usage (kWh) by	_____	(kWh)
	(7) Total Energy Usage	(2 or 3) + (4)	= _____ (kWh)
<b>Net Generation:</b>			
	(8) Production - Usage	(3) - (7)	= _____ (kWh)*

\*Positive number indicates that the system is estimated to generate more than the estimated usage. Please refer to Part IV, Section J to read the provisions around Net Surplus Compensation (NSC).

**A Non-NEM Eligible Energy Storage System or CRD-PCS Certified-an Energy Storage System with a Certified Power Control System (see Section R):**

Energy Storage System Rating \_\_\_\_\_ kW

Does the energy storage system share an inverter with the NEM system? ☐ Yes ☐ No

If not, please provide:

Energy Storage Inverter Rating \_\_\_\_\_ kW

**Part III – Rate Selection**

**A. Current Rate:** Please identify your existing rate by reviewing your PG&E energy statement or by calling the phone number listed below.

**Otherwise Applicable Rate Schedule (OAS) for NEM Account:** Select one rate from the category applicable to you. Visit [www.pge.com/rateoptions](http://www.pge.com/rateoptions) or call (800)-PGE-5000 for rate information.

<sup>A</sup> CEC-AC (kW) = California Energy Commission Alternating Current, refers to the inverter efficiency rating (Quantity of PV Modules x PTC Rating of PV Modules x CEC Inverter Efficiency Rating)/1000

<sup>B</sup> 8,760 hrs/yr x 0.171239 solar capacity factor = 1,500664

<sup>C</sup> 8,760 hrs/yr x 0.25 wind capacity factor = 2,190

<sup>D</sup> 2 watts/ sq ft x 1/1,000 watts x 8,760 hrs/yr x 0.171239 solar capacity factor = 3.0032



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**with ~~CRD~~ PCS Power Control System Certification**

☐ Stay on existing rate

☐ Requested new rate



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering (NEM) Interconnection

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#### Residential Service Rate (Select one):

- ☐ ~~E-1~~ Non Time-of Use
- ☐ ~~E-6~~ Time-of Use
- ☐ ~~E-7<sup>E</sup>~~ Time-of Use
- ☐ ~~E-8<sup>F</sup>~~ Non Time-of Use
- ☐ ~~E-9A<sup>F</sup>~~ Time-of Use for Customers with a single meter for Electric Vehicle (EV) recharging station and home
- ☐ ~~E-9B<sup>F</sup>~~ Time-of Use for Customers with a separately metered EV recharging station
- ☐ ~~EV-A<sup>F</sup>~~ Time-of Use for Customers with a single meter for Electric Vehicle (EV) recharging station and home
- ☐ ~~EV-B<sup>G</sup>~~ Time-of Use for Customers with a separately metered EV recharging station
- ☐ Other (\_\_\_\_\_)

#### Small and Medium Commercial Service Rate (Select one rate and primary or secondary service voltage):

	<u>Primary</u>	<u>Secondary</u>
<input type="checkbox"/> <del>A-1</del> Small General Service	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <del>A-6</del> Small General Time-of Use Service	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <del>A-10</del> Medium General Demand Metered Service	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <del>A-10</del> Medium General Time-of Use Service	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <del>B-1</del> Small General Service	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <del>B-6</del> Small General Time-of Use Service	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <del>B-10</del> Medium General Time-of Use Service	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Other (_____)	<input type="checkbox"/>	<input type="checkbox"/>

#### Agricultural Power Service Rate: (Select one rate and rate option):

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>
<input type="checkbox"/> <del>AG-1</del>	<input type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/> <del>AG-R<sup>F</sup></del> Split Week Time-of Use	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> <del>AG-V<sup>F</sup></del> Short Peak Time-of Use	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> <del>AG-4</del> Time-of Use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <del>AG-5</del> Time of Use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Other (_____)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If your current rate is a closed rate, as identified in Footnote F, and you are now opting to move to a non-closed rate per the Otherwise Applicable Rate Schedule (OAS) for NEM Account, please check the box below acknowledging that you are leaving the closed rate and will not be able to select the closed rate in the future.

☐ I acknowledge and consent to leaving my current rate that is a closed rate.

<sup>E</sup> E-7, E-8, E-9A, E-9B, AG-R, and AG-V are closed to all new customers and are only available to Customers that are currently on the rate

<sup>F</sup> Rates effective August 1, 2013 for Customers with Electric Vehicles. Please visit [www.pge.com/electricvehicles](http://www.pge.com/electricvehicles) for more rate information



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering (NEM) Interconnection

### For Solar And/Or Wind Electric Generating

### Facilities Of 30 Kilowatts Or Less with Energy

### Storage of 10 Kilowatts Or Less or Energy Storage

### with ~~CRD~~ PGS Power Control System Certification

#### Part IV – Interconnection Agreement Provisions

##### A. Purpose

The purpose of this Net Energy Metering (NEM) Application and Interconnection Agreement for Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less (Agreement) is to allow Customer to interconnect with Pacific Gas and Electric Company's (PG&E) Distribution System, subject to the provisions of this Agreement and PG&E's Electric Schedule Net Energy Metering (NEM). Customer has elected to interconnect and operate its solar and/or wind electric Generating Facility in parallel with PG&E's Distribution System to offset part or all of the Customer's own electrical requirements at this service point. Customer shall comply at all times with this Agreement as well as with all applicable laws, tariffs and requirements of the California Public Utilities Commission (CPUC).

##### B. Applicability

This Agreement applies to Electric Schedule NEM Customer-Generators (Customer) who interconnect a solar and/or wind turbine electrical Generating Facility, or a hybrid system of both, with an aggregate capacity of 30 kilowatts or less that is located on Customer's premises and that operates in parallel with PG&E's Distribution System.

##### C. NEM Transition

Customers receiving service on the current NEM tariff prior to the date that PG&E reaches its NEM Cap or July 1, 2017, whichever is earlier, are subject to the NEM Transition Provisions outlined in Rate Schedule NEM. Please see Rate Schedule NEM at [http://www.pge.com/tariffs/tm2/pdf/ELEC\\_SCHEDS\\_NEM.pdf](http://www.pge.com/tariffs/tm2/pdf/ELEC_SCHEDS_NEM.pdf) for more details.

##### D. Permission to Operate

Customer may not operate their generator while interconnected to the PG&E system until receiving written permission from PG&E. Unauthorized Parallel Operation could result in injury to persons and/or damage to equipment and/or property for which the Customer may be liable.



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering (NEM) Interconnection

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#### E. Safety

Customer shall meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, accredited testing laboratories such as Underwriters Laboratories and, where applicable, PG&E's Electric Rule 21, and other rules approved by the CPUC regarding safety and reliability. A Customer with a solar or wind-turbine electrical generating system, or a hybrid system of both, that meets those standards and rules shall not be required to install additional controls, perform or pay for additional tests, or purchase additional liability insurance.

#### F. Safe Operation of your Generating Facility

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

#### G. AC Disconnect Switch

PG&E recommends that a customer installing an inverter-based generator consider also installing an AC Disconnect Switch to facilitate maintenance of the Customer's equipment (i.e. inverter, PV arrays, etc.). If an AC Disconnect Switch is not installed, the revenue meter may be temporarily removed by PG&E due to an emergency or maintenance on PG&E's system to isolate the Customer's generator from the electric distribution system. Removal of the revenue meter will result in loss of electrical service to the Customer's facility or residence. AC Disconnect Switch requirements are available in PG&E's Greenbook [www.pge.com/greenbook](http://www.pge.com/greenbook).

#### H. Rate

Customer has confirmed their otherwise applicable rate schedule (OAS), establishing how Customer's monthly usage or net generation will be charged/credited when submitting this Agreement. Further Customer-initiated rate changes are governed in accordance with PG&E's Electric Rule 12.

#### I. NEM Billing

PG&E installs a "net meter" on a customer's property that measures the net energy, defined as the difference between the amount of electricity supplied by the energy service provider and the amount of electricity exported to the grid over the course of a month. The Customer's account is enrolled in the NEM program and put on an annual (12- billing months) true-up cycle.

The meter is read monthly and an amount is calculated based on the net energy recorded in kilowatt hours (kWh). If a customer exported more electricity than they drew from PG&E in a given billing cycle, the amount is deemed a surplus. If a customer received more electricity from PG&E than they exported, the amount is deemed a charge. The rate at which the charge or surplus is calculated is based on the customer's OAS which is requested by the Customer in this Agreement.

After 12 billing cycles, the corresponding charges and surpluses are reconciled in the annual true-up bill. Any remaining charges must be paid and any excess surpluses are typically zeroed out. More information about NEM billing is available at [www.pge.com/nembilling](http://www.pge.com/nembilling).



# AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with CRD-PGS Power Control System Certification

## J. Net Surplus Compensation (NSC)

NSC payments are made to NEM customers who produce more electricity than they use during the Relevant Period. The payment rate is based on a rolling 12-month average of spot market prices and may fluctuate on a monthly basis. The historical range of the NSC rate at the time of this Advice Filing is approximately \$0.03 to \$0.04. A history of NSC rates is available at [www.pge.com/nembilling](http://www.pge.com/nembilling). If a customer would like to opt out from receiving this payment, please visit [www.pge.com/nscoptout](http://www.pge.com/nscoptout) to complete Form 79-1130. Participants in NEMA, please see provisions in Form 79-1153.

## K. Limitation of Liability

PG&E's and Customer's (Individually Party or together Parties) liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages of any kind whatsoever.

## L. Governing Law

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

## M. Governing Authority

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

## N. Term of Agreement

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

## O. Meter Access

The electric meter must be installed in a safe location easily accessible upon PG&E request.

## P. Stale Agreements

If this agreement is still pending one year from the date it is received by PG&E and Customer has not met all of the requirements, PG&E will close this application and Customer will be required to submit a new Agreement and Application should Customer wish to take service on Schedule NEM.





# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering (NEM) Interconnection

### For Solar And/Or Wind Electric Generating

### Facilities Of 30 Kilowatts Or Less with Energy

### Storage of 10 Kilowatts Or Less or Energy Storage

### with CRD-PGS Power Control System Certification

#### Q. Smart Inverters

For Customer applications received on or after September 9, 2017, the Customer certifies that their inverter-based Generating Facilities fully comply with Section Hh of Rule 21, including configuration of protective settings and default settings, in accordance with the specifications therein.

Distribution Provider may require a field verification of the Customer's inverter. Customer further agrees to cooperate fully with any such request and make their inverter available to the Distribution Provider for such verification. Customer understands that in the event the inverter is not set in accordance with Section Hh of Rule 21, Customer will need to cease operation of generating facility until verification is confirmed by Distribution Provider.

Solar inverter models and firmware versions that comply with Rule 21 Section Hh can be found at <https://www.energy.ca.gov/programs-and-topics/topics/renewable-energy/solar-equipment-list> <http://www.gosolarcalifornia.org/equipment/inverters.php>.

Verification of compliance with such requirements shall be provided by the Customer upon request by PG&E in accordance with PG&E's Electric Rule 21.

An "existing inverter" is defined as an inverter that is a component of an existing Generating Facility that meets one or more of the following conditions:

- (a) it is already approved by PG&E for interconnection prior to September 9, 2017
- (b) the Customer has submitted the interconnection application prior to September 9, 2017,
- (c) the Customer provides evidence of having applied for an electrical permit for the Generating Facility installation that is dated prior to September 9, 2017 and submitted a complete interconnection application<sup>4G</sup> no later than March 31, 2018, or
- (d) the Customer provides evidence of a final inspection clearance from the governmental authority having jurisdiction over the Generating Facility prior to September 9, 2017.

All "existing inverters" are not required to be Smart Inverters and are only subject to Section H of Rule 21. Customer replacing an "existing inverter" certifies it is being replaced with either:

- (i) inverter equipment that complies with Section Hh of Rule 21, (encouraged); or
- (ii) a conventional inverter that is of the same size and equivalent ability to that of the inverter being replaced, as allowed in Rule 21 Section H.3.d.ii.

~~<sup>4</sup>A complete application consists all of the following without deficiencies:~~

- ~~1. A completed Interconnection Application including all supporting documents and required payments~~
- ~~2. A completed signed Interconnection Agreement~~
- ~~3. Evidence of the Customer final inspection clearance from the governmental authority having jurisdiction over the generating system.~~

<sup>G</sup> A complete application consists all of the following without deficiencies:

- 1. A completed Interconnection Application including all supporting documents and required payments
- 2. A completed signed Interconnection Agreement
- 3. Evidence of the Customer final inspection clearance from the governmental authority having jurisdiction over the generating system.



**AGREEMENT AND CUSTOMER AUTHORIZATION**  
**Net Energy Metering (NEM) Interconnection**  
**For Solar And/Or Wind Electric Generating**  
**Facilities Of 30 Kilowatts Or Less with Energy**  
**Storage of 10 Kilowatts Or Less or Energy Storage**  
**with CRD-PCS Power Control System Certification**

**R. CRD-PCS Power Control System Certification**

By signing below, customer confirms that Energy Storage over 10 kW has received UL 1741 CRD for Power Control Systems (PCS) certification that will comply with either No Grid Charge or No Storage Export as defined in Schedule NEM2.



**AGREEMENT AND CUSTOMER AUTHORIZATION**  
**Net Energy Metering (NEM) Interconnection**  
**For Solar And/Or Wind Electric Generating**  
**Facilities Of 30 Kilowatts Or Less with Energy**  
**Storage of 10 Kilowatts Or Less or Energy Storage**  
**with CRD-PCS Power Control System Certification**

Signature

**Part V – Signature**

**IMPORTANT INFORMATION FOR CUSTOMERS – BE SURE TO READ THIS ENTIRE DOCUMENT BEFORE SIGNING – THIS IS A LEGALLY BINDING CONTRACT – READ IT CAREFULLY.**

**THIS FORM MUST BE SIGNED BY AN EXISTING PG&E CUSTOMER.**

Under Pacific Gas and Electric Company's (PG&E's) privacy policies, which can be found at [www.pge.com/about/company/privacy/customer], PG&E generally does not sell or disclose personal information about you, such as your name, address, phone number, or electric account and billing information, to third parties unless you expressly authorize us to do so. The purpose of this form is to allow you, the customer, to exercise your right to choose whether to disclose your personal electricity usage data and other personal information to a third party. Once you authorize a third party to access personal information about you, you are responsible for ensuring that the third party safeguards the personal information from further disclosure without your consent.

By signing below, I declare under penalty of perjury under the laws of the State of California that:

- 1) The information provided in this Agreement is true and correct.
- 2) By completing the fields and checking the box in Part I Section C, I authorize the identified third party (Company) to receive my information and act on my behalf, which includes submitting or revising my Interconnection Application.
- 3) I have completed and reviewed Part II to determine if my system is sized to meet no more than my projected energy usage.
- 4) I have read in its entirety and agree to all the terms and conditions in this Interconnection Agreement and agree to comply with PG&E's Electric Rule 21.

\_\_\_\_\_  
(Print Customer Name as it appears on the PG&E Bill)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print name and title of signee, applicable if customer is a Company)  
(e.g. John Doe, Manager)

\_\_\_\_\_  
(Date)

Note: PG&E will accept electronic signatures that are verified by qualified Third Parties such as, Adobe EchoSign, e-SignLive, and DocuSign for this Agreement if the Agreement is completed in its entirety before signing.

To confirm project approval, the Customer should retain a copy of this signed agreement and a copy of the Permission to Operate (PTO) letter from PG&E authorizing the Customer to operate the Generating Facility after PG&E deems satisfactory compliance with all NEM requirements.



# AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System GRD-PCS Certification

## IMPORTANT NOTES:

- Customers may not operate their Generating Facility while interconnected to the PG&E system until they receive written permission from PG&E.
- City and County of San Francisco ("CCSF") owned generating facilities seeking Schedule NEMCCSF or participants in the Demand Response Programs below are not eligible to participate in NEM2.
  - Scheduled Load Reduction Program (SLRP)
  - SmartRate
- Customers who participate in Direct Access and Community Choice Aggregation must contact their Energy Service Provider directly regarding their NEM2 program.

## Part I – Generating Facility Information and Responsible Parties

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

Standard NEM2 Agreement Type: ☐ Single Account ☐ Multiple Aggregated Accounts

Note: Net Energy Metering Aggregation 2 (NEM2A) is a program that allows customers with multiple meters to use the renewable energy generated at one meter to be credited against other meters that are located on parcel(s) that is/are contiguous or adjacent to the parcel that has the renewable generator.

Customer Sector (check only one): ☐ Residential ☐ Educational  
☐ Commercial ☐ Military  
☐ Industrial ☐ Other Government  
☐ Non-Profit

Account Holder Name\* (Individual or Company) Electric Service Agreement ID \* Meter Number\*  
CA  
Service Address\* City\* State Zip\*  
Customer Phone Number Email (if blank, Permission to Operate (PTO) letter will be mailed to mailing address on record)

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

### B. Meter Access Issues (if applicable, check all that apply and provide contact information to request access):

☐ Meter in building or behind locked gate ☐ Unrestrained animal at meter or AC Disconnect Switch ☐ Other: \_\_\_\_\_

Contact Name to Request Access (if access issues exist) Contact Phone



# AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System GRD-PCS Certification

## C. Authorized Contact Information (required if Customer is authorizing a third party to act on Customer's behalf):

Company Name

Contact Person

Contact Phone Number

Email

- ☐ By checking this box and signing this Agreement, I (Customer) authorize PG&E to release my PG&E Electric Account information to the Company above limited to kilowatt hour (kWh) usage, operational characteristics, and other information related to my Generating Facility application. Company is also authorized to submit an Interconnection Request and act on my behalf with regard to the interconnection and receive copies of this executed Interconnection Agreement and the Permission to Operate Letter when issued.

## Part II – NEM2 Generator System Size

### A. Interconnection Study and Requirements

This Agreement covers the installed Generating Facility nameplate listed in the associated Interconnection Request.

The interconnection study will use the nameplate to determine if Interconnection Facilities or Distribution or Network Upgrades are required and the responsible party for the associated costs. If upgrades are required, this will increase the time it will take for PG&E to approve your interconnection.

In order for PG&E to approve your system, you will need to provide (1) this signed Agreement, (2) **a valid Interconnection Request**, and (3) a copy of the final signed jurisdiction approval (building permit) for your project.

NEM2 systems should be sized with an estimated annual production no larger than ~~100~~40% of the Customer's total previous 12 months of usage (annual usage) and projected future increase. All NEM2 customers must take service on a Time-of-Use rate schedule and sizing your system to offset 80%-85% of your average electricity usage could be an effective way to minimize your electricity bill<sup>A</sup>. Of course, individual circumstances may vary. Customers can obtain their usage data by following the instructions on [www.pge.com](http://www.pge.com) on the page titled "Access, download, or share usage data." from [www.pge.com/greenbutton](http://www.pge.com/greenbutton).

<sup>A</sup> Customers on rate schedules such as ET, ES, and ESR, which do not have a corresponding TOU Rate, are not required to switch to TOU rates, unless and until such a rate becomes available.



# AGREEMENT AND CUSTOMER AUTHORIZATION

## Net Energy Metering (NEM2) Interconnection

### For Solar And/Or Wind Electric Generating

### Facilities Of 30 Kilowatts Or Less with Energy

### Storage of 10 Kilowatts Or Less or Energy Storage

### with Power Control System GRD-PCS Certification

#### B. Generator System Sizing

Please complete this section only if installing a new Solar or Wind system or modifying an existing Solar or Wind system. This section is not applicable if only adding energy storage to an existing previously interconnected Solar or Wind system.

The individual Solar CEC-AC kW and/or the Wind Turbine and/or Storage rating(s) calculated on the application cannot exceed 5% of the listed value(s) on this Agreement and Authorization.

Generator System Type: ☐ Solar ☐ Wind ☐ Both

#### Estimated Annual Production:

(The Solar CEC-AC kW calculated from the Application cannot exceed 5% of the CEC-AC kW listed below)

		X		
(1) Solar CEC-AC rating <sup>B</sup>	(kW)	1,500,664 <sup>C</sup>	=	(kWh)
AND/OR (2) Wind Nameplate rating	(kW)	X 2,190 <sup>D</sup>	=	(kWh)
(3) Total Energy Production		(1) + (2)	=	(kWh)

#### Estimated Annual Energy Usage:

(Solar systems ≤ 5 kW (CEC-AC) do not need to complete this section)

(4) Recent annual usage	(kWh)	X 1.04	=	(kWh)
OR (If 12 months usage not available) (5) Building size	(sq ft)	X 3.0032 <sup>E</sup>	=	(kWh)
AND (6) I plan to increase my annual usage (kWh) by			=	(kWh)
(7) Total Energy Usage		(4 or 5) + (6)	=	(kWh)

#### Net Generation:

(8) Production – Usage	(3) – (7)	=	(kWh)*
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\*Positive number indicates that the system is estimated to generate more than the estimated usage. Please refer to Part IV, Section H to read the provisions around Net Surplus Compensation (NSC).

<sup>B</sup> CEC-AC (kW) = California Energy Commission Alternating Current, refers to the inverter efficiency rating (Quantity of PV Modules x PTC Rating of PV Modules x CEC Inverter Efficiency Rating)/1000

<sup>C</sup> 8,760 hrs/yr x 0.17123 solar 49-capacity factor = 1,500,664

<sup>D</sup> 8,760 hrs/yr x 0.25 wind capacity factor = 2,190

<sup>E</sup> 2 watts/ sq ft x 1/1,000 watts x 8,760 hrs/yr x 0.171239 solar capacity factor = 3.0032

Please complete this agreement in its entirety

Automated Document, Preliminary Statement, Part A.



# AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System CRD-PCS Certification

~~A Non-NEM Eligible Energy Storage System or an CRD-PCS Certified~~ Energy Storage System with a  
Certified Power Control System (see Section R):

Energy Storage Rating \_\_\_\_\_ kW

Does the energy storage system share an inverter with the NEM system? ☐ Yes ☐ No

If not, please provide:

Energy Storage Inverter Rating \_\_\_\_\_ kW

## Part III – Rate Selection

**A. Current Rate:** Please identify your existing rate by reviewing your PG&E energy statement or by calling the phone number listed below.

**Otherwise Applicable Rate Schedule (OAS) for NEM2 Account:** Select one rate from the category applicable to you. NEM2 residential customers must be an applicable time-of-use rate<sup>F</sup> schedule. If you are currently on a rate that is no longer open to new customers and are opting to move to a different rate, by signing this Agreement and Customer Authorization you are acknowledging that you are leaving the current rate and will not be able to return to this rate in the future. Visit [www.pge.com/rateoptions](http://www.pge.com/rateoptions) or call (800)-PGE-5000 for rate information.

☐ Stay on existing rate

☐ Requested new rate \_\_\_\_\_

## Part IV – Interconnection Agreement Provisions

### A. Applicability

This Agreement applies to Electric Schedule NEM2 Customer-Generators (Customer) who interconnect a solar and/or wind turbine electric Generating Facility, or a hybrid system of both, with an aggregate capacity of 30 kilowatts or less that is located on Customer's premises and that operates in parallel with PG&E's Distribution System.

### B. Permission to Operate

Customer may not operate their generator while interconnected to the PG&E system until receiving written permission from PG&E. Unauthorized Parallel Operation could result in injury to persons and/or damage to equipment and/or property for which the Customer may be liable.

<sup>F</sup> Schedules such as ES, ESR or ET, which have no available corresponding time-of-use rate, are not required to switch to time-of-use rates, unless and until such a rate becomes available.





# AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System GRD-PCS Certification

## C. Safety

Customer shall meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, accredited testing laboratories such as Underwriters Laboratories and, where applicable, PG&E's Electric Rule 21, and other rules approved by the CPUC regarding safety and reliability. A Customer with a solar or wind-turbine electric generating system, or a hybrid system of both, that meets

those standards and rules shall not be required to install additional controls, perform or pay for additional tests, or purchase additional liability insurance.

## D. Safe Operation of your Generating Facility

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

## E. AC Disconnect Switch

PG&E recommends that a customer installing an inverter-based generator consider also installing an AC Disconnect Switch to facilitate maintenance of the Customer's equipment (i.e. inverter, PV arrays, etc.). If an AC Disconnect Switch is not installed, the revenue meter may be temporarily removed by PG&E due to an emergency or maintenance on PG&E's system to isolate the Customer's generator from the electric distribution system. Removal of the revenue meter will result in loss of electrical service to the Customer's facility or residence. AC Disconnect Switch requirements are available in PG&E's Greenbook [www.pge.com/greenbook](http://www.pge.com/greenbook).

## F. Rate

Customer has confirmed their otherwise applicable rate schedule (OAS) to establish how the Customer's monthly usage or net generation will be charged/credited when submitting this Agreement. Further Customer-initiated rate changes are governed in accordance with PG&E's Electric Rule 12.

## G. NEM2 Billing

The Customer's meter separately measures exports and imports.

The meter is read monthly and an amount is calculated based on the net energy (kWh) and total energy(kWh) exports recorded in kilowatt hours (kWh). If a customer exported more electricity than they drew from the energy supplier in a given billing cycle, the amount is deemed a surplus. If a customer received more electricity from the energy supplier than they exported, the amount is deemed a charge. The rate at which the charge or surplus is calculated is based on the customer's OAS which is requested by the Customer in this Agreement.

Additionally, the Customer will be billed for non-bypassable charges on all imports from the grid, as describe in Schedule NEM2 Special Condition 2.

After 12 billing cycles, the corresponding charges and surpluses are reconciled in the annual true-up bill. Any remaining charges must be paid and any excess surpluses are typically zeroed out. More information about NEM2 billing is available at [www.pge.com/nembilling](http://www.pge.com/nembilling).





# AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System GRD-PCS Certification

## H. Net Surplus Compensation (NSC)

NSC payments are made to NEM2 customers who produce more electricity than they use during the Relevant Period. The payment rate is based on a rolling 12-month average of spot market prices and may fluctuate on a monthly basis. The historical range of the NSC rate at the time of this Advice Filing is approximately \$0.03 to \$0.04. A history of NSC rates is available at [www.pge.com/nembilling](http://www.pge.com/nembilling). If a customer would like to opt out from receiving this payment, please visit [www.pge.com/nscoptout to complete Form 79-1130](http://www.pge.com/nscoptout to complete Form 79-1130). Participants in NEM2A, please see provisions in *NEM2 Load Aggregation Appendix (Form 79-1153)*.

## I. Limitation of Liability

PG&E's and Customer's (Individually Party or together Parties) liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages of any kind whatsoever.

## J. Governing Law

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

## K. Governing Authority

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

## L. Term of Agreement

This Agreement shall become effective as of the date of PG&E's issuance of the permission to operate letter after receipt of all applicable fees, required documents, and this completed Agreement. This Agreement shall continue in full force and effect until terminated by either Party providing 30-days prior written notice to the other Party, or when a new Customer takes service with PG&E operating this approved generating facility. This new Customer will be interconnected subject to the terms and conditions as set forth in Schedule NEM2.

## M. Meter Access

The electric meter must be installed in a safe location easily accessible upon PG&E request.

## N. Stale Agreements

If this agreement is still pending one year from the date it is received by PG&E and Customer has not met all of the requirements, PG&E will close this application and Customer will be required to submit a new Agreement and Application should Customer wish to take service on Schedule NEM2.

## O. 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.



**AGREEMENT AND CUSTOMER AUTHORIZATION  
Net Energy Metering (NEM2) Interconnection  
For Solar And/Or Wind Electric Generating  
Facilities Of 30 Kilowatts Or Less with Energy  
Storage of 10 Kilowatts Or Less or Energy Storage  
with Power Control System GRD-PCS Certification**

**P. 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.



# AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System GRD-PCS Certification

## Q. Smart Inverters

For Customer applications received on or after September 9, 2017, the Customer certifies that their inverter-based Generating Facilities fully comply with Section Hh of Rule 21, including configuration of protective settings and default settings, in accordance with the specifications therein.

Distribution Provider may require a field verification of the Customer's inverter. Customer further agrees to cooperate fully with any such request and make their inverter available to the Distribution Provider for such verification. Customer understands that in the event the inverter is not set in accordance with Section Hh of Rule 21, Customer will need to cease operation of generating facility until verification is confirmed by Distribution Provider.

Solar inverter models and firmware versions that comply with Rule 21 Section Hh can be found at <https://www.energy.ca.gov/programs-and-topics/topics/renewable-energy/solar-equipment-lists> <http://www.gosolarcalifornia.org/equipment/inverters.php>.

Verification of compliance with such requirements shall be provided by the Customer upon request by PG&E in accordance with PG&E's Electric Rule 21.

An "existing inverter" is defined as an inverter that is a component of an existing Generating Facility that meets one or more of the following conditions:

- (a) it is already approved by PG&E for interconnection prior to September 9, 2017
- (b) the Customer has submitted the interconnection application prior to September 9, 2017,
- (c) the Customer provides evidence of having applied for an electrical permit for the Generating Facility installation that is dated prior to September 9, 2017 and submitted a complete interconnection application<sup>4G</sup> no later than March 31, 2018, or
- (d) the Customer provides evidence of a final inspection clearance from the governmental authority having jurisdiction over the Generating Facility prior to September 9, 2017.

All "existing inverters" are not required to be Smart Inverters and are only subject to Section H of Rule 21. A Customer replacing an "existing inverter" certifies it is being replaced with either:

~~(i) inverter equipment that complies with Section Hh of Rule 21, (encouraged); or~~

~~(i)~~

- (ii) a conventional inverter that is of the same size and equivalent ability to that of the inverter being replaced, as allowed in Rule 21 Section H.3.d.ii.

---

~~<sup>4</sup>A complete application consists all of the following without deficiencies:~~

- ~~1. A completed Interconnection Application including all supporting documents and required payments~~
- ~~2. A completed signed Interconnection Agreement~~

---

~~<sup>G</sup> A complete application consists all of the following without deficiencies:~~

- ~~1. A completed Interconnection Application including all supporting documents and required payments~~
- ~~2. A completed signed Interconnection Agreement~~
- ~~3. Evidence of the Customer final inspection clearance from the governmental authority having jurisdiction over the generating system.~~

**Please complete this agreement in its entirety**

Automated Document, Preliminary Statement, Part A.



**AGREEMENT AND CUSTOMER AUTHORIZATION  
Net Energy Metering (NEM2) Interconnection  
For Solar And/Or Wind Electric Generating  
Facilities Of 30 Kilowatts Or Less with Energy  
Storage of 10 Kilowatts Or Less or Energy Storage  
with Power Control System CRD-PCS Certification**

~~3. Evidence of the Customer final inspection clearance from the governmental authority having jurisdiction over the generating system.~~



**AGREEMENT AND CUSTOMER AUTHORIZATION  
Net Energy Metering (NEM2) Interconnection  
For Solar And/Or Wind Electric Generating  
Facilities Of 30 Kilowatts Or Less with Energy  
Storage of 10 Kilowatts Or Less or Energy Storage  
with Power Control System CRD-PCS Certification**

**R. ~~CRD-PCS~~ Power Control System Certification**

By signing below, customer confirms that Energy Storage over 10 kW has received UL 1741 CRD for Power Control Systems (PCS) certification that will comply with either No Grid Charge or No Storage Export as defined in Schedule NEM2.



# AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System GRD-PGS Certification

## Part V – Signature

### **R. Signature**

**IMPORTANT INFORMATION FOR CUSTOMERS – BE SURE TO READ THE FULLY POPULATED DOCUMENT BEFORE SIGNING – THIS IS A LEGALLY BINDING CONTRACT – READ IT CAREFULLY. THIS FORM MUST BE SIGNED BY THE EXISTING PG&E CUSTOMER LISTED IN PART I.**

Under Pacific Gas and Electric Company's (PG&E's) privacy policies, which can be found at [www.pge.com/about/company/privacy/customer], PG&E generally does not sell or disclose personal information about you, such as your name, address, phone number, or electric account and billing information, to third parties unless you expressly authorize us to do so. The purpose of this form is to allow you, the customer, to exercise your right to choose whether to disclose your personal electricity usage data and other personal information to a third party. Once you authorize a third party to access personal information about you, you are responsible for ensuring that the third party safeguards the personal information from further disclosure without your consent.

By signing below, I declare under penalty of perjury under the laws of the State of California that:

- 1) The information provided in this Agreement is true and correct.
- 2) By completing the fields and checking the box in Part I Section C, I authorize the identified third party (Company) to receive my information and act on my behalf, which includes submitting or revising my Interconnection Application.
- 3) I have completed and reviewed Part II to determine if my system is sized to meet no more than my projected energy usage.
- 4) I have read in its entirety and agree to all the terms and conditions in this Interconnection Agreement and agree to comply with PG&E's Electric Rule 21.

\_\_\_\_\_  
(Print Customer Name as it appears on the PG&E Bill)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print name and title of signee, applicable if customer is a Company)  
(e.g. John Doe, Manager)

\_\_\_\_\_  
(Date)

Note: PG&E can request additional documentation to verify the authenticity of the externally signed Agreement and Customer Authorization.



# **AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System GRD-PCS Certification**

To confirm project approval, the Customer should retain a copy of this signed agreement and a copy of the Permission to Operate (PTO) letter from PG&E authorizing the Customer to operate the Generating Facility after PG&E deems satisfactory compliance with all NEM2 requirements.

## LOAD AGGREGATION APPENDIX

(If Applicable)

**List of Qualifying Accounts Eligible for Net Energy Metering (NEM & NEM2)  
Load Aggregation,  
Load Aggregation Sizing Affidavit, and  
Customer-Generator Declaration Warranting Load Aggregation Arrangement Is Located  
On The Same or Adjacent or Contiguous Property to Generator Parcel**



This is an appendix to Schedules NEM and NEM2 involving load aggregation<sup>1</sup>. As described in the special condition titled “Load Aggregation”, PG&E will aggregate the load of the Customer-Generator’s accounts listed below where the Customer-Generator is the customer of record and the accounts continue to meet the requirements as outlined in the Customer Declaration on the last page of this Appendix.

In accordance with this appendix and pursuant to the applicable net energy metering tariff:

- (i) The electricity generated by the Renewable Electrical Generation Facility (REGF) and exported to the grid shall be allocated to each of the aggregated meters in proportion to the electrical load served by those meters, and
- (ii) Customer-Generator shall remit the associated service charges to PG&E for its cost of providing billing service to those meters (one-time setup charge of \$25 per meter, no more than \$500, and an ongoing monthly charge of \$5 per meter, all billed on the generator account), and
- (iii) Customer-Generator shall permanently be ineligible to receive AB 920 Net Surplus electricity Compensation (NSC), and PG&E shall retain any kilowatt-hours (kWh) in excess of the eligible Customer-Generator’s electrical load as determined for each aggregated meter individually. However, if an Aggregated Account that is not a Generating Account is separated from the Arrangement, and subsequently qualifies for a net energy metering program, it may be eligible for NSC.

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

### **Net Energy Metering Aggregation Sizing Affidavit**

For Net Energy Metering projects, the REGF size should be “intended primarily to offset part or all of the customer’s own electrical requirements.”<sup>2</sup> For NEM or NEM2, not including Load Aggregation, this means that the annual kilowatt-hours (kWh) produced by the REGF (e.g. solar system) should not exceed the kWh of annual usage associated with the PG&E meter at the Point of Interconnection. Annual usage is determined by referencing the previous 12 months of usage records for the meter, plus any additional kWh representing future additional usage.

For Load Aggregation, under NEM Aggregation (NEM2A), the REGF should be sized to produce no greater than the total annual kWh of all the aggregated meters within your Arrangement, plus any additional kWh representing future additional usage. The sizing determination should be based on recent annual usage of all the load accounts in the Arrangement plus additional usage for the Arrangement<sup>3</sup> As stated above in (iii), NEM2A REGFs are not eligible for NSC. At the time of true-up, any Net Surplus

---

<sup>1</sup> Customers either requesting to take service on or are already taking service on Schedules NEM and NEM2 must complete this Appendix to apply for Load Aggregation or make changes to their existing Load Aggregation Arrangement. See the special condition titled “Load Aggregation” in the applicable net energy metering tariff.

<sup>2</sup> Per State Public Utilities Code Section 2827(a)(4)(A))

<sup>3</sup> The Arrangement is defined as the aggregated (or “benefitting”) accounts and the single generating account loads, which may or may not have load.

Electricity<sup>4</sup> that was produced by the REGF that was not attributed to an Aggregated Accounts (benefitting load accounts) within the Arrangement would not be compensated.

### **What size system do I need?**

Some factors to consider when sizing your system are your project budget, return on investment expectations, current and future energy needs, and the location and amount of your property dedicated to the system.

To find additional resources, please visit <https://pge.wattplan.com/>

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<sup>4</sup> **Net Surplus Electricity** - (defined as all electricity generated by an eligible customer measured in kilowatt-hours over a Relevant Period – as defined in Special Condition 2.h of the NEM2 tariff – that exceeds the amount of electricity consumed by that eligible customer)

### Completing this Appendix

This Load Aggregation appendix is composed of three sections where Applicants should complete the applicable Worksheet located in either Section I or II and sign the Customer-Generator Declaration (Section III). Please read through this entire Appendix (confirming your eligibility and request), complete the associated Worksheet on the following pages, and sign the Customer-Generator Declaration.

#### Sections (Identifying Your Request)

##### I. New Load Aggregation Requests Worksheet

- All new load aggregation requests and requests that do not meet the definition of either Conversion, Rearrangement or Change Party (as defined below) must complete the table in Section I
- All accounts in the Arrangement must be included in this table with the requested information. As described in the Net Energy Metering Aggregation Sizing Affidavit section above, customers with insufficient recent annual usage may include their estimated proposed future load in the “Annual kWh Load” column.
- If you are also requesting a new service for the Generator<sup>5</sup>, check the box below:

☐ Yes, I am requesting a new service for the Generator

##### II. Rearrangement/Change Party Requests Worksheet

- Load aggregation requests that meet the criteria included in Section II and are requesting to do a Rearrangement or Change Party should only complete the table in Section II
- Rearrangement/Change Party requests are defined as follows:
  - i. **Conversion Requests:** A request by an existing NEM customer to enter into a Load Aggregation arrangement for the previously approved REGF. The REGF must not have been modified since the Permission to Operate was issued. The new Load Aggregation arrangement must have at least two load accounts.
  - ii. **Rearrangement Requests:** A request by the same customer of record to modify the aggregated accounts in an approved Load Aggregation arrangement (i.e. add and/or remove aggregated accounts). The new Load Aggregation arrangement must have at least two load accounts.
  - iii. **Change Party Requests:** A request to take over the generator account and at least two load accounts from the previously approved Load Aggregation arrangement. The request can only be made after the new owner has started service as the new customer of record for the applicable electric services (i.e. the services are in the new customer's name). For assistance with this request, contact the Solar Customer Service Center at 877-743-4112.

---

<sup>5</sup> For Load Aggregation arrangements requesting an additional service for Generator, subject to all other applicable rules, an additional service may be allowed for the Generating Account if it has no load other than that associated directly with the Renewable Electric Generation Facility. However, a customer may not subsequently add load to that additional service, and if the Renewable Electrical Generation Facility is removed, the additional service, may not be converted to a load account. Note: there must be at least two load accounts to be eligible for Load Aggregation.

## LOAD AGGREGATION APPENDIX

### Section I: New Load Aggregation Requests Worksheet (If Applicable)

**Table 1: Load Information**

ACCOUNT <sup>6</sup>	PARCEL NUMBER	ACCOUNT NAME <sup>7 8</sup>	SERVICE ADDRESS (Street, City, Zip Code – no P.O. boxes) <sup>2</sup>	ELECTRIC SERVICE AGREEMENT NUMBER <sup>2</sup>	ELECTRIC METER NUMBER <sup>2</sup>	ESTIMATED ANNUAL KWH LOAD <sup>9</sup>
SAMPLE 1 (New Service)	000-000-000	New	123 AG ST, Anywhere, 00000	New	New	5000
SAMPLE 2	111-111-111	John Doe	123 House ST, Anywhere, 00000	1111111112	2222222222	7000
REGF Load						
Load Acct 1						
Load Acct 2						
Load Acct 3						
Load Acct 4						
Load Acct 5						
Load Acct 6						
Load Acct 7						
Load Acct 8						
Load Acct 9						
Load Acct 10						
Total Estimated Annual kWh Load (100%) *						
*Sum of all Annual KWH Load cells above						

<sup>6</sup> When required by an existing tariff (e.g. Schedule NEM2), any load aggregation account not on a Time-of-Use (TOU) rate at the time of Permission to Operate will be defaulted to an applicable TOU rate.

<sup>7</sup> If this is a new account, enter NEW in this column,

<sup>8</sup> As listed on your most recent Energy Statement

<sup>9</sup> Provide the previous twelve (12) months of the current customer's recent annual usage (from the date of signature). The "previous 12 months" requirement has two exceptions: (1) Standard NEM (SNEM) projects who were sized appropriately at the time of PTO who later convert to SNEMA without increasing the generator size and (2) first-time (i.e. no previous PTO issued for the generator) SNEM Aggregation requests who have sufficient load at the time of application submittal. In the case of proposed future load and/or load that you may have recently added, place the sum (total annual kWh) of your current annual usage and your proposed annual usage increase as one value. When including proposed future load for a Load Account, all columns for that entry must have a value. If there is no load or proposed future load, place zero.

## LOAD AGGREGATION APPENDIX

**Table 1.2: Comparison of Aggregated Load kWh to Estimated Annual kWh Production**

<b>Estimate of Total Aggregated Load</b>	100% of Total Estimated Annual kWh Load* *Use value from "Total Estimated Annual kWh Load (100%)" from table 1.1 above.	
<b>Estimate of Total Annual kWh Production</b>	<b>Solar</b> = CEC-AC <sup>10</sup> rating X 1,500 <sup>11</sup> <b>Wind</b> = Total Inverter Nameplate Rating X 2,190 <sup>12</sup> <b>Other Technologies</b> = Total Inverter Nameplate Rating X 7,008 <sup>13</sup>	
<b>kWh production greater than load?</b>	Yes : If "Estimate of Total Annual kWh Production" is greater than "Estimate of Total Aggregated Load" = Yes. Applicant must downsize REGF kW.  No: If "Estimate of Total Annual kWh Production" is less than "Estimate of Total Aggregated Load" = No. Project meets sizing to load limitation.	

<sup>10</sup> CEC-AC (kW) = California Energy Commission Alternating Current, refers to inverter efficiency rating (Quantity of PV Modules x PTC Rating of PV Modules x CEC Inverter Efficiency Rating)/1000

<sup>11</sup> Estimated Solar Production = 8,760 hrs/yr X 0.17123 solar capacity factor = 1,500

<sup>12</sup> Estimated Wind Production = 8,760 hrs/yr X 0.25 wind capacity factor = 2,190

<sup>13</sup> Estimated Other Technologies = 8,760 hrs/yr X 0.80 other technologies capacity factor = 7,008

# LOAD AGGREGATION APPENDIX

## Section II: Rearrangement/Change Party Requests Worksheet (If Applicable)

### Applicability

The Rearrangement/Change Party table below should only be completed in lieu of the table under Section I above if:

1. Your request complies with the definition of Rearrangement or Change Party (as described above),
2. You are submitting either a Rearrangement or Change Party Request, AND
3. The size of the generating facility connected to the Generator Account is not increasing<sup>14</sup>

### Reminders

1. The new Load Aggregation arrangement must continue to meet all of the requirements specified in the Customer-Declaration section below to be approved.
2. As described earlier in this Appendix, overgeneration should be avoided.

**Table 2.1: Conversion/Rearrangement/Change Party Requests Worksheet (If Applicable)**

ACCOUNT <sup>15</sup>	PARCEL NUMBER	ACCOUNT NAME <sup>16 17</sup>	SERVICE ADDRESS (Street, City, Zip Code – no P.O. boxes) <sup>2</sup>	ELECTRIC SERVICE AGREEMENT NUMBER <sup>2</sup>	ELECTRIC METER NUMBER <sup>2</sup>
SAMPLE 1	000-000-000	New	123 House ST, Anywhere, 00000	New	New
SAMPLE 2	111-111-111	John Doe	123 House ST, Anywhere, 00000	1111111112	2222222222
Generator					
Load Acct 1					
Load Acct 2					
Load Acct 3					
Load Acct 4					
Load Acct 5					
Load Acct 6					
Load Acct 7					
Load Acct 8					

(Use more sheets as necessary. Do not restate the Generator Account on additional sheets.) Page: \_\_ of \_\_

<sup>14</sup> If the system size is increasing, you are ineligible to submit either a Rearrangement or Change Party request and must instead complete the table in Section I. Note: Any modifications to the generating facility connected to the Generator Account must submit a new interconnection application online.

<sup>15</sup> When required by an existing tariff (e.g. Schedule NEM2), any load aggregation account not on a Time-of-Use (TOU) rate at the time of Permission to Operate will be defaulted to an applicable TOU rate.

<sup>16</sup> If this is a new account, enter NEW in this column,

<sup>17</sup> As listed on your most recent Energy Statement

## Section III: Customer-Generator Declaration

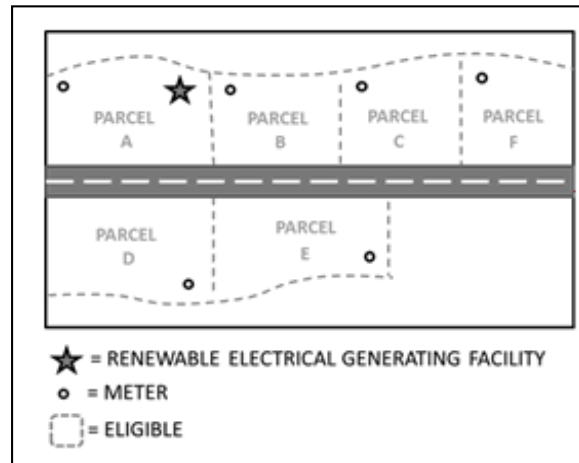
I, Customer-Generator, represent and warrant under penalty of perjury that:

1) I have received and read this Appendix in its entirety, understand the importance of properly sizing the net energy metering generator, and agree to remit all charges associated with being billed on Load Aggregation; and

2) The total annual output in kWh of the generator is less than or equal to 100% of the annual aggregated electrical load in kWh of the meters within the arrangement, including the load on the generating account itself (before being offset by the generator), and including any estimated future additional load; and

3) All of the aggregated account meters associated with this generator account are located either on the property where the electrical generation facility is located or are located within an unbroken chain of contiguous parcels that are all solely owned, leased or rented by the customer-generator. For purposes of Load Aggregation, parcels that are divided by a street, highway, or public thoroughfare are considered contiguous, provided they are within an unbroken chain of otherwise contiguous parcels that are all solely owned leased or rented by the customer-generator.

For example, assume there are five parcels (A, B, C, D, E, and F) that form a cluster of contiguous parcels and D and E are separated from A, B, C and F by a street, highway, or public thoroughfare. For the purposes of participating in Load Aggregation, all five parcels are considered contiguous, provided they are otherwise contiguous, and all are solely owned, leased or rented by the customer-generator. Refer to the diagram on the right (for illustrative purposes only.)



4) I agree to notify PG&E if there is any change of status that makes any of the meters listed in this Appendix ineligible for Load Aggregation to ensure that only eligible meters are participating; PG&E will require an updated version of this Load Aggregation Appendix form; and

5) Upon request by PG&E, I agree to provide documentation that all aggregated meters meet the requirements of Load Aggregation including, but not limited to, parcel maps and ownership records.

Customer Generator's Name

Signature

Date

Print Name and title of signee, applicable if customer is a Company (e.g. John Doe, Manager)



**ELECTRIC SCHEDULE NEM  
NET ENERGY METERING SERVICE**

Sheet 12

SPECIAL  
CONDITIONS:  
(Cont'd.)

3. INTERCONNECTION: Prior to receiving approval for Parallel Operation, the customer-generator must submit a completed PG&E application form and interconnection agreement as follows:

Rate Option	Application	Interconnection Agreement
NEMS	For Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less:  <i>Application - Net Energy Metering Interconnection for Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less (Form 79-1151B)<sup>4</sup></i>	<i>Agreement and Customer Authorization – Net Energy Metering Interconnection for Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less (Form 79-1151A)<sup>4</sup></i>
NEMEXP	For Solar and/or Wind Net Energy Metering Generating Facilities of 1,000 Kilowatts or Less, other than Facilities of 30 Kilowatts or Less:  <i>Online Rule 21 Generator Interconnection Application, (Form 79-1174)</i>	<i>Interconnection Agreement for Net Energy Metering of Solar or Wind Electric Generating Facilities of 1,000 Kilowatts or Less, other than Facilities of 30 Kilowatts or Less (Form 79-978)</i>
	For Renewable Electrical Generating Facilities other than Solar and/or Wind Electric Generating Facilities of 1,000 Kilowatts or Less:  <i>(same as for Solar and/or Wind NEMEXP)</i>	<i>Interconnection Agreement for Net Energy Metering For A Renewable Electrical Generation Facility Of 1,000 Kilowatts Or Less (Form 79-1137)</i>
NEMEXPM	For all other commercial, industrial customer-generators, and agricultural customers billed monthly under Special Condition 2 with (i) Solar and/or Wind Generating Facilities of 1,000 Kilowatts or Less, other than Facilities of 30 Kilowatts or Less, (ii) or any other Renewable Electrical Generation Facility of 1,000 Kilowatts or Less:  <i>(same as for NEMEXP)</i>	<i>(same as for NEMEXP)</i>
NEMMT	For customer-generators taking service as a Multiple Tariff Facility under Special Condition 4 of this tariff:  <i>Online Rule 21 Generator Interconnection Application (Form 79-1174)</i>	<i>Generating Facility Interconnection Agreement (Multiple Tariff) (Form 79-1069)</i>
NEM Inspection Report	To accompany a new interconnection agreement, as required under Special Condition 6 of this tariff:	<i>NEM/NEMVMASH Inspection Report – (Form 79-1125)</i>

<sup>4</sup> Both the Agreement and Customer Authorization (79-1151A) and Application (79-1151B) forms must have been submitted before PG&E will issue the Permission to Operation (PTO) letter. Information in the Application can be submitted by the Company or Customer in an electronic format, subject to approval by PG&E.

(Continued)

Advice 4718-E-A  
Decision 14-01-001

Issued by  
**Steven Malnight**  
Senior Vice President  
Regulatory Affairs

Date Filed  
Effective  
Resolution

November 3, 2015  
November 2, 2015

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(L)





**ELECTRIC SCHEDULE NEM  
NET ENERGY METERING SERVICE**

Sheet 13

SPECIAL  
CONDITIONS:  
(Cont'd.)

3. INTERCONNECTION (Cont'd):

Rate Option	Application	Interconnection Agreement	
<u>NEMPS</u>	For NEMPS (Special Condition 8) for projects that meet NEM integrity requirements		(N)
	<u>Online Rule 21 Generator Interconnection Application (Form 79-1174)</u>	<u>79-1193 - AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification</u>	(N)
<u>NEMCDCR</u>	See Special Condition 8		(L)
<u>NEMUSAF</u>	See Special Condition 9		(L)

For Load Aggregation, a completed and signed "NEM Load Aggregation Appendix" (Form 79-1202) must be submitted together with the appropriate NEM interconnection agreement listed above.

The eligible customer-generator must meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, and accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules of the California Public Utilities Commission regarding safety and reliability.

For Load Aggregation Arrangements Requesting an additional service for Generator – Subject to all other applicable rules, an additional service may be allowed for the Generating Account if it has no load other than that associated directly with the Renewable Electric Generation Facility. However, a customer may not subsequently add load to that additional service, and if the Renewable Electrical Generation Facility is removed, the additional service, may not be converted to a load account.

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 14

SPECIAL  
CONDITIONS:  
(Cont'd.)

3. INTERCONNECTION: (Cont'd.)

Rate Option

Application

Interconnection Agreement

NEMPS

For NEMPS (Special Condition 9) for projects that meet NEM integrity requirements

(N)

Generating Facility  
Interconnection Application,  
(Form 79-1174-02)

79-1193-02- AGREEMENT AND  
CUSTOMER AUTHORIZATION  
Net Energy Metering (NEM2)  
Interconnection For Solar And/Or  
Wind Electric Generating Facilities  
Of 30 Kilowatts Or Less with  
Energy Storage of 10 Kilowatts Or  
Less or Energy Storage with  
Power Control System Certification

(N)

NEM2,  
NEM2EXP,  
NEM2A ,or  
NEM2MT >  
1,000 kW

*Generating Facility  
Interconnection Application  
(Form 79-1174-02)*

*Rule 21 Generator Interconnection  
Agreement for New Energy  
Metering (NEM-2) Generating  
Facilities Greater than 1,000  
Kilowatts Interconnecting Under  
the Fast Track Process  
(Form 79-1144-02)*

*Rule 21 Generator  
Interconnection Agreement (GIA)  
for Net Energy Metering (NEM2)  
Generating Facilities Greater than  
1,000 Kilowatts Interconnecting  
Under the Independent Study,  
Distribution Study, or Transmission  
Cluster Process  
(Form 79-1161-02)*

NEM2MT

For customer-generators  $\leq$  1 MW taking service as a Multiple Tariff Facility under Special Condition 4 of this tariff:

*Generating Facility  
Interconnection Application  
(Form 79-1174-02)*

*Generating Facility Interconnection  
Agreement (NEM2MT - Multiple  
Tariff) (Form 79-1069-02)*

NEM2A

NEM2 Load Aggregation  $\leq$  1 MW

Along with the applicable interconnection form above, also submit:

*NEM2 Load Aggregation Appendix (Form 79-1202)*

NEM2CDCR

See Special Condition 7

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 30

SPECIAL  
CONDITIONS:  
(Cont'd.)

9. NEM Paired Storage

c. Types of NEM Paired Storage

1) Integrated Storage: (Cont'd.)

Note that, for battery-based storage, the storage device must **only** be capable of storing energy from the REGF to be considered Integrated Storage.

INTEGRATED STORAGE (By definition the storage device must only be capable of storing energy from the REGF)			
SCENARIO	Billed As	Interconnection Agreements	Interconnection Costs
AC Coupled Or DC Coupled	billed as if storage and REGF were all one generator (e.g. NEMS, NEMEXP)	≤ 1 MW apply with 79-1174-02 and Interconnection agreement 79-1193-02	Per 5.i
		> 1 MW apply with 79-1174-02 and Interconnection agreement <del>79-1162-02 or</del> 79-1198-02	Per 5.ii or iii

(T)

2) Directly Connected:

Directly Connected NEM Paired Storage is defined in the RPS guidelines as meeting the following requirements:

(i) The storage device is directly connected to the REGF via an internal power line (i.e., power may not be transmitted from the renewable facility to the energy storage via an external distribution line) and

(ii) The storage device must be operated as part of the NEM eligible facility.

Note that the storage device is **not** required to be exclusively charged by the REGF.

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 258

<b>Appendix A (Cont'd.)</b> Forms Associated with Rule 21 Generating Facility Interconnections			
Form Number	Title	Associated Tariffs	Use Guidance
<b>NEM and Non-Export Interconnection Forms (Cont'd.)</b>			
<a href="#"><u>79-1193</u></a>	<a href="#"><u>AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification</u></a>	<a href="#"><u>NEM</u></a>	<a href="#"><u>For NEM pair storage scenarios using Power Control Systems to ensure NEM integrity</u></a>
<a href="#"><u>79-1193-02</u></a>	<a href="#"><u>AGREEMENT AND CUSTOMER AUTHORIZATION Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification</u></a>	<a href="#"><u>NEM2</u></a>	<a href="#"><u>For NEM2 pair storage scenarios using Power Control Systems to ensure NEM integrity</u></a>
79-1109-02***	NEM2VMSH Virtual Net Energy Metering Application and Interconnection Agreement for the Building Owner of Multifamily Affordable Housing with a Solar Generating Facility of 1 Megawatt or Less	NEM2VMSH, Rule 21	NEM2VMSH Interconnection Agreement used with Form 79-1174-02
79-1151A	Net Energy Metering Interconnection for Solar And/or Wind Electric Generating Facilities Of 30 Kilowatts Or Less Agreement and Customer Authorization	NEM, Rule 21	NEMS Interconnection Agreement be used with 79-1151B Application
79-1151A-02	Agreement And Customer Authorization - Net Energy Metering (NEM2) Internconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less	NEM2, Rule 21	NEM2S Application to be used with 79-1151A Interconnection Agreement
79-1151B	Net Energy Metering Interconnection For Solar And/or Wind Electric Generating Facilities Of 30 Kilowatts Or Less Application	NEM, Rule 21	NEMS Application to be used with 79-1151A Interconnection Agreement
79-1151B-02	Application - Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less	NEM2, Rule 21	NEM2S Application to be used with 79-1151A-02 Interconnection Agreement
79-1124***	Eligible Low Income Development Virtual Net Energy Metering Application and Interconnection Agreement for Multifamily Affordable Housing with Solar Generation Totaling 1 Megawatt or Less	NEMVMASH, Rule 21	NEMVMASH Interconnection Agreement

(N)

(N)

(L)  
(L)

(Continued)

## ELECTRIC RULE NO. 21

### GENERATING FACILITY INTERCONNECTIONS

Sheet 259

<b>Appendix A (Cont'd.)</b> Forms Associated with Rule 21 Generating Facility Interconnections			
Form Number	Title	Associated Tariffs	Use Guidance
<b>NEM and Non-Export Interconnection Forms (Cont'd.)</b>			
<a href="#"><u>79-1124-02***</u></a>	<a href="#"><u>Eligible Low Income Development Virtual Net Energy Metering (NEM2VMSH) Application and Interconnection Agreement for Multifamily Affordable Housing with Solar Generation Totaling 1 Megawatt or Less</u></a>	<a href="#"><u>NEM2VMSH, Rule 21</u></a>	<a href="#"><u>NEM2VMSH Interconnection Agreement</u></a>
<a href="#"><u>79-1131***</u></a>	<a href="#"><u>NEMV Application and Interconnection Agreement for a Solar (PV) or Wind Generating Facility of 1 MW or Less Serving Multiple Tenants Served at a Single Property Delivery Point</u></a>	<a href="#"><u>NEM, Rule 21</u></a>	<a href="#"><u>NEMV Interconnection Agreement</u></a>
<a href="#"><u>79-1131-02***</u></a>	<a href="#"><u>NEM2V Application and Interconnection Agreement for a Solar (PV) or Wind Generating Facility of 1 MW or Less Serving Multiple Tenants Served at a Single Property Delivery Point</u></a>	<a href="#"><u>NEM2V, Rule 21</u></a>	<a href="#"><u>NEM2V Interconnection Agreement</u></a>
79-1137	Interconnection Agreement for Net Energy Metering for a Renewable Electrical Generation Facility of 1,000 kW or Less, Except Solar or Wind (SB 489)	NEM, Rule 21	NEMV, NEMEXP, NEMEXPM Interconnection Agreement typically used with Forms 79-974 and 79-1142 Applications
79-1137-02	Interconnection Agreement for Net Energy Metering (NEM2/NEM2V) for a Renewable Electricity Generation Facility of 1,000 Kilowatts or Less, Except Solar or Wind	NEM2, NEM2V, Rule 21	NEM2V, NEM2EXP, NEM2EXPM Interconnection Agreement typically used with Forms 79-1174-02
<a href="#"><u>79-1142***</u></a>	NEMV Interconnection Application for a Renewable Electrical Generation Facility of 1 Megawatt or Less	NEM, Rule 21	Used with Form 79-1137 (L)
79-973	Generating Facility Interconnection Agreement For Non-Export Generating Facilities (Rule 21 Interconnection Agreement)	Rule 21	Interconnection Agreement used for RESBCT and non-NEM generation with Application 79-974 and 79-1112
79-992	Customer Generation Agreement (Third party Generator on Premises, Non-Exporting)	Rule 21	Used with Forms 79-1174
79-1070	Export Addendum to Generating Facility Interconnection Agreement for Non-Export Generating Facilities (Form 79-973) Sized 2 Megawatts or Less	Rule 21	Export addendum used with Form 79-973
79-1136	PG&E Interconnection Agreement For an Existing Small Generating Facility Interconnecting to the Distribution System under Rule 21	Rule 21	Used for existing QFs with Form 79-974 (L)

$$\begin{array}{c} \underline{(L)} \\ \vdots \\ (L) \end{array}$$

(L)

(Continued)



**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 260

<b>Appendix A (Cont'd.)</b> Forms Associated with Rule 21 Generating Facility Interconnections			
Form Number	Title	Associated Tariffs	Use Guidance
<b>Other NEM and Non-Export Forms (Cont'd.)</b>			
<a href="#">79-1192</a>	<a href="#">Interconnection Agreement for Non-Export Storage Generating Facilities 500KW or Less</a>	<a href="#">Rule 21</a>	<a href="#">Used for expedited interconnection of non-export energy storage, pursuant to Rule 21 Section N, PG&amp;E AL 4941-E &amp; E-A and D.16-06-052, &amp; Attachment C, Section II.1</a>
<a href="#">79-1199</a>	<a href="#">Agreement And Customer Authorization Non-Export Stand-Alone Energy Storage Of 30 Kilowatts Or Less</a>	<a href="#">Rule 21</a>	<a href="#">Interconnection Agreement For non-export storage ≤ 30 kW</a>
<a href="#">79-1206-02</a>	<a href="#">Eligible Low-Income Development Virtual Net Energy Metering (NEM2VSOM) Interconnection Agreement For The Solar On Multifamily Affordable Housing (SOMAH) Program With Solar Generation Totaling 1 Mw Or Less</a>	<a href="#">NEM2VSOM</a>	<a href="#">NEM2VSOM Interconnection agreement for solar 1 MW or less.</a>
79-1130	Request to Opt-out of / Opt-in to Compensation for Surplus Electricity	NEM	AB 920- Opt not to receive compensation for net annual excess energy
79-1202 ****	Load Aggregation Appendix	NEM, NEM2, Rule 21	Use as an Appendix with Form 79-1151A, 79-1151A-02, 79-978, 79-978-02, 79-1137, 79-1137-02, 79-1069 or 79-1069-02
79-1155	Schedules NEM, NEMV, NEMVMASH, Net Surplus Electricity (NSE) Renewable Energy Credits Compensation	NEM, Rule 21	
79-1155-02	Schedules NEM2, NEM2V, NEM2VMASH, Net Surplus Electricity (NSE) Renewable Energy Credits Compensation	NEM2 NEM2V NEM2VMASH, Rule 21	
79-1174	Rule 21 Generator Interconnection Application	NEM (NEMEXP, NEMMT and NEMA), NEMFC, NEMV, NEMVMASH, RES-BCT, Rule 21	Rule 21 customer interconnection application form for expanded net-energy metered (all NEM > 30 kw and all non-Solar/Wind NEM), NEMFC, NEMV, NEMVMASH, RES-BCT, and non-export and limited export Rule 21 generation. (Standard NEM for solar and/or wind ≤ 30 kw will continue to use the 79-1151B application.)

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**ELECTRIC RULE NO. 21**  
**GENERATING FACILITY INTERCONNECTIONS**

Sheet 261

<b>Appendix A (Cont'd.)</b> Forms Associated with Rule 21 Generating Facility Interconnections			
Form Number	Title	Associated Tariffs	Use Guidance
<b>Other NEM and Non-Export Forms (Cont'd.)</b>			
<u>79-1174-02</u>	<u>Rule 21 Generator Interconnection Application</u>	<u>NEM2 (NEM2EXP, NEM2MT and NEM2A), NEMFC, NEM2V, NEM2VMESH, RES-BCT, Rule 21</u>	<u>Rule 21 customer interconnection application form for expanded net-energy metered (all NEM2 &gt; 30 kw and all non-Solar/Wind NEM), NEMFC, NEM2V, NEM2VMESH, RES-BCT, and non-export and limited export Rule 21 generation. (Standard NEM for solar and/or wind ≤ 30 kw will continue to use the 79-1151B application.)</u>
<b>Export for Sale Interconnection Forms</b>			
79-1145	Rule 21 Exporting Generator Interconnection Request	Rule 21	Preferred online application: <a href="https://www.pge.com/en_US/large-business/services/alternatives-to-pge/electric-generation-interconnection.page">https://www.pge.com/en_US/large-business/services/alternatives-to-pge/electric-generation-interconnection.page</a>
79-1197	Local Government Renewable Energy Self-Generation Bill Credit Transfer (RES-BCT) Re-Allocation Request	RES-BCT	Use to establish RES-BCT benefiting account re-allocations
79-1198-02	Interconnection Agreement For Net Energy Metering (NEM2) And Renewable Electrical Generating Facility Sized Greater Than 1,000 Kw	NEM2	FT and Detailed Study Interconnection Agreement for >1MW NEM2 Generating Facilities
79-1200	Rule 21 Generator Interconnection Agreement For Exporting Generating Facilities	Rule 21	FT and Detailed Study Interconnection Agreement for Exporting Generating Facilities
<b>Other Agreements</b>			
79-280	Agreement for Installation of Allocation of Special Facilities for Parallel Operation of Non-Utility-Owned Generation and/or Electrical Standby Service (Electric Rules 2 and 21)	Rule 21	Special Facilities Agreement to be used with Form 79-702
79-702	Appendix A: Detail of Special Facilities Charges to be used in concert with form 79-280	Rule 21	Used with Form 79-280

\*\*\* The application section of these forms is replaced by 79-1174.

\*\*\*\* For NEMA expanded customers, use the online 79-1174 form.

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

AT&T	Downey & Brand	Pioneer Community Energy
Albion Power Company	East Bay Community Energy	Redwood Coast Energy Authority
Alcantar & Kahl LLP	Ellison Schneider & Harris LLP	Regulatory & Cogeneration Service, Inc.
	Energy Management Service	SCD Energy Solutions
Alta Power Group, LLC	Engineers and Scientists of California	
Anderson & Poole		
Atlas ReFuel	GenOn Energy, Inc.	SCE
BART	Goodin, MacBride, Squeri, Schlotz & Ritchie	SDG&E and SoCalGas
Barkovich & Yap, Inc.	Green Power Institute	SPURR
California Cotton Ginners & Growers Assn	Hanna & Morton	San Francisco Water Power and Sewer
California Energy Commission	ICF	Seattle City Light
California Public Utilities Commission	IGS Energy	Sempra Utilities
California State Association of Counties	International Power Technology	Southern California Edison Company
Calpine	Intestate Gas Services, Inc.	Southern California Gas Company
	Kelly Group	Spark Energy
Cameron-Daniel, P.C.	Ken Bohn Consulting	Sun Light & Power
Casner, Steve	Keyes & Fox LLP	Sunshine Design
Cenergy Power	Leviton Manufacturing Co., Inc.	Tecogen, Inc.
Center for Biological Diversity		TerraVerde Renewable Partners
		Tiger Natural Gas, Inc.
Chevron Pipeline and Power	Los Angeles County Integrated	TransCanada
City of Palo Alto	Waste Management Task Force	Troutman Sanders LLP
	MRW & Associates	Utility Cost Management
City of San Jose	Manatt Phelps Phillips	Utility Power Solutions
Clean Power Research	Marin Energy Authority	Water and Energy Consulting Wellhead
Coast Economic Consulting	McKenzie & Associates	Electric Company
Commercial Energy		Western Manufactured Housing
Crossborder Energy	Modesto Irrigation District	Communities Association (WMA)
Crown Road Energy, LLC	NLine Energy, Inc.	Yep Energy
Davis Wright Tremaine LLP	NRG Solar	
Day Carter Murphy		
Dept of General Services	Office of Ratepayer Advocates	
Don Pickett & Associates, Inc.	OnGrid Solar	
Douglass & Liddell	Pacific Gas and Electric Company	
	Peninsula Clean Energy	