

## PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



December 5, 2022

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

**Subject: Energy Division Disposition Approving Pacific Gas and Electric Company Advice Letter 6533-E With Modifications to PG&E's Electric Schedule NEM2 and Interconnection Form 79-1193-02 to extend use of a Power Control System to Small NEM Paired Storage as an alternate means to ensure NEM Integrity, and other modifications to improve clarity.**

Dear Mr. Dietz:

This letter approves Pacific Gas and Electric Company (PG&E) advice letter (AL) 6533-E with modifications to PG&E's Electric Schedule NEM2 and Interconnection Form 79-1193-02 to extend use of a power control system to small net energy metering (NEM) paired storage systems as an alternate means to ensure NEM integrity, and other modifications to improve clarity.

On March 21, 2022, PG&E submitted the AL on its own motion. The California Solar & Storage Association (CALSSA) filed a timely protest on April 11, 2022. PG&E filed a timely reply to the protest and substitute sheets for AL 6533-E on April 18, 2022.

Energy Division finds the proposal in the AL to be aligned with requirements in the relevant Commission decision. The substitute sheets submitted on April 18, 2022 address CALSSA's concerns. Therefore, CALSSA's protest is rejected and PG&E AL 6533-E (as modified by its substitute sheets) is approved.

Attachment 1 contains a discussion of the background, advice letter, protest, reply, substitute sheets, and staff's determinations. Please contact Erica Petrofsky of the Energy Division at [erica.petrofsky@cpuc.ca.gov](mailto:erica.petrofsky@cpuc.ca.gov) if you have any questions.

Sincerely,

Handwritten signature of Leuwam Tesfai in black ink.

Leuwam Tesfai  
Deputy Executive Director for Energy and Climate Policy/  
Director, Energy Division  
California Public Utilities Commission

cc: Brad Heavner, Policy Director, California Solar & Storage Association  
R.12-11-005 Service List  
R.14-07-002 Service List  
R.20-08-020 Service List

## **Attachment 1:**

### **Staff Review and Disposition**

#### **Background**

In Decision (D.) 14-05-033, the California Public Utilities Commission (CPUC) explained that to be considered a renewable electrical generation facility eligible for use under the net energy metering (NEM) tariff under Pub. Util. Code § 2827(b)(11), a technology must generate energy from renewable sources as defined by the California Public Resources Code (Cal. Pub. Resources Code) Section 25741(a)(1). The CPUC further clarified that the Renewable Portfolio Standard Eligibility Guidebook established that a storage device meeting certain conditions may be considered an addition or enhancement to a renewable electrical generation facility per the above Public Resources Code section. In D.14-05-033, the CPUC stated its commitment to the integrity of NEM, or in other words, to ensuring that NEM credits can only be generated by eligible renewable electric generation. Therefore, the CPUC created sizing and metering requirements for storage devices to ensure that any storage device treated as an enhancement or addition to a NEM generator preserves NEM integrity. Only the metering requirements are discussed here.

In D.14-05-033, the CPUC differentiated between “small” NEM-paired storage systems with storage devices sized at 10 kW or less maximum discharge capacity and “large” NEM-paired storage systems with storage devices sized at 10 kW or greater maximum discharge capacity. The CPUC restricted the NEM credits accrued to a small NEM-paired storage system in any interval to the lesser of the actual export by the NEM generator to the utility or the estimated presumed generation profile of the generator. The CPUC also allowed small NEM-paired storage systems to adhere to the metering requirements for large NEM-paired storage systems. These metering requirements were to: 1) install a non-export relay on the storage device(s); 2) install an interval meter for the NEM generator, meter the load, and meter total energy flows at the point of common coupling; or 3) install an interval meter directly to the NEM-eligible generator(s).

In D.19-01-030, the CPUC approved an alternative to metering for large NEM-paired storage systems, authorizing the use of power control-based options that can prevent a storage device from either charging from the grid or exporting to the grid. The CPUC required control configurations used to be certified to a national standard or utility-approved interim testing procedure. On November 8, 2019, PG&E submitted AL 5501-E-B to use the first of these certification options, seeking approval of Underwriters Laboratories Inc. (UL) 1741 as the appropriate national standard for certifying power control systems (PCS). That AL was approved on January 6, 2020.

#### **Advice Letter**

On March 21, 2022, PG&E submitted AL 6533-E seeking approval to extend the use of a Certified PCS to small NEM-paired storage systems. PG&E stated this extension aligns with the intent of D.19-01-030. PG&E stated that Certified PCS have become more widely available for small NEM-paired storage systems since the time of that decision, and that compared to the estimation methodology approved in D.14-05-033 for small NEM-paired storage systems, Certified PCS improve the preservation of NEM integrity as well as the accuracy and comprehensibility of customers’ bills.

## **Protest**

CALSSA timely protested the AL on April 11, 2022. CALSSA raised two issues, the first being a desire that the existing options, including the estimating methodology, should be treated equally with none of the options receiving preferred status. Secondly, CALSSA objected to proposed tariff language that would prohibit customers from accessing software settings. Citing to UL 1741, CALSSA claimed that two of the standard's four options for setting the operating mode at the time of installation allow the end user to set the operating modes. After that, CALSSA continued, the operating mode is either not changeable or can only be changed with a password accessible to the installer. CALSSA requested the removal of this language from the proposed tariff definitions of PCS, No Grid Charging, and No Storage Export.

## **Reply and Substitute Sheets**

PG&E replied to CALSSA's protest and submitted substitute sheets on April 18, 2022. In its reply, PG&E stated that it does not designate any approved equipment as having "preferred status" and will be agnostic among equipment types that meet requirements in PG&E's tariffs. PG&E agreed that the language prohibiting customers from access to software settings should be removed from the proposed tariff revisions. PG&E's substitute sheets subsequently removed the language from all three locations identified by CALSSA's protest.

## **Discussion**

Energy Division has reviewed the relevant decisions, the AL, CALSSA's protest of the AL, PG&E's reply, and PG&E's substitute sheets. Energy Division finds PG&E's proposals to be consistent with the CPUC's directives in D.14-05-033 and D.19-01-030, in that they preserve the integrity of NEM and allow customers to choose the technology that is most cost-effective for them. We approve PG&E AL 6533-E as modified by its substitute sheets. Also, we reject CALSSA's protest because the substantive issues raised by the protest have been addressed by the substitute sheets.

Neither D.14-05-033 nor D.19-01-030 specify whether the aforementioned provisions apply strictly to NEM 1.0 or NEM 2.0 systems. Since PG&E AL 6533-E sought modification of PG&E's NEM 2.0 tariffs and forms and not NEM 1.0 tariffs or forms, our findings are limited at this time to PG&E's NEM 2.0 tariffs and forms. Should PG&E seek to implement these changes to its NEM 1.0 tariffs and forms, staff recommend that PG&E file a new advice letter to propose the changes that are approved here for NEM 2.0 tariffs and forms.

March 21, 2022

**Advice 6533-E**

(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

**Subject: Modifications to PG&E’s Electric Schedule NEM2 and Interconnection Form 79-1193-02 to extend use of a Power Control System (PCS) to Small NEM Paired Storage as an alternate means to ensure NEM Integrity, and other modifications to improve clarity**

**Purpose**

Pacific Gas & Electric Company (PG&E) submits this advice letter to modify Electric Schedule NEM2 to extend the use of a Certified Power Control System (PCS)<sup>1</sup> to Small NEM Paired Storage projects to ensure NEM Integrity, in alignment with the previously approved use of a Certified PCS for Large NEM Paired Storage projects<sup>2</sup>. Additionally, PG&E makes other edits to improve clarity of requirements for NEM Paired Storage systems.

**Background****NEM Eligibility for Customers with Storage**

In D.14-05-033 (May 15, 2014), the CPUC addressed the issue of NEM eligibility and treatment for customers who install storage paired with NEM Renewable Electric Generating Facilities behind the same utility meter — referred to as “NEM-Paired Storage” (NEMPS). In this Decision, the CPUC established a process to distinguish exports generated by NEM Renewable Electric Generating Facilities (which are entitled

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<sup>1</sup> Systems that meet UL 1741 SA CRD1 standards for ensuring NEM integrity through No Grid Charging or No Storage Export, as approved in Advice Letter 5501-E, -A, -B

<sup>2</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.

to NEM treatment) from exports that are not generated by NEM-eligible facilities (and which, therefore, are not entitled to NEM treatment), thus preserving NEM integrity.<sup>3</sup>

Prior to D.14-05-033, there existed a special condition in the NEM rate schedule called NEM Multiple Tariff (NEMMT), that addressed how to ensure NEM credits are provided only for electricity exported from NEM-eligible generation. The CPUC adopted the NEMMT-type billing method for NEM facilities paired with storage, with a modification for storage configurations paired with solar photovoltaic (PV) generation where the storage installation is 10 kW in size or less. These small solar-paired storage customers could choose to follow the NEMMT-type metering requirements stipulated for larger systems, or take service under NEMPS using a solar generation estimation method for billing purposes.<sup>4</sup>

### **Estimating Generation to Set NEM-Eligible Export Limits**

Ordering Paragraph (OP) 5 and OP 6 from D.14-05-033 directed the establishment of a method to estimate solar generation paired with small storage facilities in a subsequent ruling. In D.16-04-020 (April 21, 2017), the CPUC responded to this directive and adopted a “Bill Credit Estimation Methodology for Generating Facilities Paired with Small Storage Devices”. The billing estimation method was further refined from August 2017 through February 2018 with the CPUC approving the joint IOUs’ Petition for Modification of D.16-04-020 in D.18-02-008 (Feb 8, 2018). PG&E incorporated the billing estimation methodology approved by D.18-02-008 into the NEM1 and NEM2 rate schedules with Advice letter 5248-E, made effective by the CPUC on March 12, 2018.

### **Approval of Certified Power Control Systems to Ensure NEM Integrity for Large NEM Paired Storage**

On January 31, 2019, the CPUC released Decision 19-01-030 granting CALSSA/CALSEIA’s Petition for Modification of Decision 14-05-033 Regarding Storage Devices Paired with Net Energy Metering Generating Facilities. This modification approved the use of power control-based options for ensuring net energy metering (NEM) credit accrues only to NEM-eligible generation in large solar plus storage systems so long as the control configuration is certified to a national standard or 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>5</sup> Ordering Paragraph 1.a grants this for Large NEM Paired Storage systems.

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<sup>3</sup> NEM credits are applicable only for electricity generated by renewable resources Per Pub. Util. Code § 2827(b)(11) and paragraph (1) of subdivision (a) of Section 25741 of the Public Resources Code.

<sup>4</sup> See D.14-05-033, OPs 5 and 6.

<sup>5</sup> D.19-01-030

Later, in January 2020, the CPUC accepted PG&E's advice letter 5501-E,-A,-B establishing UL 1741 SA CRD1 as the approved standard for a Certified Power Control System (Certified PCS).

With this submittal, PG&E is seeking approval to extend to Small NEM Paired Storage the option to use a Certified PCS to ensure NEM Integrity. PG&E believes the intent behind D.19-01-030 was that Certified PCS are generally considered to be a reasonable means to ensuring NEM integrity regardless of size, therefore we are explicitly aligning the rate schedule with that intention. At the time of D.19-01-030, Certified PCS was more widely available for large storage systems, but has since expanded to be available to many small paired storage systems as well. Compared to the estimation methodology, a Certified PCS does a better job of preserving NEM integrity while also significantly improving the accuracy and comprehensibility of customers' bills.

In adjusting the tariff to provide for the use of Certified PCS by Small NEM Paired Storage, PG&E made additional edits to improve clarity.

PG&E also makes a minor edit to Interconnection Form 79-1193-02 to expand the attestation of Certified PCS to include Small NEM Paired Storage systems.

### **Tariff Revisions**

On sheet 29, definition of Large and Small NEM Paired storage is added under "NEM Paired Storage" for clarity.

On sheet 30, definitions are added for NEM Integrity and Certified Power Control Systems (Certified PCS), and minor edits are made for clarity to No Grid Charging and No Storage Export definitions.

On sheets 33 and 34, verbiage is added to "Directly Connected Cases" to indicate the use of a Certified PCS as an alternative to advanced metering and the estimation methodology to ensure NEM Integrity. Various other edits are made to improve clarity.

On sheet 35, edits are made to the Directly Connected table to describe options more clearly for each directly connected NEM Paired Storage case to achieve NEM Integrity, as well as clearly showing how each case is billed.

On sheet 36, under Billing for NEM Paired Storage, a new section is added to describe the billing method for NEM Paired Storage systems operating with a Certified PCS.

On sheet 36 and throughout the tariff, edits were made to ensure the terms Large NEM Paired Storage and Small NEM Paired Storage are used when referring to a Solar and Storage system, and Large NEM-Eligible REGF/GF and Small NEM-Eligible REGF/GF are used when referring only to the solar generation part of the system.

On sheet 39, Section 9.g. is removed completely as it is duplicative of Section of 9.c.3.

On Interconnection form 79-1193-02, page 7, Section R is amended to include all NEM Paired Storage operating with a Certified PCS.

This submittal would not increase any current rate or charge, cause the withdrawal of service, or conflict with any rate schedule or rule.

### **Protests**

Anyone wishing to protest this submittal may do so by letter sent electronically via E-mail, no later than April 11, 2022 which is 21 days<sup>6</sup> after the date of this submittal. Protests must be submitted to:

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

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

Sidney Bob Dietz II  
Director, Regulatory Relations  
c/o Megan Lawson  
E-mail: PGETariffs@pge.com

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

### **Effective Date**

Pursuant to General Order (GO) 96-B, Rule 5.2, this advice letter is submitted with a Tier 2 designation. PG&E requests that this Tier 2 advice submittal become effective on regular notice, April 20, 2022, which is 30 calendar days after the date of submittal.

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<sup>6</sup> The 20-day protest period concludes on a weekend, therefore, PG&E is moving this date to the following business day.





# 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 U39 E)

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) #: 6533-E

Tier Designation: 2

Subject of AL: Modifications to PG&E's Electric Schedule NEM2 and Interconnection Form 79-1193-02 to extend use of a Power Control System (PCS) to Small NEM Paired Storage as an alternate means to ensure NEM Integrity, and other modifications to improve clarity

Keywords (choose from CPUC listing): Form, 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: 4/20/22

No. of tariff sheets: 22

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: AL 6395-E

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

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

California Public Utilities Commission  
Energy Division Tariff Unit Email:  
[EDTariffUnit@cpuc.ca.gov](mailto:EDTariffUnit@cpuc.ca.gov)

Contact Name: Sidnev Bob Dietz II. c/o Megan Lawson  
Title: Director, Regulatory Relations  
Utility/Entity Name: Pacific Gas and Electric Company  
  
Telephone (xxx) xxx-xxxx:  
Facsimile (xxx) xxx-xxxx:  
Email: PGETariffs@pge.com

Contact Name:  
Title:  
Utility/Entity Name:  
  
Telephone (xxx) xxx-xxxx:  
Facsimile (xxx) xxx-xxxx:  
Email:

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

Clear Form

Cal P.U.C. Sheet No.	Title of Sheet	Cancelling Cal P.U.C. Sheet No.
52811-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 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less or Energy Storage with Power Control System Certification Sheet 1	52523-E
52812-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 6	46378-E
52813-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 8	42932-E
52814-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 9	42933-E
52815-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 15	47360-E
52816-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 29	47178-E
52817-E*	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 30	46841-E
52818-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 31	
52819-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 32	47361-E
52820-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 33	46846-E
52821-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 34	45732-E
52822-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 35	48534-E
52823-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 36	45734-E

Cal P.U.C. Sheet No.	Title of Sheet	Cancelling Cal P.U.C. Sheet No.
52824-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 37	45735-E
52825-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 38	46848-E
52826-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 39	45737-E
52827-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 40	45738-E
52828-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 41	45739-E
52829-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 42	47180-E
52830-E*	ELECTRIC TABLE OF CONTENTS Sheet 1	51657-E
52831-E*	ELECTRIC TABLE OF CONTENTS Sheet 6	52767-E
52832-E	ELECTRIC TABLE OF CONTENTS Sheet 29	52532-E



**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 Kilowatts Or Less with Energy Storage of 10 Kilowatts Or Less  
or Energy Storage with Power Control System Certification

**Please Refer to Attached  
Sample Form**

(Continued)

*Advice* 6533-E  
*Decision*

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

*Submitted* March 21, 2022  
*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):

<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\* \_\_\_\_\_

Service Address\* \_\_\_\_\_ City\* \_\_\_\_\_ State CA 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 \_\_\_\_\_

**Please complete this agreement in its entirety**

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

**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

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.

**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**

<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.

**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

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).

## 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/nsc](http://www.pge.com/nsc) and complete the [Request to Opt-Out \(Form 79-1130\)](#). Participants in NEM2A, please see provisions in *NEM2 Load Aggregation Appendix (Form 79-1153)*.



# 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

## 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.

## 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>6</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 operating with a Power Control System (PCS) has received UL 1741 CRD for PCS certification that will comply with either No Grid Charge or No Storage Export as defined in Schedule NEM2.

<sup>6</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**



# 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.

As a condition of interconnection, pursuant to California Public Utilities Commission (CPUC) Decisions 14-11-001, 20-08-001, and 21-06-026, PG&E is required to provide certain data, including but not limited to confidential customer information, to the CPUC and its contractors, the California Department of Consumer Affairs Contractors State License Board, and the California Department of Financial Protection & Innovation (the “State Entities”).

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 authorize PG&E to release any and all information contained in this application, and addendum if applicable, for interconnection to the State Entities identified in this Part V without further notification or consent.
- 4) I have completed and reviewed Part II to determine if my system is sized to meet no more than my projected energy usage.
- 5) 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)

**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**

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 SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 6

RATES:  
(Cont'd.)

Customer-generators eligible for service under this schedule are exempt from the requirements of Schedule SB—Standby Service, except Multiple Tariff Facilities interconnected under the terms of Special Condition 4 may be subject to the requirements of Schedule SB.

(P)/(L)  
(T/P/L)  
(T/P/L)

The charges and credits for Multiple Tariff Facilities taking service on this rate schedule under the provisions of Special Condition 4, will be calculated using the applicable OAS identified by the customer-generator in its application for interconnection and its interconnection agreement with PG&E or as subsequently changed by the customer-generator in accordance with PG&E's electric Rule 12.

(P/L)

Existing customer-generators being billed under sub-schedules NEM2S, NEM2EXP, NEM2EXPM, or NEM2A who only add storage and are eligible to use the estimation methodology described in Special Condition 9 ("NEM Paired Storage") will be billed using the estimation methodology as of their scheduled True-Up, provided that a True-Up is not required for any other reason. All other customer-generators with Multiple Tariff Facilities or NEM Paired Storage with existing NEM2 eligible generators or storage interconnecting additional generators, will receive a bill true-up prior to taking service under Special Condition 4. This ensures that all NEM2 accounts have the same Relevant Period, as defined in Special Condition 2, going forward.

Residential Customers on this tariff, who are:

- i. the first customer who installs the REGF (that is, second or subsequent owners are not eligible) and
- ii. required to take TOU rates prior to the implementation of default TOU rates for all residential customers, and
- iii. on any TOU rate (including a TOU pilot rate) prior to the implementation of default residential TOU rates,

have the option to stay on that TOU rate for a period of five years from the date the customer commences the TOU rate.

PG&E rates and rate design, including the rates and rate design reflected in this Tariff, are subject to change from time to time. Customers should take this into consideration when making any long term decisions based on rate structures that are currently in place.

(P/L)

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 8

SPECIAL  
CONDITIONS:  
(Cont'd.)

1. METERING: (Cont'd.)

Per Electric Rule No. 16 Section A.12, customers are required to provide PG&E access to metering equipment for such purposes. If a customer refuses to grant access to PG&E, such customer's permission to operate (PTO) under NEM will terminate and such customer will need to disconnect their generating facility from the grid. PG&E reserves the right to disconnect the customer's service if customer does not comply with PG&E rules within a reasonable period of time (Cont'd).

(P/L)

If PG&E is unable to provide metering required for NEM2 billing for either new or NEM Transition Eligible customers, PG&E shall have the option, but not an obligation to provide an estimation methodology for such customers.

Customer-generators with Load Aggregation Arrangements will need metering on the Generating Account capable of separately measuring imports and exports in a manner commensurate with the smallest time interval used by PG&E to establish billing determinates for any of the Aggregated Account meters. If a newly installed REGF can use the existing metering, the metering charges will be based on applicable meter charges in the Generating Account TOU OAS; if a new meter is requested by the customer for a new service as allowed in Special Condition 3, it must be installed at the customer's expense as a Special Facility using incremental costs, pursuant to Section I, Electric Rule 2.

For each Aggregated Account other than the Generating Account, an appropriate load account meter is required, consistent with the TOU rate schedule and NEM2 billing requirements for that account. The customer is responsible for all metering charges associated with each Aggregated Account's OAS.

Additional metering requirements for NEM Paired Storage are described in Special Condition 9.

2. BILLING: Facilities qualifying under Multiple Tariffs Facilities, see Special Condition 4.

For customer-generators taking service on OAS's, any net monthly consumption or production shall be valued as follows:

a. For an OAS with Baseline Rates

Any net consumption or production shall be valued monthly as follows:

If the eligible customer-generator is a net consumer, the eligible customer-generator will be billed in accordance with the eligible customer-generator's OAS except for the non-bypassable charge (NBC) calculation addressed in 2.c. For NEM Paired Storage, net generation will be calculated as described in Special Condition 9, Section c. as applicable.

(P/L)  
(T/P/L)

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 9

SPECIAL  
CONDITIONS:  
(Cont'd.)

2. BILLING: (Cont'd.)

(P/L)

a. For an OAS with Baseline Rates (Cont'd):

If the eligible customer-generator is a net generator, the net kWh generated shall be valued at the rate for the kWh up to the baseline quantity, with any excess kWh generated, valued at the rate for the appropriate tier level in which the equivalent kWh of usage would fall. These credits, if any, do not reduce the charges from the NBC calculation addressed in 2.c.

If the eligible customer-generator is being served under DA or CCA Service, ESP or CCA charges will be specified by their ESP or CCA in accordance with the eligible customer-generator's OAS and PG&E's Direct Access or Community Choice Aggregation tariffs. Applicable PG&E charges or credits will be valued as described in this Special Condition 2.

For a DA or CCA Service customer-generator, Generation Rate Component credits, if any, do not reduce the charges owed to PG&E for energy supplied to the eligible customer-generator, nor do they reduce the NBC calculation in 2.c.

b. For an OAS with Time of Use (TOU):

If the eligible customer-generator is a net consumer during any discrete TOU period, the net kWh consumed shall be billed in accordance with that same TOU period in the eligible customer-generator's OAS except for the NBC calculation addressed in 2.c.

If the eligible customer-generator is a net generator during any discrete TOU period, the net kWh produced shall be valued at the same price per kWh at the same TOU period in the eligible customer generator's OAS. For NEM Paired Storage, net generation will be calculated as described in Special Condition 9, Section c. as applicable.

(P/L)  
(T/P/L)

In the event that at the end of the monthly billing cycle, an eligible customer-generator's net usage for all TOU periods totals zero (i.e. net generation in one or more periods exactly offsets the net usage in all other periods) except for the NBC calculation addressed in 2.c, then the value of usage and/or generation will be calculated using Tier 1 rates (as set forth in the OAS).

(P/L)

If the eligible customer-generator is being served under DA or CCA Service, ESP or CCA charges will be specified by their ESP or CCA in accordance with the eligible customer-generator's OAS and PG&E's Direct Access or Community Choice Aggregation tariffs. Applicable PG&E charges or credits will be valued as described in this Special Condition 2.

For a DA or CCA Service customer-generator, Generation Rate Component credits, if any, do not reduce the charges owed to PG&E for energy supplied to the eligible customer-generator including the NBC calculation addressed in 2.c.

(P/L)

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 15

SPECIAL  
CONDITIONS:  
(Cont'd.)

3. INTERCONNECTION: (Cont'd.)

Rate Option	Application	Interconnection Agreement	(P/L)
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NEMPS	For NEMPS (Special Condition 9) for projects that meet NEM Integrity requirements		(P/L) (T/P/L)
-------	---	--	------------------

<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>	(P/L)
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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>	(P/L)
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*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 ≤ 1 MW taking service as a Multiple Tariff Facility under Special Condition 4 of this tariff:		(P/L)
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<i>Generating Facility Interconnection Application (Form 79-1174-02)</i>	<i>Generating Facility Interconnection Agreement (NEM2MT - Multiple Tariff) (Form 79-1069-02)</i>
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NEM2A	NEM2 Load Aggregation ≤ 1 MW		(P/L)
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Along with the applicable interconnection form above, also submit:

*NEM2 Load Aggregation Appendix (Form 79-1202)*

NEM2CDCR	See Special Condition 7		(P/L)
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(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 29

SPECIAL  
CONDITIONS  
(Cont'd):

9. NEM Paired Storage

(P/L)

a. Definitions:

NEM Paired Storage:

NEM Paired Storage is defined as qualifying energy storage devices ("storage system") paired with a REGF that either:

(i) meets the Renewables Portfolio Standard (RPS) Guidebook<sup>9</sup> requirements as an "addition or enhancement" as described in Section c. below, or

(ii) is eligible to received certain benefits as is described this Special Condition by virtue of the fact that it is paired with a REGF although it is not exclusively renewable charged, pursuant to California Public Utilities Commission (CPUC) Decision (D.) 14-05-033 and D.19-01-030.

(P/L)

NEM Paired Storage is considered "Small NEM Paired Storage" when the storage device is ≤10kW and "Large NEM Paired Storage" when the storage device >10kW.

(N)

(N)

AC-Coupled:

(P/L)

The REGF has its own inverter or set of inverters; and separately, the storage system has its own inverter or set of inverters, pursuant to CPUC D.19-01-030.

In AC-coupled NEM-eligible GFs paired with storage devices, storage device capacity is determined as the (AC) maximum discharge capacity. The size of the storage system in AC-coupled REGF plus storage systems is the inverter's (or inverters') nameplate capacity (nameplate capacities summed).

DC-Coupled:

The REGF and the storage share the same inverter, or set of inverters, pursuant to CPUC D.19-01-030.

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

<sup>9</sup> The RPS Guidebooks can be found at: <https://www.energy.ca.gov/programs-and-topics/programs/renewables-portfolio-standard>

(P/L)

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 30

SPECIAL  
CONDITIONS:  
(Cont'd.)

- 9. NEM Paired Storage (P/L)
  - a. Definitions: (Cont'd.) (P/L)
    - NEM Integrity (N)
 

The requirement that a customer only receives credits for renewably generated exports from a NEM-eligible REGF.
    - Certified Power Control System (Certified PCS)

A storage system that has received UL1741 CRD\* or utility approved later certification for Power Control systems (PCS) that will comply with either No Grid Charging or No Storage Export as defined below. These systems do not require a NGOM as the PCS is certified to preserve NEM Integrity, as defined above. (N)
    - No Grid Charging: (P/L)
 

A storage system that uses a Certified PCS, as defined above, to ensure that the storage system cannot be charged from the PG&E grid<sup>9</sup>. A PG&E approved physical non-import relay or a functionally equivalent non-import configuration to prevent grid power from flowing to the storage device is also permitted. Inadvertent but minor instances of grid import are permitted. Such inadvertent grid imports must not exceed durations of ten seconds. (T/P/L)
    - No Storage Export: (T/P/L)
 

A storage system that uses a Certified PCS, as defined above, to ensure that the storage system cannot export to PG&E's grid and therefore will not result in additional credits. A PG&E approved physical non-export relay or a functionally equivalent non-export configuration to prevent grid power from flowing to the storage device is also permitted. Inadvertent but minor instances of storage export are permitted. Such inadvertent grid exports must not exceed durations of ten seconds. (P/L)

\* CRD refers to an Underwriters Laboratories (UL) Certification Requirement Decision, in this case the one issued on 3/8/2019. (N)

<sup>9</sup> In the event of an expected PSPS (Public Safety Power Shutoff) outage, as evidenced by a 48-hour notice from PG&E to the expected outage start, a storage system defined as "No Grid Charging" and designed for resiliency, meaning it is capable of providing back-up power safely and in compliance with all relevant tariffs, electric rules, other requirements, and is qualified by PG&E to participate, will be temporarily permitted to charge from the grid in order to prepare for the PSPS outage. The notification must specify an impact to the customer generator location. This temporary permission will begin at the publication of the 48-hour notification and will end 24 hours after the end of the PSPS event, as marked by the restoration of power at the site. If power is not shutoff, the temporary permission will end 72 hours after the original 48-hour notice. At the end of the temporary permission period as described above, the storage system will need to revert to "No Grid Charging" operation mode in order to maintain compliance with the NEM tariff, notwithstanding additional PSPS Alerts. At no point during the temporary permission period will the system be permitted to violate the interconnection agreement. Specifically, the storage system must not increase the host facility's historical peak demand. (P/L)

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 31

SPECIAL  
CONDITIONS:  
(Cont'd.)

9. NEM Paired Storage (Cont'd)

b. Interconnection

NEM Paired Storage will have the same interconnection cost responsibility as the NEM generator that it is paired with, including charges or fees related to the interconnection application, Rule 21 engineering study/review, and/or any associated distribution upgrades.

See Section c.5. below for additional information

c. Types of NEM Paired Storage

The Renewables Portfolio Standard (RPS) Guidebook establishes two categories of energy storage that may be considered an addition or enhancement to a renewable electrical generation facility: "integrated" and "directly connected" storage.

1) Integrated Storage:

Integrated Energy Storage is defined in the RPS guidelines as methods of storing energy from a renewable energy resource that are integrated into the REGF as part of the generation process.

(P/L)

(P/L)

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 32

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 (Section 9.c.)
AC Coupled NEM Paired Storage  Or DC Coupled NEM Paired Storage	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

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.

(P/L)  
|  
(P/L)  
(T/P/L)  
(P/L)  
|  
(P/L)  
(T/P/L)  
|  
(P/L)  
(T/P/L)  
(P/L)  
|  
(P/L)  
(T/P/L)  
(P/L)

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 33

SPECIAL  
CONDITIONS:  
(Cont'd.)

9. NEM Paired Storage

c. Types of NEM Paired Storage

2) Directly Connected: (Cont'd.)

Directly Connected Cases:

(i) Small ( $\leq 10$ kW) DC-Coupled NEM Paired Storage system:

Small DC-Coupled storage systems are not required to meet either the "No Grid Charging" or "No Storage Export" requirements. Customers must apply with 79-1174-02, and either complete interconnection agreement Form 79-1193-02 (solar and/or wind electric facilities of 30kW or less) or Form 79-1069-02 (all other REGF with a storage system configurations fulling the requirements of "No Grid Charging"). All configurations will be billed using the estimation methodology as described in Section 3 (ii) of this special condition unless; additional metering is installed, as described in "Large NEM Paired Storage" below, or the system is operating with a Certified PCS.

(ii) Large ( $> 10$ kW) DC-Coupled NEM Paired Storage system:

Large DC-Coupled storage systems must satisfy the definition of "No Storage Export". Customers must apply with 79-1174-02, complete Form 79-1069-02. Customers will be billed as described for Large NEM Paired Storage in Section 3)(iii) of this special condition, unless using a Certified PCS, in which case they will be billed as described in Section 3)(i).

For this case, there are no restrictions on the maximum storage system size (kW).

(iii) Large ( $> 10$ kW) AC-Coupled NEM Paired Storage system

Large AC-Coupled NEM Paired Storage systems shall have a maximum output power no larger than 150% of the NEM-eligible generator's maximum output capacity. Pursuant to Decision 20-06-017 the maximum output capacity limit shall not apply for a period of 3 years starting on August 16, 2020.

Large AC-Coupled NEM Paired Storage are required to select one of the following:

- a) install a non-export relay on the storage device(s);
- b) install an interval meter for the NEM-eligible generation, meter the load, and meter total energy flows at the point of common coupling;
- c) install an interval meter directly to the NEM-eligible generator(s); or
- d) or operate using a Certified PCS.

(P/L)

(P/L)

(T/P/L)

(T/P/L)

(P/L)

(T/P/L)

(P/L)

(P/L)

(T/P/L)

(T/P/L)

(P/L)

(P/L)

(T/P/L)

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 34

SPECIAL  
CONDITIONS:  
(Cont'd.)

- 9. NEM Paired Storage (P/L)
  - c. Types of NEM Paired Storage
    - 2) Directly Connected: (Cont'd.) (P/L)
      - (iv) Large (>10kW) AC-Coupled NEM Paired Storage system (Cont'd.) (T/P/L)
        - Large NEM Paired Storage Systems must apply with 79-1174-02, either complete interconnection agreement Form 79-1193-02 (solar and/or wind electric facilities of 30kW or less) or Form 79-1069-02 (all other REGF with a storage system configurations). Customers will be billed as described in Section 3.)(iii) of this special condition unless operating using a Certified PCS, in which case, they will be billed as described in Section 3.)(i). (T/P/L)  
(P/L)  
(P/L)  
(T/P/L)
        - (v) Small (≤10kW) AC-Coupled storage systems:
          - Small AC-Coupled NEM Paired Storage systems', storage device is not required to be sized to the customer's demand or the NEM generator. Small NEM Paired Storage have the option to install metering as required for Large NEM Paired Storages, or use a "Certified Power Control System (PCS)", as defined above, to be billed as described in Section 3.) (i) of this special condition. Otherwise, it will be billed using the estimation methodology describe in Section 3.) (ii) of this special condition. (T/P/L)  
(P/L)
          - Small NEM Paired Storage systems eligible must apply with the 79-1174-02 (NEM2) and complete the 79-1193-02 (NEM2) when the NEM-Eligible GF is sized 30kW or less or apply with the 79-1174-02 (NEM2) and complete the 79-1069-02 (NEM2) when the NEM-eligible GF exceeds 30kW. (T/P/L)  
(P/L)

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

SPECIAL CONDITIONS:  
(Cont'd.)

9. NEM Paired Storage

c. Types of NEM Paired Storage

DIRECTLY CONNECTED - Table 11.2 (This table covers <b>storage that is NOT required to be 100% REGF charged</b> ) For Both DC and AC Coupled NEM Paired Storage						
May Include ▶ No-Grid Charged storage (if other nonrenewable generation present) ▶ Non Storage Export (if other nonrenewable generation present) Includes All ▶ Grid Charged Storage And Storage Exports All apply with Application 79-1174-02						
Includes ▶ Non-Storage Export with either NGOM or non-export relay equivalent (if no other nonrenewable generation present) All apply with Application 79-1174-02						
	PV/Wind < 30 kw	Non-PV/Wind REGF ≤1MW >30kW PV/Wind ≤1MW	REGF >1MW	Bill as	IC costs (Section 9.c)	NEM Integrity Requirements
DC Coupled or AC Coupled NEM Paired Storage with a PCS	Small (≤10kW) 79-1093-02  Large (>10kW) 79-1069-02	79-1069-02	79-1078-02	§3i	Per 5.i	Certified PCS, as defined above, required
DC Coupled or AC Coupled Small NEM Paired Storage with no PCS (≤ 10kW)	79-1093-02	79-1069-02	79-1078-02	§3ii	Per 5.i	Billed using Estimation Methodology
DC Coupled or AC Coupled Large NEM Paired Storage with no PCS sized > 10kW And ≤ 150% <sup>10</sup>	79-1069-02	79-1069-02	79-1078-02	§3iii	Per 5.ii or iii	NGOM, No Storage Export, or additional metering required, as described above
DC Coupled or AC Coupled Large NEM Paired Storage with no PCS sized > 10kW And > 150% <sup>10</sup>	Set up and bill as NEMMT (not under NEM-Paired Storage section)					

<sup>10</sup> the storage system shall have a maximum output power no larger than 150% of the NEM-eligible generator's maximum output capacity. Pursuant to Decision 20-06-017 the maximum output capacity limit shall not apply for a period of 3 years starting on August 16, 2020.

(P/L)  
|  
(P/L)  
(T/P/L)  
(T/P/L)  
(P/L)  
|  
(P/L)  
|  
(N)  
|  
(N)  
(T/P/L)  
|  
(T/P/L)  
|  
(P/L)  
|  
(P/L)  
|  
(D)

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 36

SPECIAL  
CONDITIONS:  
(Cont'd.)

- 9. NEM Paired Storage (P/L)
  - c. Types of NEM Paired Storage (P/L)
    - 3) Billing for NEM Paired Storage
      - (i) Large or Small NEM Paired Storage with Certified PCS (N)
 

Large or Small NEM Paired Storage operating with a Certified PCS to ensure NEM Integrity, as defined above, can be billed as if storage and REGF were all one generator (e.g. NEMS, NEMEXP). (N)
      - (ii) Estimation Methodology For Small NEM Paired Storage (≤10kW) (T/P/L)
 

Small NEM Paired Storage without metering installed (as required for Large NEM Paired Storage) and not using a Certified PCS will be billed using an estimation methodology, which caps maximum allowable NEM bill credits based on a monthly output profile. (T/P/L) (P/L)

        - a. California Solar Initiative Expected Performance-Based Buydown (CSI EPBB) calculator, PG&E will establish a maximum cap for NEM-eligible exports for each monthly billing period based on the EPBB production estimate for the customer's NEM-eligible generator.
 

The monthly output estimation should align with a customer's billing period (e.g., if the customer's billing date is January 15, the maximum allowed NEM export should be based on a January output estimation.)
        - b. Any export exceeding this limit would not be eligible for NEM credit and would be forfeited. Peak period exports would be reduced first, followed by partial peak and then off peak as necessary.
 

For example, if there was an export to the grid of 150 kWh and the EPBB-based limit for the month was set at 100 kWh, then the excess 50 kWh would be deducted from the actual exports recorded, beginning with exports that occurred during peak periods. (P/L)

(Continued)



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

Sheet 37

SPECIAL  
CONDITIONS:  
(Cont'd.)

9. NEM Paired Storage (P/L)

c. Types of NEM Paired Storage

3) Billing for NEM Paired Storage (Cont'd)

(ii) Estimation Methodology For Small NEM Paired Storage (≤10kW) (Cont'd)

c. In the event the Small NEM-eligible GF is combined with other generation facilities pursuant to Special Condition 4, the billing provision of Special Condition 4 will apply, not this billing estimation methodology.

Should a customer decide to opt-out of using this estimation methodology, the customer must install one of the metering requirements described in the Large NEM Paired Storage section, or a Certified PCS, as described above. The customer may only switch at the start of a new NEM Relevant Period.

(P/L)  
(T/P/L)  
(T/P/L)  
(P/L)

(iii) Large NEM Paired Storage systems without a Certified PCS are billed consistent with Special Condition 4 with the storage treated as a non-NEM eligible generator.

(T/P/L)  
(T/P/L)  
(P/L)

4) NEM Paired Storage Output Metering Costs (P/L)

PG&E will install standard metering equipment whenever possible while interconnecting NEM Paired Storage systems. Standard metering equipment for this purpose comprises a single meter which is a self-contained, single phase, SmartMeter. The fee for installation of standard metering equipment is no more than \$600.00.

However, this fee cap does not apply to NEM Paired Storage requiring complex metering solutions. Complex metering solutions include any configuration other than the standard equipment described above. The cost for complex metering varies and is based on actual costs which will be described in the customer's invoice.

(P/L)

(L)

(L)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 38

SPECIAL  
CONDITIONS:  
(Cont'd.)

9. NEM Paired Storage (Cont'd.)

(P/L)

c. Types of NEM Paired Storage

5) NEM Paired Storage Interconnection Cost Responsibility

For the purpose of determining if a NEM Paired Storage REGF exceeds 1 MW criterion, refer to the sizing definition included in the AC-Coupled and DC-Coupled definition at the beginning of this Special Condition.

- i) NEM Paired Storage REGF < 1 MW - The storage will have the same interconnection cost responsibility as the NEM-eligible GF that it is paired with for a REGF less than or equal to 1 MW.
- ii) NEM Paired Storage REGF > 1 MW - The storage will have the same interconnection cost responsibility as the NEM generator that it is paired with for a REGF greater than 1 MW
- iii) In the event the storage is added at a later date after the permission to operate of the NEM-eligible GF it is subsequently paired with, the storage applicant will be required to pay the same interconnection fees and costs that the NEM-eligible GF would be required to pay, as provided in Electric Rule 21.

d. Storage Size Dependent Requirements

Requirements differ depending on the size of the NEM Paired Storage and whether it is paired with a solar generator or not. The storage device size is determined by the inverter alternating current nameplate rating.

(P/L)

(L)

(L)

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 39

SPECIAL  
CONDITIONS:  
(Cont'd.)

9. NEM Paired Storage (Cont'd.)

- e. Requirements for Large NEM Paired Storage (i.e., All NEM Paired Storage Devices except Solar NEM paired with Storage Sized 10 KW and Smaller)

For NEM-paired storage systems with storage devices larger than 10 kW, the NEM Paired Storage shall have a maximum output power no larger than 150% of the NEM-eligible generator's maximum output capacity. Pursuant to Decision 20-06-017 the maximum output capacity limit shall not apply for a period of 3 years starting on August 16, 2020.

Large NEM Paired Storage systems are required to either:

- 1) install a non-export relay on the storage device(s);
- 2) install an interval meter for the NEM-eligible generation, meter the load, and meter total energy flows at the point of common coupling;
- 3) install an interval meter directly to the NEM-eligible generator(s);  
or
- 4) Operate using a Certified PCS

(P/L)

(P/L)  
(T/P/L)

(P/L)  
(T/P/L)

(N)

(D)

(D)

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 40

SPECIAL  
CONDITIONS:  
(Cont'd.)

9. NEM Paired Storage (Cont'd.)

- f. Requirements for Small NEM Paired Storage (i.e., Solar NEM Paired with Storage Devices Sized 10 KW or Smaller)

Small NEM Paired Storage is not required to be sized to the customer demand or the NEM generator. Customers with Small NEM Paired Storage have the option to install metering as required for Large NEM Paired Storage or use a Certified PCS to ensure NEM Integrity, otherwise they will be billed using the estimation methodology described in Section 3(ii) of this special condition

(P/L)

(P/L)

(T/P/L)

(T/P/L)

(D)

(D)





**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 42

SPECIAL  
CONDITIONS:  
(Cont'd.)

10. Natural or Man-Made Disasters (Cont'd)

(P/L)

The intervening period from destruction of the generator to PTO of the replacement generator must be no longer than two years, unless reasonable documentation acceptable to PG&E is provided showing that the new interconnection is in process. The interconnection application must be completed by the same NEM2 customer who was taking service on NEM2 prior to the Natural or Man-Made Disaster. If the generator is not replaced by the same NEM2 Customer, but the property is sold to a new owner after the destruction of the generator, this provision does not extend to the new owner. The new owner must apply and take service under the NEM tariff in effect at the time and is subject to all the requirements of a new customer seeking interconnection for that NEM tariff.

Customers impacted by Natural or Man-Made Disasters who meet the requirements included in this Special Condition and whose replacement system is sized<sup>12</sup> no greater than 1 megawatt (MW) are exempt from the interconnection application fee when reapplying.

Customers impacted by Natural or Man-Made Disasters must comply with all requirements associated with the installation of Smart Inverter technology, as defined in Electric Rule 21.

<sup>12</sup> Sized as defined in Special Condition 3.

(P/L)



**ELECTRIC TABLE OF CONTENTS**

Sheet 1

**TABLE OF CONTENTS**

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Preliminary Statements.....	49185,48878,50629,50630,49682,50058,51616-E		
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(Continued)

Advice 6533-E  
Decision

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

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March 21, 2022



ELECTRIC TABLE OF CONTENTS

Sheet 6

Table with columns: SCHEDULE, TITLE OF SHEET, and CAL P.U.C. SHEET NO. Includes sub-sections for Rate Schedules and Other. Lists various service categories like BEV, S, SB, E-BioMAT, etc., with their corresponding sheet numbers.

(Continued)



**ELECTRIC TABLE OF CONTENTS**

Sheet 29

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79-1192	Interconnection Agreement for Non-Export Storage Generating Facilities 500KW or Less.....	50573-E
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 .....	52522-E
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 Paired with Energy Storage of 10 Kilowatts or Less .....	<b>52811-E</b> (T)
79-1195	Eligible Low Income Development Virtual Net Energy Metering (NEMVMASH) Interconnection Agreement for Multifamily Affordable Housing with Solar Generation Totaling 1 MW or Less .....	48674-E
79-1196	Virtual Net Energy Metering (NEMV) Interconnection Agreement for Solar (PV) or Wind Generation Totaling 1 MW or Less .....	48675-E
79-1202	Load Aggregation Appendix .....	49235-E
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79-1215	Net Energy Metering Online Application Addendum for Consumer Protection .....	52226-E
79-1217	Agreement And Customer Authorization Net Energy Metering (NEM2) Interconnection For SolarAnd/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 For New Residential Construction .....	51643-E
79-1218	Agreement And Customer Authorization Net Energy Metering (NEM2) Interconnection For Solar And/Or Wind Electric Generating Facilities Of 30 Kilowatts Or Less For New Residential Construction .....	51644-E
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(Continued)

## **Attachment 2**

### **Redline Tariff Revisions**

For convenience of the reader, PG&E has included redline revisions in Attachment 2. Where Tariffs have been revised, the affected sheets are included in Attachment 1.

PG&E has implemented the use of the “(P)” symbol to signify material subject to language and location changes pending approval in Advice Letter 6395-E.



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 1

**APPLICABILITY:** This net energy-metering schedule pursuant to Decision (D.) 16-01-044 is applicable to a customer who takes service on an applicable time-of-use (TOU) rate schedule<sup>1,2</sup> and who uses a Renewable Electrical Generation Facility (REGF) as defined below that is located on the customer's owned, leased, or rented premises, is interconnected and operates in parallel with PG&E's transmission and distribution systems, and is intended primarily to offset part or all of the customer's own electrical requirements (hereinafter "eligible customer-generator" or "customer"). For a NEM REGF paired with storage, see Special Condition 9.

Notwithstanding the definition of "eligible customer-generator" above, eligible customer generator also includes (i) the California Department of Corrections and Rehabilitation (CDCR) pursuant to Special Condition 7 of this tariff.

Subject to the requirements of Special Condition 6, Load Aggregation to determine the customer's own electrical requirements is permitted. Certain incremental billing and metering costs set forth in this schedule that are related to net energy metering are applicable to Electric Service Providers (ESPs) serving eligible customer-generators.

This service is not applicable to a Direct Access (DA) customer where the customer's ESP does not offer a net energy metering tariff. In addition, if the tariffs for the customer's ESP do not permit Load Aggregation, as described in Special Condition 6, this option is not available to the DA customer. In addition, if an eligible customer-generator participates in direct transactions with an ESP that does not provide distribution service for the direct transactions, the ESP, and not PG&E, is obligated to provide net energy metering to the customer.

This rate schedule is available to customers that provide PG&E with:

- (a) a completed, signed Net Energy Metering Application and Interconnection Agreement as described in Special Condition 3 including all supporting documents and required payments; AND
- (b) evidence of the customer's final inspection clearance from the governmental authority having jurisdiction over the REGF,

See Special Condition 8 for NEM2 Legacy Provisions.

(T)

<sup>1</sup> Customers on Schedules such as ET, ES, and ESR, which have no corresponding TOU Rate, are not required to switch to TOU rates, unless and until such a rate becomes available.

<sup>2</sup> Customers, including those on Load Accounts on NEMA as described in Special Condition 6, switching from Schedule NEM to this NEM2 successor tariff are required to take any applicable TOU rate, beginning at the time the customer switches to the NEM successor tariff, pursuant to D.14-03-041 and D. 16-01-044.

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 2

APPLICABILITY: Customers seeking generator interconnections in portions of San Francisco and Oakland where PG&E has a network grid must contact PG&E about generation export limitations.  
(Cont'd.)

A REGF means a generating facility that generates electricity by using:

- a) biomass,
- b) solar thermal,
- c) photovoltaic,
- d) wind,
- e) geothermal,
- f) fuel cells using renewable fuels,
- g) small hydroelectric generation (but a small hydroelectric generation facility is not an eligible REGF if it will cause an adverse impact on instream beneficial uses or cause a change in the volume or timing of streamflow),
- h) digester gas,
- i) municipal solid waste conversion,
- j) landfill gas,
- k) ocean wave,
- l) ocean thermal, or
- m) tidal current,

and any additions or enhancements to the facility using that technology pursuant to paragraph (1) of subdivision (a) of Section 25741 of the Public Resources Code. These renewable sources are defined in the latest version of the California Energy Commission's (CEC's) Renewables Portfolio Standard (RPS) Eligibility Guidebook and the Overall Program Guidebook.<sup>1</sup>

6395-E pending language.

<sup>3</sup> The RPS Guidebooks can be found at: <https://www.energy.ca.gov/programs-and-topics/programs/renewables-portfolio-standard>

(T)  
(T)

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 3

**APPLICABILITY:**  
(Cont'd.)

Schedule NEM2 applies also to specified net energy metering eligible (NEM2-eligible) generators in a REGF comprised of multiple NEM2- and non-NEM2-eligible generators, served through the same Point of Common Coupling (PCC), where the NEM2-eligible generating capacity sized to customer load and in the case of the CDCR, for CDCR accounts also satisfies Special Condition 7, respectively. Such facilities will be referred to as Multiple Tariff Facilities, and any group of generators within such a facility that is subject to the same tariff provisions for billing and metering purposes will be referred to as a Constituent Generator Group. In order to be eligible for this rate schedule in a Multiple Tariff Facility, the customer-generator must meet all the requirements of Special Condition 4 for the schedule NEM2-eligible generator, and must also meet any other applicable tariffs.

Due to the complexity of Load Aggregation Arrangements and/or Multiple Tariff Facilities NEM2 generating facilities interconnecting under the provisions of Special Conditions 4 and 6 may require additional review and/or interconnection facilities and other equipment, and may incur interconnection costs, as provided for in electric Rule 21.

All Customers with Renewable Electrical Generation Facilities larger than 1 MW are subject to interconnection, Network and/or Distribution upgrade costs in accordance with Rule 21.

The Change of party Customer, NEM Transition Eligible Customer or NEM Voluntary Transition Customer will not be required to upgrade their generating facility if they have met all interconnection standards and received permission to operate for the generator currently in place. To be eligible to take service on this tariff, such customers must:

- Ensure that the generating facility is compliant with all applicable tariffs, safety and performance standards as delineated in PG&E's Electric Rule 21 at the time the customer was first interconnected unless otherwise specified.
- Accept that PG&E may from time to time release to the California Energy Commission, the California Public Utilities Commission, and/or other state agencies information regarding the Customer's, NEM Transition Eligible Customer's or NEM Voluntary Transition Customer's facility, including such customer's name and REGF location, capacity and operational characteristics. Furthermore, as a condition of receiving service under this tariff, pursuant to CPUC Decisions 14-11-001 and 21-06-026, PG&E is required to provide certain data, including, but not limited to, confidential customer information, to the CPUC, its contractors, the California Department of Consumer Affairs Contractors State License Board, and the California Department of Financial Protection & Innovation. Customer authorizes PG&E to release any and all information provided in the Net Energy Metering Application for interconnection to the entities identified above without further notification or consent.

(Continued)

Advice  
Decision

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

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

Sheet 4

APPLICABILITY: **Change of Party for 30 kW or less or customer transitioning to Schedule NEM2 from NEM:**  
(Cont'd.)

- (i) A Customer who owns, rents or leases a premises that includes solar and/or wind turbine electrical generating facilities, or a hybrid of both with a capacity of 30kW or less, that approved by PG&E for NEM2 interconnection prior to the Customer moving in and/or taking electric service with PG&E (Change of party Customer); or
- (ii) a Customer that was previously approved by PG&E for NEM interconnection but is transitioning to the NEM2 Rate Schedule as described in the NEM tariff (NEM Transition Eligible Customer); or
- (iii) a Customer that was previously approved by PG&E for NEM interconnection but who has voluntarily enrolled on Schedule NEM2 from NEM (NEM Voluntary Transition Customer)

will take service on this tariff (or other appropriate tariffs as determined by the Commission) as long as the requirements of the section above (regarding tariff compliance and release of information) are met. Any type of REGF other than either a solar and/or wind turbine electrical generating facilities, or a hybrid of both with a capacity of 30kW or less, may at PG&E's request be required to complete and submit to PG&E a new NEM2MT Interconnection Agreement as indicated in Special Condition 3 and/or Affidavit (Appendix C).

Change of party Customers, NEM Transition Eligible Customers, or NEM Voluntary Transition Customers with solar and/or wind turbine electrical generating facilities up to 30 kW making any modification to the generating facility are not eligible for this provision. These generators and solar and/or wind electric generating facilities over 30 kW and all other REGF are not eligible for this provision and must complete the interconnection process in Special Condition 3 of this tariff.

Change of party Customers, NEM Transition Eligible Customers, or NEM Voluntary Transition Customers making any Material Modification (pursuant to Rule 21) to previously approved PG&E NEM solar and/or wind turbine electrical generating facilities or other Renewable Electrical Generation Facility are not eligible for this provision and must, where required by Rule 21, complete the interconnection process in Special Condition 3 of this tariff.

(Continued)

Advice  
Decision

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

Submitted  
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Resolution

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**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 5

**APPLICABILITY:** (Cont'd.) Change of party Customers, **NEM Transition Eligible Customers**, or **NEM Voluntary Transition Customers** also must agree to comply with all rules and requirements of this and other applicable tariffs.

When the builder/developer of a subdivision sells a new home during the NEM2 application process, after the builder/developer completes the Net Energy Metering Application and Interconnection Agreement and otherwise meets all of PG&E's requirements for the NEM2 project, but prior to PG&E providing final written approval for Parallel Operation on Schedule NEM2, PG&E may treat the new home owner/Customer as a Change of-party Customer, as defined above

**Demand Response Programs:** For Load Aggregation pursuant to Special Condition 6, Aggregated Accounts, including the Generating Account, are eligible for the same demand response programs and solar tariffs as NEM2 customers. Demand response payments to Aggregated Accounts will be based on the Qualified Customer's metered usage disregarding any contributions allocated from the Generating Account. Similarly, any other demand response programmatic elements that are affected by a customer's load (e.g., program eligibility) shall also exclude from consideration any impacts of Generator Account generation. Any payments for demand response will be limited to the customer's load, and not include excess generation exported to the grid.

**TERRITORY:** The entire territory served.

**RATES:** All rates charged under this schedule will be in accordance with the eligible customer-generator's PG&E otherwise-applicable metered rate schedule (OAS). An eligible customer-generator served under this schedule is responsible for all charges from its OAS including monthly minimum charges, customer charges, meter charges, facilities charges, demand charges and surcharges. The "Average Rate Limiter" for general service OAS's and all other demand charges will be based on the demand in kilowatts as measured only on the energy being consumed by the customer from PG&E. The power factor, when it applies on the OAS, will be based on the energy consumed by the customer-generator from PG&E and the average power factor over the past 12 billing months of operation prior to starting on NEM2. Customer-generators without 12 billing months of power factor history, will have their power factor estimated based on the nature of the connected facilities and their hours of operation. Power factor will be subsequently applied to the customer-generator's bill until the customer-generator demonstrates to PG&E's satisfaction that adequate correction had been provided. PG&E will continue to monitor and review the power factor and if warranted, change the power factor correction on the customer-generator's bills. Charges for energy (kWh) supplied by PG&E, ESP or Community Choice Aggregator (CCA), as applicable, will be calculated in accordance with Billing (Special Condition 2, below).

For PG&E customer-generators, the energy charges will be in accordance with the customer-generator's OAS. For ESP or CCA customer-generators being billed Consolidated PG&E Billing service, the ESP or CCA is responsible for providing the billing information regarding the applicable generation-related bill charges or credits to PG&E on a timely basis.

(Continued)

Advice  
Decision

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

Submitted  
Effective  
Resolution

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 6

RATES:  
(Cont'd.)

Customer-generators eligible for service under this schedule are exempt from the requirements of Schedule SB—Standby Service, except Multiple Tariff Facilities interconnected under the terms of Special Condition 4, may be subject to the requirements of Schedule SB.

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(T/P/L)

The charges and credits for Multiple Tariff Facilities taking service on this rate schedule under the provisions of Special Condition 4, will be calculated using the applicable OAS identified by the customer-generator in its application for interconnection and its interconnection agreement with PG&E or as subsequently changed by the customer-generator in accordance with PG&E's electric Rule 12.

(P/L)

Existing customer-generators being billed under sub-schedules NEM2S, NEM2EXP, NEM2EXPM, or NEM2A who only add storage and are eligible to use the estimation methodology described in Special Condition 9 ("NEM Paired Storage") will be billed using the estimation methodology as of their scheduled True-Up, provided that a True-Up is not required for any other reason. All other customer-generators with Multiple Tariff Facilities or NEM Paired Storage with existing NEM2 eligible generators or storage interconnecting additional generators, will receive a bill true-up prior to taking service under Special Condition 4. This ensures that all NEM2 accounts have the same Relevant Period, as defined in Special Condition 2, going forward.

Residential Customers on this tariff, who are:

- i. the first customer who installs the REGF (that is, second or subsequent owners are not eligible) and
- ii. required to take TOU rates prior to the implementation of default TOU rates for all residential customers, and
- iii. on any TOU rate (including a TOU pilot rate) prior to the implementation of default residential TOU rates,

have the option to stay on that TOU rate for a period of five years from the date the customer commences the TOU rate.

PG&E rates and rate design, including the rates and rate design reflected in this Tariff, are subject to change from time to time. Customers should take this into consideration when making any long term decisions based on rate structures that are currently in place.

(P/L)

(Continued)





**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 8

**SPECIAL  
CONDITIONS:  
(Cont'd.)**

**1. METERING: (Cont'd.)**

Per Electric Rule No. 16 Section A.12, customers are required to provide PG&E access to metering equipment for such purposes. If a customer refuses to grant access to PG&E, such customer's permission to operate (PTO) under NEM will terminate and such customer will need to disconnect their generating facility from the grid. PG&E reserves the right to disconnect the customer's service if customer does not comply with PG&E rules within a reasonable period of time (Cont'd).

If PG&E is unable to provide metering required for NEM2 billing for either new or NEM Transition Eligible customers, PG&E shall have the option, but not an obligation to provide an estimation methodology for such customers.

Customer-generators with Load Aggregation Arrangements will need metering on the Generating Account capable of separately measuring imports and exports in a manner commensurate with the smallest time interval used by PG&E to establish billing determinates for any of the Aggregated Account meters. If a newly installed REGF can use the existing metering, the metering charges will be based on applicable meter charges in the Generating Account TOU OAS; if a new meter is requested by the customer for a new service as allowed in Special Condition 3, it must be installed at the customer's expense as a Special Facility using incremental costs, pursuant to Section 1, Electric Rule 2.

For each Aggregated Account other than the Generating Account, an appropriate load account meter is required, consistent with the TOU rate schedule and NEM2 billing requirements for that account. The customer is responsible for all metering charges associated with each Aggregated Account's OAS.

Additional metering requirements for NEM Paired Storage are described in Special Condition 9.

**2. BILLING: Facilities qualifying under Multiple Tariffs Facilities, see Special Condition 4.**

For customer-generators taking service on OAS's, any net monthly consumption or production shall be valued as follows:

**a. For an OAS with Baseline Rates**

Any net consumption or production shall be valued monthly as follows:

If the eligible customer-generator is a net consumer, the eligible customer-generator will be billed in accordance with the eligible customer-generator's OAS except for the non-bypassable charge (NBC) calculation addressed in 2.c. For NEM Paired Storage, net generation will be calculated as described in Special Condition 9, Section c.g. as applicable.

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(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 9

SPECIAL  
CONDITIONS:  
(Cont'd.)

2. BILLING: (Cont'd.)

a. For an OAS with Baseline Rates (Cont'd):

If the eligible customer-generator is a net generator, the net kWh generated shall be valued at the rate for the kWh up to the baseline quantity, with any excess kWh generated, valued at the rate for the appropriate tier level in which the equivalent kWh of usage would fall. These credits, if any, do not reduce the charges from the NBC calculation addressed in 2.c.

If the eligible customer-generator is being served under DA or CCA Service, ESP or CCA charges will be specified by their ESP or CCA in accordance with the eligible customer-generator's OAS and PG&E's Direct Access or Community Choice Aggregation tariffs. Applicable PG&E charges or credits will be valued as described in this Special Condition 2.

For a DA or CCA Service customer-generator, Generation Rate Component credits, if any, do not reduce the charges owed to PG&E for energy supplied to the eligible customer-generator, nor do they reduce the NBC calculation in 2.c.

b. For an OAS with Time of Use (TOU):

If the eligible customer-generator is a net consumer during any discrete TOU period, the net kWh consumed shall be billed in accordance with that same TOU period in the eligible customer-generator's OAS except for the NBC calculation addressed in 2.c.

If the eligible customer-generator is a net generator during any discrete TOU period, the net kWh produced shall be valued at the same price per kWh at the same TOU period in the eligible customer generator's OAS. For NEM Paired Storage, net generation will be calculated as described in Special Condition 9, Section c.g. as applicable.

In the event that at the end of the monthly billing cycle, an eligible customer-generator's net usage for all TOU periods totals zero (i.e. net generation in one or more periods exactly offsets the net usage in all other periods) except for the NBC calculation addressed in 2.c, then the value of usage and/or generation will be calculated using Tier 1 rates (as set forth in the OAS).

If the eligible customer-generator is being served under DA or CCA Service, ESP or CCA charges will be specified by their ESP or CCA in accordance with the eligible customer-generator's OAS and PG&E's Direct Access or Community Choice Aggregation tariffs. Applicable PG&E charges or credits will be valued as described in this Special Condition 2.

For a DA or CCA Service customer-generator, Generation Rate Component credits, if any, do not reduce the charges owed to PG&E for energy supplied to the eligible customer-generator including the NBC calculation addressed in 2.c.

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(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 10

SPECIAL  
CONDITIONS:  
(Cont'd.)

2. NET ENERGY METERING AND BILLING: (Cont'd.)

(L)

c. Non-Bypassable Charges

Customers on this tariff must pay the non-bypassable charges specified in D.16-01-044 and Resolution E-4792 in each metered interval for each kilowatt-hour of electricity they consume from the grid. The relevant non-bypassable charges are Public Purpose Program, Nuclear Decommissioning Charge, Competition Transition Charge, and Wildfire Fund Charge (NBCs). These charges may not be reduced by any credits for exports to the grid as calculated in 2.a and 2.b. NBCs shall be assessed only on the kilowatt hours consumed in each metered interval net of exports.

d. For an OAS with Minimum Charges:

Eligible customer-generators taking service on a residential OAS, that are billed annually for net energy consumed, shall owe only the delivery minimum bill amount monthly, which shall be assigned as distribution revenue. The energy (kWh) related component shall be treated in the same manner as energy (kWh) consumed, as described in Special Condition 2.h below, unless otherwise provided for in the customer-generator's OAS.

e. For a customer-generator electing Load Aggregation:

For each monthly billing period, the energy (kWh) exported to the grid (in kilowatt-hours or kWh) by the Renewable Electrical Generation Facility shall be allocated to each of the Aggregated Account meters (kWh reading), as well as the Generating Account if it has load, based on the cumulative usage at each aggregated account and the cumulative generation from the generating account from the start of the Relevant Period. At the end of the month, once the allocation proportions are known, the kWh for each Generating Account meter interval will be allocated to each of the Aggregated Accounts for the corresponding interval. NBCs will apply to the load accounts based on their full metered usage.

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(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 11

SPECIAL  
CONDITIONS:  
(Cont'd.)

2. NET ENERGY METERING AND BILLING: (Cont'd.)

(L)

e. For a customer-generator electing Load Aggregation: (Cont'd)

Once the kWh is allocated to an eligible customer-generator's Aggregated Account, that account will be treated in accordance with 2.a, 2.b, and/or 2.c above, as applies to the rate schedule on which the Aggregated Account takes service. The Generating Account will also be treated as an Aggregated Account in months where it has net load.

f. Payment Options:

Eligible Small Customer (as defined in Rule 1) customer generators may pay monthly or annually for the net energy (kWh) consumed. For all other commercial, industrial, and agricultural customers, the net balance of all moneys owed must be paid on each monthly billing cycle; when they are a net electricity producer over a monthly billing cycle, the value of any excess kilowatt-hours generated during the billing cycle shall be carried over to the following billing period and appear as a credit on the customer generator's account, until the end of the Relevant Period.

Aggregated Accounts, including the Generating Account in a Load Aggregation Arrangement must pay monthly for energy consumed.

g. Relevant Period:

A Relevant Period consists of any twelve monthly billing cycles commencing on the date PG&E provides the Customer-Generator with PG&E's written approval to begin parallel operation of the REGF for purposes of participating in NEM2, and on every subsequent anniversary thereof. If an eligible customer-generator terminates service, or experiences a change in ESP or CCA prior to the end of any 12 monthly billing cycles the Relevant Period will consist of that period from the anniversary date until the effective date of that termination or ESP or CCA change.

For Load Aggregation, the Generating Account and all Aggregated Accounts will have the same billing cycle and Relevant Period, based on the interconnection date, or Anniversary thereof as described earlier in this paragraph. However, if an Aggregated Account terminates service, or experiences a change in ESP or CCA prior to the end of any 12 monthly billing cycles, its Relevant Period will consist of that period from the anniversary date until the effective date of that termination or ESP or CCA change. If an Aggregated Account is subsequently added, its Relevant Period will consist of that period from its effective date of inclusion in Load.

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(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 12

SPECIAL  
CONDITIONS:  
(Cont'd.)

2. NET ENERGY METERING AND BILLING: (Cont'd.)

(L)

h. Energy True Up:

Net energy is defined as measuring the difference between the energy (kWh) supplied by PG&E, ESP or CCA, as applicable, through the electric grid to the eligible customer-generator and energy (kWh) generated by an eligible customer-generator and fed back into the electric grid over a Relevant Period.

For an Aggregated Account, (including a Generating Account) Net Energy is defined as measuring the difference between the energy (kWh) supplied by PG&E, ESP or CCA, as applicable, through the electric grid to the eligible customer-generator and the total energy (kWh) allocated to that Aggregated Account over a Relevant Period.

A true up is performed by PG&E and/or ESP or CCA, as applicable, at the end of each Relevant Period following the date the customer-generator was first eligible for Schedule NEM2, or the date of PG&E's written approval to begin parallel operation of the REGF for purposes of participating in NEM2, whichever is later, and at each anniversary date thereafter. The eligible customer-generator shall be billed as follows:

Where the residential delivery minimum bill amount applies at the true up for a Bundled, DA/CCA, or Transitional Bundled Service customer, the customer generator will not owe any additional amounts for delivery services. The total delivery minimum bill amount will be unbundled for accounting purposes based on net energy consumed over the relevant period using non-generation rates described in the otherwise applicable rate schedule, except for NBC's which will be unbundled for accounting purposes based on total energy consumed from the grid.

Where the residential delivery minimum bill amount applies at the true up for a Bundled or Transitional Bundled Service customer, and the accumulated net generation charges over the relevant period are greater than zero, the customer-generator will also owe an amount equal to the accumulated net generation charges. Where the residential delivery minimum bill amount applies at true up for a Bundled or Transitional Bundled Service customer, and the accumulated net generation charges over the relevant period are less than or equal to zero, no credit for accumulated net generation charges will be applied to the amount owed by the customer-generator.

If the customer-generator is taking service under DA or CCA Service, separate true-ups will be calculated for the applicable PG&E charges and credits and the ESP or CCA charges and credits.

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(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 13

SPECIAL  
CONDITIONS:  
(Cont'd.)

h. Energy True Up: (Cont'd.)

For a DA or CCA Service customer-generator, Generation Rate Component credits, if any, do not reduce the charges owed to PG&E for energy supplied to the eligible customer-generator including NBCs calculated in 2.c.

If any Eligible customer-generator has any credits calculated pursuant to this Special Condition 2 remaining at the end of the Relevant Period, that credit will be set to zero. However, in the event the energy (kWh) generated exceeds the energy (kWh) consumed during the Relevant Period, compensation shall be made for the excess energy (kWh) as described and allowed for in Special Condition 5.

Once the true-up is completed at the end of the Relevant Period, any overpayment for energy (kWh) from the true-up will be credited to future bill charges.

i. Billing Information:

If PG&E supplies the eligible customer-generator with energy (kWh), PG&E shall provide the eligible customer-generator with net energy (kWh) consumption information with each regular bill. That information shall include the current monetary balance owed PG&E for the net energy (kWh) consumed since the last Relevant Period ended.

j. Electric Service Provider (ESP) Charges:

If PG&E provides direct access (DA) metering for the ESP, consolidated UDC billing (that is, Consolidated PG&E Billing as described on PG&E's Rule 22), Separate or Consolidated ESP Billing support services for DA customer-generators served under PG&E's rates or their ESP's rates, PG&E may recover the incremental costs related to net energy metering from the customer's ESP, as described in Schedule E-ESP – Services To Electric Service Providers, and Schedule E-EUS – End User Service.

All accounts in a Load Aggregation Arrangement, including the Generating Account and all of its Aggregated Accounts, will normally all take service either only from PG&E, a single ESP or a single CCA. However, if PG&E is the billing agent, a mixture of electric commodity service providers may be permitted as long as PG&E agrees and recovers the additional incremental costs related to billing this Load Aggregation Arrangement from the customer's ESP and/or CCA based on the applicable rates in Schedules E ESP and E-CCA.

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

Sheet 14

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:

(L)

Rate Option	Application	Interconnection Agreement
NEM2S	For Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less:  <i>Application - Net Energy Metering (NEM2) Interconnection for Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less (Form 79-1151B-02)<sup>4</sup></i>	<i>Agreement and Customer Authorization – Net Energy Metering (NEM2) Interconnection for Solar and/or Wind Electric Generating Facilities of 30 Kilowatts or Less (Form 79-1151A-02)<sup>4</sup></i>
NEM2EXP NEM2EXPM	For Solar and/or Wind Net Energy Metering (NEM2) Generating Facilities of 1,000 Kilowatts or Less, other than Facilities of 30 Kilowatts or Less:  <i>Generating Facility Interconnection Application, (Form 79-1174-02)</i>	<i>Interconnection Agreement for Net Energy Metering (NEM2) of Solar or Wind Electric Generating Facilities of 1,000 Kilowatts or Less, other than Facilities of 30 Kilowatts or Less (Form 79-978-02)</i>
	For Net Energy Metering (NEM2) non-Solar and/or Wind Generating Facilities of any size, and Solar and/or Wind Generating Facilities greater than 1,000 kW:  <i>Generating Facility Interconnection Application, (Form 79-1174-02)</i>	<i>Interconnection Agreement For Net Energy Metering (NEM2) non-Solar and/or Wind Generating Facilities of any size, and Solar and/or Wind Generating Facilities greater than 1,000 kW (Form 79-1137-02)</i>

<sup>4</sup> Both the Agreement and Customer Authorization (79-1151A-02) and Application (79-1151B-02) 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.

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(Continued)



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

Sheet 15

SPECIAL  
CONDITIONS:  
(Cont'd.)

3. INTERCONNECTION: (Cont'd.)

Rate Option	Application	Interconnection Agreement
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NEMPS	For NEMPS (Special Condition 9) for projects that meet NEM integrity requirements	
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NEM2, NEM2EXP, NEM2A ,or NEM2MT > 1,000 kW	<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>
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<i>Generating Facility Interconnection Application (Form 79-1174-02)</i>	<b>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)</b>
	<b>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)</b>

(P/L)

NEM2MT	For customer-generators $\leq$ 1 MW taking service as a Multiple Tariff Facility under Special Condition 4 of this tariff:
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<i>Generating Facility Interconnection Application (Form 79-1174-02)</i>	<b>Generating Facility Interconnection Agreement (NEM2MT - Multiple Tariff) (Form 79-1069-02)</b>
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NEM2A	NEM2 Load Aggregation $\leq$ 1 MW
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Along with the applicable interconnection form above, also submit:

*NEM2 Load Aggregation Appendix (Form 79-1202)*

NEM2CDCR	See Special Condition 7
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(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 16

SPECIAL  
CONDITIONS:  
(Cont'd.)

3. INTERCONNECTION: (Cont'd.)

(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.

In order to promote the safety and reliability of the customer REGF, the applicant is required to verify as a part of each interconnection request for this tariff, that all major solar system components are on the verified equipment list maintained by the California Energy Commission and other equipment, as determined by PG&E, should be verified by the customer as having safety certification from a nationally recognized testing laboratory.

Applicant is required to verify as a part of each interconnection request for this tariff, that (i) a warranty of at least 10 years, or (ii) a 10-year service warranty or executed "agreement" ensuring proper maintenance and continued system performance has been provided on all equipment and on its installation.

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 REGF. However, a customer may not subsequently add load to that additional service, and if the REGF is removed, the additional service, may not be converted to a load account.

Customers on this tariff must pay for the interconnection of their REGF as provided in Electric Rule 21, including an application fee. This application fee must be paid through PG&E's online application portal in order to complete the application, unless otherwise directed by PG&E. For application fees for Customers impacted by a Natural or Man-Made Disasters<sup>5</sup>, see Special Condition 10.

For the purposes of the NEM2, NEM2V, and NEM2VMSH tariffs, the rating of the generating facility, for the purposes of comparing its size relative to the 1 megawatt (MW) limit, will be determined based on:

- (a) For each PV generator, the California Energy Commission's (CEC) AC rating;
- (b) For each inverter based generator, the gross nameplate rating of the inverter; or
- (c) For each non-inverter based generator, the generator gross nameplate.

<sup>5</sup> Natural or man-made disasters includes such events as a fire, earthquake, flood, or severe storms.

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**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 17

SPECIAL  
CONDITIONS:  
(Cont'd.)

4. MULTIPLE TARIFF FACILITIES:

(L)

Multiple Tariff Facilities have the following additional provisions:

- a. When Net Generation Output Metering (NGOM) is required, such NGOM must conform to the requirements set forth in Electric Rule 21, Section J.
- b. A NEM2-eligible Constituent Generator Group is defined as a constituent generator group that is eligible for service under the provisions of either schedule NEM, NEM2, NEMBIO or NEMFC or their sub-schedules.
- c. A non-NEM2-eligible Constituent Generator Group is defined as a constituent generator group that does not take service under the provisions of schedule NEM, NEM2, NEMBIO or NEMFC, but interconnects under the non-NEM2 provisions of Electric Rule 21.
- d. All metering for Multiple Tariff Facilities called for in this Special Condition must meet the requirements needed to bill under the customer-generator's OAS. All metering, equipment and Non Export relays necessary to implement the provisions in this section will be provided at the Customer-Generator's expense.
- e. Any generators eligible for tariffs NEMA, NEM2, NEMFCA or NEMBIOA (accounts with the loads from eligible accounts aggregated on the main NEM, NEM2, NEMFC or NEMBIO account pursuant as allowed under this Special Condition 4 of this NEM2 tariff) will be treated as a separate Constituent Generator Group. However at this time NEM2A may not be combined with NEMA, NEMFCA or NEMBIOA under this Special Condition.

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(Continued)



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

Sheet 18

SPECIAL  
CONDITIONS:  
(Cont'd.)

4. MULTIPLE TARIFF FACILITIES: (Cont'd.)

(L)

f. Except for Load Aggregation Arrangements, where multiple NEM - eligible Constituent Generator Groups are present and energy (kWh) is exported to the grid at the PCC, the billing credit will be based upon the proportional contribution of the energy production (kWh) of each NEM-eligible Constituent Generator Group over the billing period as follows:

- 1) Sum all NEM-eligible Constituent Generator Groups' NGOM readings. For NEM Paired Storage, follow the provisions in Special Condition 9.
- 2) Determine the proportion of energy (kWh) attributable to each NEM-eligible Constituent Generator Group by dividing the NGOM reading of each by the sum from (1) above.
- 3) NEM-eligible Export is the lesser of either all exported energy (kWh) as measured at the PCC or the sum of the energy (kWh) per (1) above.
- 4) Take the NEM-eligible Export and assign it to each NEM-eligible Constituent Generator Group based on its respective proportion of NGOM reading.
- 5) Determine the bill credit for the customer-generator as provided under the customer-generator's OAS in combination with the net energy metering tariff billing treatment type for each NEM-eligible Constituent Generator Group.
- 6) If interval metering is chosen per Special Condition 4.g(2)(c) of this special condition, this allocation of bill credit will be done on the aggregated intervals over a billing period. If the OAS is a time-of-use (TOU) rate schedule, the allocation will be performed for each aggregated TOU period separately.
- 7) Generating Facilities including only multiple NEM2 REGFs are not Multiple Tariff Facilities and the customer-generator will be billed as provided in Special Condition 2 of this tariff.

(L)

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 19

SPECIAL  
CONDITIONS:  
(Cont'd.)

- 4. MULTIPLE TARIFF FACILITIES: (Cont'd.) (L)
- g. Multiple Tariff Facility Configurations and Metering.
- 1) Except for Load Aggregation Arrangements, for two or more types of NEM-eligible Constituent Generator Groups, the customer-generator must select one of the following options:
  - a) Install NGOM on each Constituent Generator Group. In addition, metering is required at the PCC capable of separately registering the flow of energy (kWh) in two directions. Billing credit will be calculated as provided for in Special Condition 4.f. Generation Rate Component charges are the charges for energy (kWh) used based on the generation rate component of the energy charge under the customer-generator's rate schedule(s). Billing credit will be applied consistent with the appropriate net metering tariff as follows:
    - i. First, apply NEMBIO credits (if any) to Generation Rate Component charges on any aggregated accounts, and then to Generation Rate Component charges on the account served by the generating facility (Host Account).
    - ii. Second, apply NEMFC credits (if any) to Generation Rate Component charges on the account served by the generating facility.
    - iii. Third, apply NEM2 credits (if any) as appropriate to the remainder of energy charges except for NBC charges for usage supplied by the grid on the account served by the generating facility.
    - iv. Fourth, apply NEM credits (if any) as appropriate to the remainder of energy charges on the account served by the generating facility.
    - v. No credits shall offset NBC charges calculated on all usage supplied from the grid.
  - b) If the customer-generator has Constituent Generator Group(s) eligible for Schedule NEMBIO or NEMFC, and has a Constituent Generator Group eligible for Schedule NEM2 and/or NEM consisting of one or more Renewable Electrical Generation Facilities, the customer-generator may elect to take service for such under either Schedule NEMBIO or NEMFC, as appropriate, for all of the Constituent Generator Group(s). Likewise, if the customer-generator has Constituent Generator Group(s) eligible for NEM and NEM2, the customer-generator may elect to take service for both under NEM2. (L)

(Continued)





**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 21

SPECIAL  
CONDITIONS:  
(Cont'd.)

5. NET SURPLUS ELECTRICITY COMPENSATION (NSC):

(L)

Pursuant to P.U. Code Sections 2827 (h)(4)(A), this Special Condition was established to provide a NEM customer having **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 this tariff – that exceeds the amount of electricity consumed by that eligible customer), with **Net Surplus Electricity Compensation (NSC)** for the Net Surplus Electricity, while leaving other ratepayers unaffected. A NEM2 customer who has Net Surplus Electricity will be known as a **Net Surplus Generator**.

- a. NSC Applicability – All bundled Net Surplus Generators that satisfy the conditions in the Applicability Section of this tariff and take service under this rate schedule are eligible to receive NSC at the time of their true-up. This includes Net Surplus Generators on sub-schedules NEM2S, NEM2EXP, and NEM2EXPM. A NEM2MT Net Surplus Generator is also eligible to receive NSC but only for the one or more generators at the same metered account eligible for billing treatment under Special Condition 2.a through 2.f of this NEM2 schedule, or the applicable tariff for the non-NEM2 generator.

Net Surplus Generators who receive Direct Access (DA) Service from an ESP or who receive Community Choice Aggregation Service from a CCA are not eligible to receive NSC from PG&E but may contact their ESP or CCA Provider to see if they provide NSC.

If an eligible customer-generator elects Load Aggregation as described in Special Condition 6, the Generating Account shall be permanently ineligible to receive net surplus electricity compensation, and PG&E shall retain any kilowatt-hours and zero out any credits remaining on each account in the Load Aggregation Arrangement at the end of the Relevant Period. However, if an Aggregated Account that is not a Generating Account is separated from the Arrangement, and subsequently qualifies for NEM2, it is also eligible for NSC.

(L)

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 22

SPECIAL  
CONDITIONS:  
(Cont'd.)

5. NET SURPLUS ELECTRICITY COMPENSATION (NSC): (Cont'd.)

(L)

- b. The NSC Rate – The NSC Rate is defined as the simple rolling average of PG&E’s default load aggregation point (DLAP) price from 7 a.m. to 5 p.m., for a 12-month period. PG&E shall use the NSC Rate as the value of the electricity portion of its net surplus compensation rate.

PG&E will calculate the NSC Rate each month. It will be effective on the first day of that month and PG&E will use it in the NSC Calculation for any Net Surplus Generators with a Relevant Period completed in that month (True-Up Month).

The DLAP Cutoff Date will be defined as the twentieth (20th) day of the month prior to the True-Up Month.

PG&E will wait five (5) days after the DLAP Cutoff Date for the CAISO to have time to finalize the day-ahead PG&E DLAP prices. The NSC Rate will then be calculated as the simple average of the prices for all hours between 7 a.m. and 5 p.m. over a one (1) year period ending on the DLAP Cutoff Date.

- c. Pursuant to D. 11-06-016, PG&E includes a Renewable Attribute Adder (RAA) based on the California Energy Commission (CEC) implementation methodology.

Under the CEC’s Renewables Portfolio Standard (RPS) Eligibility Guidebook<sup>6</sup>, an ownership verification and tracking process is set forth for Renewable Energy Credits (RECs) created by Net Surplus Generators.

PG&E will pay a RAA for Net Surplus Electricity if the Net Surplus Generator completes Form 79-1155-02 - *Schedules NEM2, NEM2V, NEMV2MSH, Net Surplus Electricity (NSE) Renewable Energy Credits Compensation Form* which requires that each true-up a Net Surplus Generator confirm it or its REC aggregator has:

- 1) certified ownership of Net Surplus Electricity Renewable Energy Credits associated with their Net Surplus Electricity;
- 2) obtained certification for the Renewable Portfolio Standards (RPS) eligibility of the Electrical Generation Facility from the CEC and provide evidence of this certification to PG&E; and
- 3) transferred the ownership of the WREGIS Certificates to PG&E.

The RAA will be calculated using the most recent Western Electricity Coordinating Council (WECC) average renewable premium, based on United States Department of Energy (DOE) published data as submitted via advice letter annually in compliance with Resolution E-4475 and Decision 11-12-018.

<sup>6</sup> The CEC RPS Eligibility Guidebook is available at: <https://www.energy.ca.gov/programs-and-topics/programs/renewables-portfolio-standard>

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(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 23

SPECIAL  
CONDITIONS:  
(Cont'd.)

5. NET SURPLUS ELECTRICITY COMPENSATION (NSC): (Cont'd.) (L)
- d. Calculation of the NSC – NSC is calculated by multiplying any Net Surplus Electricity (kWh) by the NSC Rate in (b) and (c) above.
  - e. Options for receiving NSC – A NEM2 customer with NSC will automatically have their NSC applied to any amounts owed to PG&E and then may choose to:
    - 1) take no action and roll any remaining NSC amounts forward to offset subsequent PG&E charges; or
    - 2) request that PG&E issue a check if the remaining NSC amount is greater than one dollar (\$1). A customer can select this option by calling PG&E. If the customer is closing all their accounts with PG&E, PG&E will automatically send a check; or
    - 3) elect not to receive any NSC by completing and submitting Form 79-1130 (Customer Request Form not to Receive Net Surplus Compensation) to PG&E to confirm that they do not want to participate. In this case PG&E will zero out any NSC the NEM2 customer may be otherwise eligible to receive.
  - f. Qualifying Facility Status – Customers must comply with the appropriate conditions below to first demonstrate to PG&E that they are Qualifying Facilities (QFs) in order to receive NSC.
    - 1) No documentation of QF status is required of any NEM2 customer-generators with a net power production capacity of one megawatt or less, consistent with Federal Energy Regulatory Commission (FERC) regulations 18 C.F.R. §292.203.
    - 2) NEM2 customer-generators with a net power production capacity greater than one megawatt shall self-certify QF status by submitting FERC Form 556 to FERC pursuant to 18 C.F. R. §292.207(a). Notice to PG&E as the utility with which the facility will interconnect and/or transact shall be provided in accordance with FERC Form 556 instructions. Filing Form No. 556 is not a requirement for interconnection under this provision.
  - g. Generator Size – Nothing in this Special Condition alters the existing NEM2 system sizing requirement. Specifically, in order to be eligible for NSC, a system must be intended primarily to offset part or all of the customer’s own electrical requirements. Systems that are sized larger than the customer’s electrical requirements are not eligible for NEM2 and therefore, are not eligible for NSC either. (L)

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 24

SPECIAL  
CONDITIONS:  
(Cont'd.)

6. LOAD AGGREGATION – NEM2A:

- a. Load Aggregation is available to an eligible customer-generator, that has load served by multiple meters (“Aggregated Accounts”) located on the property where the REGF (“Generating Account”) is located and on property adjacent or contiguous to the property on which the REGF is located, only if those properties are solely owned, leased, or rented by the eligible customer-generator, subject to the terms of this Special Condition and elsewhere in this tariff. All of the Aggregated Accounts, including a single Generating Account, that are billed together under this Special Condition are referred to as an Arrangement. Customer-generators are eligible to participate in Load Aggregation provided that all meters in a Load Aggregation Arrangement are located (i) on the property where the REGF is located, or (ii) 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, as verified in Form 79-1202. For purposes of determining parcel contiguity under this provision, “public thoroughfare” will include a canal, railroad track or transmission right-of-way, when these features are isolated on third party owned property. When a third party owned easement is located on a NEM2A customer-generator’s property, there is no impairment to parcel contiguity. In addition, an irrevocable easement granting sole use and control to the NEM2 customer-generator for an entire parcel can be used to establish contiguity. Otherwise, a customer-generator’s easement on a third party owned parcel will not be sufficient to establish parcel contiguity for NEM2A.

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(Continued)

**ELECTRIC SCHEDULE NEM2  
 NET ENERGY METERING SERVICE**

Sheet 25

SPECIAL  
 CONDITIONS:  
 (Cont'd.)

6. LOAD AGGREGATION – NEM2A: (Cont'd.)

(L)

- b. Example of NEM2A – 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 Diagram 1 (for illustrative purposes only).

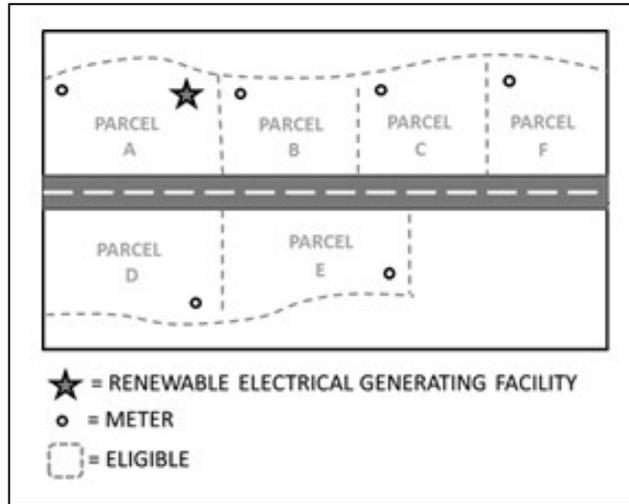


Diagram 1

Two parcels that are separated by a parcel that is only a stream or river or slough owned by a third party are considered contiguous if:

- 1A. The two parcels are otherwise eligible for NEM2A, and
- 1B. The third party is a public entity, and
- 1C. The third-party owned parcel containing the stream or river or slough is no wider than one thousand feet across as measured at the narrowest point between the two parcels, and
- 1D. Customer provides documentation that they meet these criteria if requested by PG&E.

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**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

SPECIAL  
CONDITIONS:  
(Cont'd.)

- 6. LOAD AGGREGATION – NEM2A: (Cont'd.) (L)
    - c. Billing Service Charges – An eligible customer-generator electing Load Aggregation shall remit service charges for the cost of providing billing services as follows. These charges shall include:
      - 1) One-Time Setup Charge of \$25.00 per Aggregated Account and for the Generating Account, as defined in this Special Condition, and cumulatively, shall be limited to no more than \$500 per Load Aggregation Arrangement. Any change to the number of accounts included in a NEM2A arrangement is subject to this one-time fee. This Setup Charge shall be assessed without regard to the \$500 limit for accounts added after the PTO date.

Plus,

      - 2) Monthly Charge of \$5 Per Aggregated Account and for the Generating Account as defined in this Special Condition.
- 7. CALIFORNIA DEPARTMENT OF CORRECTIONS AND REHABILITATION (CDCR)
- “Eligible customer-generator” includes the Department of Corrections and Rehabilitation using a renewable electrical generation technology, or a combination of renewable electrical generation technologies, with a total capacity of not more than eight megawatts, that is located on the department’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 facility’s own electrical requirements.
- The amount of any wind generation exported to the electrical grid shall not exceed 1.35 megawatt at any time. CDCR Eligible Customer Generators are subject to Network and/or Distribution upgrade costs in accordance with Rule 21 Section D.13.e.
- CDCR shall use Interconnection Application Form 79-1174-02 to apply under this Special Condition. In addition to submitting the application form, CDCR will notify PG&E at rule21gen@pge.com of the Generating Facility’s size, and if applicable, any allocation between NEM2 and non-NEM2 generation. (L)

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**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 27

SPECIAL  
CONDITIONS:  
(Cont'd.)

8. NEM2 Legacy Provisions

This Special Condition is applicable to all Customers receiving service on Schedules NEM2, NEM2V, and NEM2VMASH ("the NEM-2 Schedules") and who have submitted all documentation necessary to receive service on the NEM-2 schedules.

- a. 20-Year Transition Period. Pursuant to D.16-01-044, Customers who are receiving service on the NEM-2 schedules, or who have submitted all documentation necessary to receive service on a NEM-2 Schedule, are eligible to continue receiving service on that NEM-2 Schedule for a period of 20 years from the original year in which their Generating Facility was interconnected to PG&E's grid, indicated by and measured from the date on which the Customer originally received permission to operate (PTO) the Generating Facility from PG&E and ending at the conclusion of the Customer's applicable Relevant Period that ends immediately on or after the 20th anniversary of the original PTO date. For example, if a Customer initially received PTO on April 1, 2018, the Customer is eligible to continue receiving service on this Schedule through the conclusion of the Relevant Period ending immediately on or after March 31, 2038.

Customers served on Schedule NEM, NEMV, or NEMVMASH who elect to make a one-time switch to the corresponding NEM-2 Schedule prior to the conclusion of their Schedule NEM, NEMV or NEMVMASH 20-year transition period can continue service under the corresponding NEM-2 Schedule from the date of their original Schedule NEM, NEMV or NEMVMASH PTO date; these Customers may not restart their 20-year transition period by electing to move to this Schedule. Customers electing to switch to the corresponding NEM-2 Schedule prior to the conclusion of their Schedule NEM, NEMV or NEMVMASH 20-year transition period permanently forfeit any of their Generating Facility's remaining transition period eligibility on Schedule NEM, NEMV or NEMVMASH and may not later change back to receiving service under Schedule NEM, NEMV or NEMVMASH. Customers at the end of their 20-year NEM enrollment who transitioned to the NEM2 tariff may not restart a 20-year transition period under NEM2. They should remain on the current NEM successor tariff (currently NEM2) and will be transitioned to the applicable tariff required for customers installing NEM-eligible technologies if and when a new successor tariff becomes effective.

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**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 28

SPECIAL  
CONDITIONS:  
(Cont'd.)

- 8. NEM2 Legacy Provision (Cont'd.)
  - b. Modifications<sup>7</sup>. REGFs eligible for the 20-year transition period outlined above that are modified and/or repaired shall remain eligible for the remainder of their 20-year transition period as long as the modifications and/or repairs do not increase the REGF by more than the greater of:
    - 1) 10 percent of the REGF's nameplate rating capacity, as established when the REGF was originally interconnected, or
    - 2) 1 kW;
 and provided the modifications and/or repairs do not result in the REGF exceeding the Customer's annual onsite load.
  - c. Transferability. REGF eligible for the 20-year transition period shall not lose their eligibility if transferred to a new owner, operator, or PG&E account, provided the REGF remains at its original location.<sup>8</sup>

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<sup>7</sup> Customers making modifications and/or additions to their REGF that exceed the 10 percent or 1 kW limit referenced above have the option of either metering the additions and/or modifications separately under another eligible tariff or other authorized process, or having the entire REGF served under another eligible tariff, subject to the terms and conditions contained therein. This requirement will only be enforced upon the development of a new NEM Successor Tariff that supersedes D.16-01-044, or by the direction of the CPUC.

<sup>8</sup> The transfer of an existing REGF to a new location is considered a new installation requiring a new Interconnection Agreement that is subject to the applicable tariffs in place at the time the new Interconnection Request is completed.

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**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

SPECIAL  
CONDITIONS:  
(Cont'd.)

9. NEM Paired Storage

a. Definitions:

NEM Paired Storage:

NEM Paired Storage is defined as qualifying energy storage devices ("storage system") paired with a REGF that either:

(i) meets the Renewables Portfolio Standard (RPS) Guidebook<sup>9</sup> requirements as an "addition or enhancement" as described in Section c. below, or

(ii) is eligible to received certain benefits as is described this Special Condition by virtue of the fact that it is paired with a REGF although it is not exclusively renewable charged, pursuant to California Public Utilities Commission (CPUC) Decision (D.) 14-05-033 and D.19-01-030.

NEM Paired Storage is considered "Small NEM Paired Storage" when the storage device is ≤10kW and "Large NEM Paired Storage" when the storage device >10kW.

AC-Coupled:

The REGF has its own inverter or set of inverters; and separately, the storage system has its own inverter or set of inverters, pursuant to CPUC D.19-01-030.

In AC-coupled NEM-eligible GFs paired with storage devices, storage device capacity is determined as the (AC) maximum discharge capacity. The size of the storage system in AC-coupled REGF plus storage systems is the inverter's (or inverters') nameplate capacity (nameplate capacities summed).

DC-Coupled:

The REGF and the storage share the same inverter, or set of inverters, pursuant to CPUC D.19-01-030.

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

<sup>9</sup> The RPS Guidebooks can be found at: <https://www.energy.ca.gov/programs-and-topics/programs/renewables-portfolio-standard>

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**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

c. Types of NEM Paired Storage

The Renewables Portfolio Standard (RPS) Guidebook<sup>8</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" storage.

1) Integrated Storage:

Integrated Energy Storage is defined in the RPS guidelines as methods of storing energy from a renewable energy resource that are integrated into the REGF as part of the generation process.

<sup>9</sup> In the event of an expected PSPS (Public Safety Power Shutoff) outage, as evidenced by a 48-hour notice from PG&E to the expected outage start, a storage system defined as "No Grid Charging" and designed for resiliency, meaning it is capable of providing back-up power safely and in compliance with all relevant tariffs, electric rules, other requirements, and is qualified by PG&E to participate, will be temporarily permitted to charge from the grid in order to prepare for the PSPS outage. The notification must specify an impact to the customer generator location. This temporary permission will begin at the publication of the 48-hour notification and will end 24 hours after the end of the PSPS event, as marked by the restoration of power at the site. If power is not shutoff, the temporary permission will end 72 hours after the original 48-hour notice. At the end of the temporary permission period as described above, the storage system will need to revert to "No Grid Charging" operation mode in order to maintain compliance with the NEM tariff, notwithstanding additional PSPS Alerts. At no point during the temporary permission period will the system be permitted to violate the interconnection agreement. Specifically, the storage system must not increase the host facility's historical peak demand.



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

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 (Section 9.c.)
AC Coupled <u>NEM Paired Storage</u>  Or  DC Coupled <u>NEM Paired Storage</u>	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

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.

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**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 33

SPECIAL  
CONDITIONS:  
(Cont'd.)

9. NEM Paired Storage

c. Types of NEM Paired Storage

2) Directly Connected: (Cont'd.)

(iv) ~~Large (>10kW) AC-Coupled NEM Paired Storage system~~  
~~Large AC Coupled storage system ("Large NEM-eligible GFs~~  
~~(AC Coupled")~~ (Cont'd.)

Large NEM ~~Paired Storage Systems-eligible GFs~~ must apply with 79-1174-02, either complete interconnection agreement Form 79-1193-02 (solar and/or wind electric facilities of 30kW or less) or Form 79-1069-02 (all other REGF with a storage system configurations). ~~Customers, and~~ will be billed as described in Section 3.) (iii) of this special condition unless operating using a Certified PCS, in which case, they will be billed as described in Section 3.) (i).

(v) Small ( $\leq 10kW$ ) AC-Coupled storage systems: ~~("Small NEM-eligible GFs") (AC Coupled)~~

Small ~~AC-Coupled NEM-eligible Generating Facilities (GFs) Paired Storage systems' are NEM-eligible GFs paired with AC Coupled Small NEM Paired Storage systems sized 10 kW or smaller. For small NEM-eligible GFs, the storage device is not required to be sized to the customer's demand or the NEM generator. Small NEM-eligible GFs Paired Storage have the option to install metering as required for Large NEM Paired Storage-eligible GFs, or use a "Certified Power Control System (PCS)", as defined above, to be billed as described in Section 3.) (ii) of this special condition. Otherwise, it will be billed using the estimation methodology described in Section 3.) (ii) of this special condition.~~

Small NEM ~~Paired Storage systems e-eligible GFs~~ must apply with the 79-1174-02 (NEM2) and complete the 79-1193-02 (NEM2) when the NEM-Eligible GF is sized 30kW or less or apply with the 79-1174-02 (NEM2) and complete the 79-1069-02 (NEM2) when the NEM-eligible GF exceeds 30kW.

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**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

SPECIAL  
CONDITIONS:  
(Cont'd.)

- 9. NEM Paired Storage
  - c. Types of NEM Paired Storage

DIRECTLY CONNECTED - Table 11.2  
(This table covers **storage that is NOT required to be 100% REGF charged**)  
For Both DAC and DC-AC Coupled Storage-NEM Paired Storage  
May Include ▶ No-Grid Charged storage (if other nonrenewable generation present)  
▶ Non Storage Export (if other nonrenewable generation present)  
Includes All ▶ Grid Charged Storage And Storage Exports  
All apply with Application 79-1174-02

Includes ▶ Non-Storage Export with either NGOM or non-export relay equivalent  
(if no other nonrenewable generation present)  
All apply with Application 79-1174-02

	PV/Wind < 30 kw	Non-PV/Wind REGF ≤1MW  >30kW PV/Wind ≤1MW	REGF >1MW	Bill as	IC costs (Section 9.c.)	Notes <u>NEM Integrity Requirements</u>
<u>DC Coupled or AC Coupled NEM Paired Storage with a PCS</u>	<u>Small (≤10kW) 79-1093-02</u>  <u>Large (&gt;10kW) 79-1069-02</u>	<u>79-1069-02</u>	<u>79-1078-02</u>	<u>§3i</u>	<u>Per 5.i</u>	<u>Certified PCS, as defined above, required)</u>
<u>DC Coupled or AC Coupled Small NEM Paired Storage with no PCS (≤10kW)<sup>w</sup></u>	79-1093-02	79-1069-02	79-1078-02	§3ii	Per 5.i	<u>Billed using Estimation Methodology</u>
<u>DC Coupled or AC Coupled Large NEM Paired Storage with no PCS sized &gt;&gt; 10kW<sup>w</sup> And) ≤150%<sup>10</sup></u>	79-1069-02	79-1069-02	79-1078-02	§3iii	Per 5.ii or iii	<u>NGOM, No Storage Export, or additional metering required, as described above</u> <u>No Grid Charging, No Storage Export<sup>14</sup></u>

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

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<u>DC Coupled</u> <u>or AC</u> <u>Coupled</u> <u>Large NEM</u> <u>Paired</u> <u>Storage with</u> <u>no PCS sized</u> <u>&gt;&gt; 10kW</u> <u>And</u> <u>&gt; 150%<sup>10</sup></u>	Set up and bill as NEMMT (not under NEM-Paired Storage section)
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<sup>10</sup> the storage system shall have a maximum output power no larger than 150% of the NEM-eligible generator's maximum output capacity. Pursuant to Decision 20-06-017 the maximum output capacity limit shall not apply for a period of 3 years starting on August 16, 2020.

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<sup>14</sup> see definition of "No Grid Charging" storage and "No Storage Export" above in 9.a above.

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

Sheet 35

SPECIAL  
CONDITIONS:  
(Cont'd.)

9. NEM Paired Storage

c. Types of NEM Paired Storage

3) Billing for NEM Paired Storage

(i) Large or Small NEM Paired Storage with Certified PCS

Large or Small NEM Paired Storage operating with a Certified PCS to ensure NEM Integrity, as defined above, to ensure NEM integrity can be billed as if storage and REGF were all one generator (e.g. NEMS, NEMEXP).

(+)(ii) Estimation Methodology For Small NEM Paired Storage (≤10kW)-eligible GFs

Small NEM Paired Storage-eligible GFs without metering installed (as required for Large NEM Paired Storage-eligible GFs) and not using a Certified PCS will be billed using an estimation methodology, which caps maximum allowable NEM bill credits based on a monthly output profile.

a. California Solar Initiative Expected Performance-Based Buydown (CSI EPBB) calculator, PG&E will establish a maximum cap for NEM-eligible exports for each monthly billing period based on the EPBB production estimate for the customer's NEM-eligible generator.

The monthly output estimation should align with a customer's billing period (e.g., if the customer's billing date is January 15, the maximum allowed NEM export should be based on a January output estimation.)

b. Any export exceeding this limit would not be eligible for NEM credit and would be forfeited. Peak period exports would be reduced first, followed by partial peak and then off peak as necessary.

For example, if there was an export to the grid of 150 kWh and the EPBB-based limit for the month was set at 100 kWh, then the excess 50 kWh would be deducted from the actual exports recorded, beginning with exports that occurred during peak periods.

c. In the event the Small NEM-eligible GF is combined with other generation facilities pursuant to Special Condition 4, the billing provision of Special Condition 4 will apply, not this billing estimation methodology.

Should a customer decide to opt-out of using this estimation methodology, the customer must install one of the metering requirements described in the Large NEM-eligible GFs Paired Storage section, or a Certified PCS, as described above. and the customer

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

Sheet 35

may only switch at the start of a new NEM Relevant Period.

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~~(ii)~~(iii) Large NEM Paired Storage systems without a Certified PCS-eligible GFs are billed consistent with Special Condition 4 with the storage treated as a non-NEM eligible generator.

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(Continued)

Advice Decision 6395-E

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

Submitted Effective Resolution

November 5, 2021



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

Sheet 36

SPECIAL  
CONDITIONS:  
(Cont'd.)

9. NEM Paired Storage

c. Types of NEM Paired Storage

4) NEM Paired Storage Output Metering Costs

PG&E will install standard metering equipment whenever possible while interconnecting NEM Paired Storage systems. Standard metering equipment for this purpose comprises a single meter which is a self-contained, single phase, SmartMeter. The fee for installation of standard metering equipment is no more than \$600.00.

However, this fee cap does not apply to NEM Paired Storage requiring complex metering solutions. Complex metering solutions include any configuration other than the standard equipment described above. The cost for complex metering varies and is based on actual costs which will be described in the customer's invoice.

5) NEM Paired Storage Interconnection Cost Responsibility

For the purpose of determining if a NEM Paired Storage REGF exceeds 1 MW criterion, refer to the sizing definition included in the AC-Coupled and DC-Coupled definition at the beginning of this Special Condition.

- i) NEM Paired Storage REGF < 1 MW - The storage will have the same interconnection cost responsibility as the NEM-eligible GF that it is paired with for a REGF less than or equal to 1 MW.
- ii) NEM Paired Storage REGF > 1 MW - The storage will have the same interconnection cost responsibility as the NEM generator that it is paired with for a REGF greater than 1 MW
- iii) In the event the storage is added at a later date after the permission to operate of the NEM-eligible GF it is subsequently paired with, the storage applicant will be required to pay the same interconnection fees and costs that the NEM-eligible GF would be required to pay, as provided in Electric Rule 21.



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 37

SPECIAL  
CONDITIONS:  
(Cont'd.)

9. NEM Paired Storage (Cont'd.)

d. Storage Size Dependent Requirements

Requirements differ depending on the size of the NEM Paired Storage and whether it is paired with a solar generator or not. The storage device size is determined by the inverter alternating current nameplate rating.

e. Requirements for Large NEM Paired Storage (i.e., All NEM Paired Storage Devices except Solar NEM paired with Storage Sized 10 KW and Smaller)

For NEM-paired storage systems with storage devices larger than 10 kW, the NEM Paired Storage shall have a maximum output power no larger than 150% of the NEM-eligible generator's maximum output capacity. Pursuant to Decision 20-06-017 the maximum output capacity limit shall not apply for a period of 3 years starting on August 16, 2020.

Large NEM Paired Storage systems are required to either:

- 1) install a non-export relay on the storage device(s);
- 2) install an interval meter for the NEM-eligible generation, meter the load, and meter total energy flows at the point of common coupling; ~~or~~
- 3) install an interval meter directly to the NEM-eligible generator(s); ~~or-~~
- 4) Operate using a Certified PCS

f. Requirements for Small NEM Paired Storage (i.e., Solar NEM Paired with Storage Devices Sized 10 KW or Smaller)

Small NEM Paired Storage is not required to be sized to the customer demand or the NEM generator. ~~Customers with Small-Small NEM Paired Storage has have~~ the option to install metering as required for Large NEM Paired Storage ~~ee, or use a Certified PCS to ensure NEM integrity, otherwise they will be billed using or may chose~~ the estimation methodology described in Section 3(ii) of this special condition. g.

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**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 38

**SPECIAL  
CONDITIONS:  
(Cont'd.)**

~~9.—NEM Paired Storage (Cont'd.)~~

~~(D)~~

~~g.—Billing for NEM Paired Storage~~

~~1) — Estimation Methodology For Small NEM Paired Storage~~

~~Once implemented in PG&E's billing system, Small NEM Paired Storage may use an estimation methodology, which caps maximum allowable NEM bill credits based on a monthly output profile.~~

~~a) — California Solar Initiative Expected Performance Based Buydown (CSI EPBB) calculator, PG&E will establish a maximum cap for NEM-eligible exports for each monthly billing period based on the EPBB production estimate for the customer's NEM-eligible generator.~~

~~The monthly output estimation should align with a customer's billing period (e.g., if the customer's billing date is January 15, the maximum allowed NEM export should be based on a January output estimation.)~~

~~(D)~~

(Continued)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 39

SPECIAL  
CONDITIONS:  
(Cont'd.)

~~9. NEM Paired Storage (Cont'd.)~~

(D)

~~g. Billing for NEM Paired Storage~~

~~b) Any export exceeding this limit would not be eligible for NEM credit and would be forfeited. Peak period exports would be reduced first, followed by partial peak and then off peak as necessary.~~

~~For example, if there was an export to the grid of 150 kWh and the EPBB-based limit for the month was set at 100 kWh, then the excess 50 kWh would be deducted from the actual exports recorded, beginning with exports that occurred during peak periods.~~

~~c) In the event the Small NEM Paired Storage is combined with other generation facilities pursuant to Special Condition 4, the billing provision of Special Condition 4 will apply, not this billing estimation methodology.~~

~~Should a customer decide to opt out of using this estimation methodology, the customer metering must be as provided in Section e. ii. above, and the customer may only switch at the start of a new NEM Relevant Period.~~

~~2) Large NEM Paired Storage is billed consistent with Special Condition 4 with the storage treated as a non-NEM eligible generator.~~

(D)



**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

Sheet 40

SPECIAL  
CONDITIONS:  
(Cont'd.)

10. Natural or Man-Made Disasters

Pursuant to Special Condition 8, all Customers receiving service on Schedule NEM2 who impacted by a natural or man-made disaster may request service on this tariff from (i) the date of the issuance of their original pre-natural-or- man-made disaster "permission to operate" (PTO) letter until (ii) the date of the customer's first Energy True Up in the twenty first (21st) year.

Impacted Customers must:

- (i) reapply for interconnection with a replacement system sized to generate no more than the 12 months of historic, or estimated, usage (kWh), and
- (ii) when reapplying for interconnection, submit proof of destruction of the renewable generator, if requested by PG&E.

If the generator needs to be replaced due to a natural or man-made disaster PG&E will true-up the NEM account(s) pursuant to Special Condition 2.h., and Net Surplus Compensation will be issued, if any, pursuant to Special Condition 5, up to the date of the natural or man-made disaster, unless the Customer requests that PG&E continue to bill the Customer on NEM2 through the Customer's the next regular true-up date.

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**ELECTRIC SCHEDULE NEM2  
NET ENERGY METERING SERVICE**

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SPECIAL  
CONDITIONS:  
(Cont'd.)

10. Natural or Man-Made Disasters (Cont'd)

The intervening period from destruction of the generator to PTO of the replacement generator must be no longer than two years, unless reasonable documentation acceptable to PG&E is provided showing that the new interconnection is in process. The interconnection application must be completed by the same NEM2 customer who was taking service on NEM2 prior to the Natural or Man-Made Disaster. If the generator is not replaced by the same NEM2 Customer, but the property is sold to a new owner after the destruction of the generator, this provision does not extend to the new owner. The new owner must apply and take service under the NEM tariff in effect at the time and is subject to all the requirements of a new customer seeking interconnection for that NEM tariff.

Customers impacted by Natural or Man-Made Disasters who meet the requirements included in this Special Condition and whose replacement system is sized<sup>12</sup> no greater than 1 megawatt (MW) are exempt from the interconnection application fee when reapplying.

Customers impacted by Natural or Man-Made Disasters must comply with all requirements associated with the installation of Smart Inverter technology, as defined in Electric Rule 21.

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<sup>12</sup> Sized as defined in Special Condition 3.

(P/L)

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

AT&T  
Albion Power Company

Alta Power Group, LLC  
Anderson & Poole

Atlas ReFuel  
BART

Barkovich & Yap, Inc.  
Braun Blasing Smith Wynne, P.C.  
California Cotton Ginners & Growers Assn  
California Energy Commission

California Hub for Energy Efficiency  
Financing

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

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

Chevron Pipeline and Power  
City of Palo Alto

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

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

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

GenOn Energy, Inc.  
Goodin, MacBride, Squeri, Schlotz &  
Ritchie  
Green Power Institute  
Hanna & Morton  
ICF  
International Power Technology

Intertie

Intestate Gas Services, Inc.  
Kelly Group  
Ken Bohn Consulting  
Keyes & Fox LLP  
Leviton Manufacturing Co., Inc.

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

Modesto Irrigation District  
NLine Energy, Inc.  
NRG Solar

OnGrid Solar  
Pacific Gas and Electric Company  
Peninsula Clean Energy

Pioneer Community Energy

Public Advocates Office

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

SPURR  
San Francisco Water Power and Sewer  
Sempra Utilities

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

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