

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



Pacific Gas & Electric Company
ELC (Corp ID 39)
Status of Advice Letter 6815E
As of February 14, 2023

Subject: Clean-Up of Electric Rate Schedule NEM2

Division Assigned: Energy

Date Filed: 01-06-2023

Date to Calendar: 01-16-2023

Authorizing Documents: None

Disposition:	Accepted
Effective Date:	01-06-2023

Resolution Required: No

Resolution Number: None

Commission Meeting Date: None

CPUC Contact Information:

edtariffunit@cpuc.ca.gov

AL Certificate Contact Information:

Kimberly Loo

(415)973-4587

PGETariffs@pge.com

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



To: Energy Company Filing Advice Letter

From: Energy Division PAL Coordinator

Subject: Your Advice Letter Filing

The Energy Division of the California Public Utilities Commission has processed your recent Advice Letter (AL) filing and is returning an AL status certificate for your records.

The AL status certificate indicates:

- Advice Letter Number
- Name of Filer
- CPUC Corporate ID number of Filer
- Subject of Filing
- Date Filed
- Disposition of Filing (Accepted, Rejected, Withdrawn, etc.)
- Effective Date of Filing
- Other Miscellaneous Information (e.g., Resolution, if applicable, etc.)

The Energy Division has made no changes to your copy of the Advice Letter Filing; please review your Advice Letter Filing with the information contained in the AL status certificate, and update your Advice Letter and tariff records accordingly.

All inquiries to the California Public Utilities Commission on the status of your Advice Letter Filing will be answered by Energy Division staff based on the information contained in the Energy Division's PAL database from which the AL status certificate is generated. If you have any questions on this matter please contact the:

Energy Division's Tariff Unit by e-mail to
edtariffunit@cpuc.ca.gov

January 6, 2023

Advice 6815-E

(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

Subject: Clean-Up of Electric Rate Schedule NEM2

Purpose

Pacific Gas and Electric Company (PG&E) hereby submits for revisions to Electric Rate Schedule NEM2. The affected tariff sheets are listed on the enclosed Attachment 1.

Background

The purpose of this advice letter is to revise Electric Rate Schedule NEM2 in PG&E's tariff book to consolidate language that was approved in multiple advice letters.

On March 21, 2022, PG&E submitted Tier 2 advice letter 6533-E to extend the use of a Certified Power Control System (PCS) to Small NEM Paired Storage projects and to improve clarity. On December 5, 2022, the CPUC issued a Disposition Letter approving advice letter 6533-E with an effective date of December 1, 2022.¹

On April 29, 2022, PG&E submitted Tier 1 clean-up advice letter 4605-G/6476-E to combine changes that had been approved by the CPUC in separate advice letters. On May 31, 2022, the CPUC issued a Disposition Letter approving advice letter 4605-G/6476-E with an effective date of April 29, 2022.²

On October 12, 2022, PG&E submitted Tier 2 advice letter 6735-E to correct descriptive errors found within Electric Rate Schedule NEM2. On December 1, 2022, the CPUC issued a Disposition Letter approving advice letter 6735-E with an effective date of November 11, 2022.³

¹ [ELEC_6533-E.pdf \(pge.com\)](#)

² [ELEC_6576-E.pdf \(pge.com\)](#)

³ [ELEC_6735-E.pdf \(pge.com\)](#)

This advice letter does not propose any new modifications to Electric Rate Schedule NEM2. PG&E is merely consolidating tariff language that has already been submitted with and approved by the Commission. For your convenience, PG&E has included redline revisions in Attachment 2.

Advice letters 6395-E, 6682-E-A, and 6778-E include pending revisions for Electric Rate Schedule NEM2. Once approved, these revisions will be updated with those made in this advice letter through a future Tier 1 advice letter.

The 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 January 26, 2023, which is 20 days after the date of this submittal. Protests must be submitted to:

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

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

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

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

Effective Date

Pursuant to General Order (GO) 96-B, Rule 5.1, PG&E requests that this Tier 1 advice submittal become effective on January 6, 2023.

Notice

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

_____/S/

Sidney Bob Dietz II
Director, Regulatory Relations

Attachments

- Attachment 1 – Tariffs
- Attachment 2 – Redline Tariff Revisions



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) #: 6815-E

Tier Designation: 1

Subject of AL: Clean-Up of Electric Rate Schedule NEM2

Keywords (choose from CPUC listing): Tariff

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: 1/6/23

No. of tariff sheets: 19

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

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

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

Tariff schedules affected: See Attachment 1

Service affected and changes proposed¹: N/A

Pending advice letters that revise the same tariff sheets: 6395-E, 6682-E-A, 6778-E

¹Discuss in AL if more space is needed.

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

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

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

Telephone (xxx) xxx-xxxx:
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.
55079-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 5	46378-E
55080-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 7	42932-E
55081-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 8	42933-E
55082-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 14	52980-E
55083-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 28	47178-E
55084-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 29	54474-E
55085-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 30	
55086-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 31	47361-E
55087-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 32	54475-E
55088-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 33	45732-E
55089-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 34	52535-E
55090-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 35	45734-E
55091-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 36	45735-E
55092-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 37	52536-E

Cal P.U.C. Sheet No.	Title of Sheet	Cancelling Cal P.U.C. Sheet No.
55093-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 38	45737-E
55094-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 39	45738-E
55095-E	ELECTRIC SCHEDULE NEM2 NET ENERGY METERING SERVICE Sheet 40	54476-E, 54477-E
55096-E	ELECTRIC TABLE OF CONTENTS Sheet 1	55077-E
55097-E	ELECTRIC TABLE OF CONTENTS Sheet 6	55047-E



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 5

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. (T)
(T)

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.

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.

(Continued)



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 7

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

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

For each Aggregated Account other than the Generating Account, an appropriate load account meter is required, consistent with the TOU rate schedule for that account, and customer is responsible for all metering charges provided for in 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 g. as applicable.

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.g.

(T)

(Continued)



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 8

SPECIAL
CONDITIONS:
(Cont'd.)

2. BILLING: (Cont'd.)

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. (T)

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.

(Continued)



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 14

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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(T)

*Generating Facility
Interconnection Application,
(Form 79 1174-02)*

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

NEM2,
NEM2EXP,
NEM2A ,or
NEM2MT >
1,000 kW

*Generating Facility
Interconnection Application
(Form 79-1174-02)*

**Rule 21 Generator Interconnection
Agreement for New Energy
Metering (NEM-2) Generating
Facilities Greater than 1,000
Kilowatts Interconnecting Under
the Fast Track Process
(Form 79-1198-02)**

**Rule 21 Generator
Interconnection Agreement (GIA)
for Net Energy Metering (NEM2)
Generating Facilities Greater than
1,000 Kilowatts Interconnecting
Under the Independent Study,
Distribution Study, or Transmission
Cluster Process
(Form 79-1198-02)**

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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*Generating Facility
Interconnection Application
(Form 79-1174-02)*

**Generating Facility Interconnection
Agreement (NEM2MT - Multiple
Tariff) (Form 79-1069-02)**

NEM2A	NEM2 Load Aggregation \leq 1 MW
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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 28

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) Guidebook⁹ 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.

(N)
|
(N)

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.

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

(Continued)



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 29

SPECIAL
CONDITIONS:
(Cont'd.)

9. NEM Paired Storage

a. Definitions: (Cont'd.)

NEM Integrity

The requirement that a customer only receives credits for renewably generated exports from NEM-eligible REGF.

(N)

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:

A storage system that uses a Certified PCS, as defined above, to ensure that the storage system cannot be charged from the PG&E grid⁹. 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)

(T)

No Storage Export:

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 storage device export is also permitted. Inadvertent but minor instances of storage export are permitted. Such inadvertent grid exports must not exceed durations of ten seconds.

(T)

(T)

(L)

(L)

(N)

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

⁹ 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.

(Continued)



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 30

SPECIAL
CONDITIONS:
(Cont'd.)

9. NEM Paired Storage

(L)

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) Guidebook⁸ 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.

(L)

(Continued)



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 31

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.

(L)

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

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

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

(L)

(Continued)



ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE

Sheet 32

SPECIAL
CONDITIONS:
(Cont'd.)

9. NEM Paired Storage (L)

c. Types of NEM Paired Storage

2) Directly Connected: (Cont'd.)

Directly Connected Cases: (L)

(i) Small (≤10kW) DC-Coupled NEM Paired Storage system: (T)/(L)

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 30 kW 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. (T)/(L)

(ii) Large (>10kW) DC-Coupled NEM Paired Storage system: (T)/(L)

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). (T)/(L)

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

(iii) Large (>10kW) AC-Coupled NEM Paired Storage system: (T)/(L)

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. (T)/(L)

Large NEM-eligible GFs 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 (L)
- d) or operate using a Certified PCS. (T)/(L)

(Continued)



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 33

SPECIAL
CONDITIONS:
(Cont'd.)

9. NEM Paired Storage

(L)

c. Types of NEM Paired Storage

2) Directly Connected: (Cont'd.)

(L)

(iii) Large (>10kW) AC-Coupled NEM Paired Storage system
(Cont'd.):

(T)/(L)
(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 30 kW 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)/(L)
(L)
(L)
(T)/(L)

(iv) Small (≤10kW) AC-Coupled storage systems:

Small AC-Coupled NEM 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 Storage, 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)/(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 30 kW or less or apply with the 79-1174-02 (NEM2) and complete the 79-1069-02 (NEM2) when the NEM-eligible GF exceeds 30 kW.

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

(Continued)



**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 (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)/(L)
(T)/(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)/(L)
(T)/(L)
(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. (L)

(Continued)



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 36

SPECIAL
CONDITIONS:
(Cont'd.)

9. NEM Paired Storage

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)

(L)

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.

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

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.

(L)



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 37

SPECIAL
CONDITIONS:
(Cont'd.)

- 9. NEM Paired Storage (Cont'd.) (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. (L)
 - (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. (T)/(L)
(L)
 - (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 (T)/(L)
(L)
(L)
 - (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. (T)/(L)
(L)
 - d. Storage Size Dependent Requirements (L)
 - 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. (L)

(Continued)



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 38

SPECIAL
CONDITIONS:
(Cont'd.)

9. NEM Paired Storage (Cont'd.)

(D)
(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)

(L)

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.

(L)
(T)/(L)

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

(N)

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

(L)
(L)

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.

(L)
(T)/(L)

(T)/(L)

(Continued)



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 39

SPECIAL
CONDITIONS:
(Cont'd.)

10. Natural or Human-Made Disasters

(L)

Pursuant to Special Condition 8, all Customers receiving service on Schedule NEM2 who impacted by a natural or human-made disaster may request service on this tariff from (i) the date of the issuance of their original pre-natural-or- human-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 human-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 human-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.

(L)

(Continued)



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 40

SPECIAL
CONDITIONS:
(Cont'd.)

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

(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 Human-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 Human-Made Disasters who meet the requirements included in this Special Condition and whose replacement system is sized¹² no greater than 1 megawatt (MW) are exempt from the interconnection application fee when reapplying.

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

(L)



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Sheet 1

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Advice 6815-E
Decision

Issued by
Meredith Allen
Vice President, Regulatory Affairs

Submitted
Effective
Resolution

January 6, 2023
January 6, 2023



ELECTRIC TABLE OF CONTENTS

Sheet 6

Table with columns: SCHEDULE, TITLE OF SHEET, and CAL P.U.C. SHEET NO. Includes entries like BEV, S, SB, E-BioMAT, E-CHP, E-CHPS, E-CHPSA, E-DCG, E-DEPART, E-DRP, E-ECR, E-GT, E-NMDL, E-NWDL, E-LORMS, E-SDL, E-STORE, E-TMDL, NEM, NEM2, NEMFC, NEMBIO, NEMCCSF, NEMV.

(Continued)

Advice 6815-E
January 6, 2023

Attachment 2

Redline Tariff Revisions



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 5

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.

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.

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.

(Continued)



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 7

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

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

For each Aggregated Account other than the Generating Account, an appropriate load account meter is required, consistent with the TOU rate schedule for that account, and customer is responsible for all metering charges provided for in 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 g. as applicable.

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.ge.

(Continued)



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 8

SPECIAL
CONDITIONS:
(Cont'd.)

2. BILLING: (Cont'd.)

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 **gc.** 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.

(Continued)



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 14

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>	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
--	---	---

NEM2MT	For customer-generators \leq 1 MW taking service as a Multiple Tariff Facility under Special Condition 4 of this tariff:	<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 79-1198-02)</i>
--------	--	--

NEM2A	NEM2 Load Aggregation \leq 1 MW	<i>Rule 21 Generator Interconnection Agreement (GIA) for Net Energy Metering (NEM2) Generating Facilities Greater than 1,000 Kilowatts Interconnecting Under the Independent Study, Distribution Study, or Transmission Cluster Process (Form 79-1198-02)</i>
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NEM2CDCR	See Special Condition 7	<i>Generating Facility Interconnection Application (Form 79-1174-02)</i>
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NEM2MT	For customer-generators \leq 1 MW taking service as a Multiple Tariff Facility under Special Condition 4 of this tariff:	<i>Generating Facility Interconnection Agreement (NEM2MT - Multiple Tariff) (Form 79-1069-02)</i>
--------	--	---

Along with the applicable interconnection form above, also submit:

NEM2 Load Aggregation Appendix (Form 79-1202)

(Continued)



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 28

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) Guidebook⁹ 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.

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

(Continued)



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 29

SPECIAL
CONDITIONS:
(Cont'd.)

9. NEM Paired Storage

a. Definitions: (Cont'd.)

NEM Integrity

The requirement that a customer only receives credits for renewably generated exports from 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.

No Grid Charging:

~~A storage system that uses a Certified power control configuration that is either certified to a national standard or to a utility approved interim testing procedure, either of PCS, as defined above, which to~~ ensures that the storage system cannot be charged from the PG&E grid⁹. 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. ~~Customers may not have access to software settings, only the installer and the storage provider would be able to access and select settings profiles.~~ Inadvertent but minor instances of grid import are permitted. Such inadvertent grid imports must not exceed durations of ten seconds.

No Storage Export:

~~A storage system that uses a Certified PCS, as defined above, to power control configuration that is certified either to a national standard or to a utility approved interim testing procedure, either of which ensures 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 storage device export is also permitted. Inadvertent but minor instances of storage export are permitted. Such inadvertent grid exports must not exceed durations of ten seconds.

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) Guidebook⁸ 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.

(Continued)



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 29

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.

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

⁹ 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.

(Continued)

Advice 6735-E
Decision

Issued by
Meredith Allen
Vice President, Regulatory Affairs

Submitted
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October 12, 2022
November 11, 2022



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 30

SPECIAL
CONDITIONS:
(Cont'd.)

- 9. NEM Paired Storage
 - c. Types of NEM Paired Storage
 - 1) Integrated Storage: (Cont'd.)

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

INTEGRATED STORAGE (By definition the storage device must only be capable of storing energy from the REGF)			
SCENARIO	Billed As	Interconnection Agreements	Interconnection Costs <u>(Section 9.c.)</u>
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.

(Continued)



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 31

SPECIAL
CONDITIONS:
(Cont'd.)

- 9. NEM Paired Storage
 - c. Types of NEM Paired Storage
 - 2) Directly Connected: (Cont'd.)

Directly Connected Cases:

- (i) ~~Small (≤ 10 kW) DC-Coupled NEM Paired Storage system sized 10 kW or smaller;~~

~~Small DC-Coupled storage systems sized 10 kW or smaller 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 30 kW or less) or Form 79-1069-02 (all other REGF with a storage system configurations fulfilling the requirements of "No Grid Charging"). All configurations will be billed using the estimation methodology as described in Section ~~g-43.)~~ (ii) of this special condition ~~when unless; no~~ additional metering is installed, as described in "Large NEM Paired Storage-Eligible GFs" below, ~~or the system is operating with a Certified PCS.~~~~

- (ii) ~~Large (> 10 kW) DC-Coupled NEM Paired Storage system sized greater than 10 kW;~~

~~The Large DC-Coupled storage systems sized greater than 10 kW must satisfy the definition of "No Storage Export"; Customers must apply with 79-1174-02, complete Form 79-1069-02, and 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 AC-Coupled storage system ("Large (> 10 kW) AC-Coupled NEM Paired Storage system NEM-eligible GFs");~~

~~Large NEM-eligible Generating Facilities (GFs) are NEM-eligible GFs paired with storage sized larger than 10 kW. For Large AC-Coupled NEM Paired Storage systems -eligible GFs, 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.~~

Large NEM-eligible GFs 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,
- (Continued)



ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE

Sheet 31

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. ~~meet the requirements of No Storage Export~~

(Continued)

Advice Decision 6735-E

Issued by
Meredith Allen
Vice President, Regulatory Affairs

Submitted
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November 11, 2022



**ELECTRIC SCHEDULE NEM2
NET ENERGY METERING SERVICE**

Sheet 32

SPECIAL
CONDITIONS:
(Cont'd.)

9. NEM Paired Storage

c. Types of NEM Paired Storage

2) Directly Connected: (Cont'd.)

(iii) ~~Large (>10kW) AC-Coupled NEM Paired Storage system: Large AC Coupled storage system ("Large NEM-eligible GFs")~~
(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 30 kW 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).

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

Small ~~AC-Coupled NEM-eligible Generating Facilities (GFs) are NEM-eligible GFs paired with storage 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 ~~Paired Storage -eligible GFs~~ 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 describe in Section 3.) (ii) of this special condition.

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

(Continued)

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<p style="text-align: center;">DIRECTLY CONNECTED - Table 11.2 (This table covers storage that is NOT required to be 100% REGF charged) For Both AG-DC and DC-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</p>						
	PV/Wind < 30 kW	Non-PV/Wind REGF ≤1MW >30 kW PV/Wind ≤1MW	REGF >1Mw	Bill as	IC costs (Section 9.c.)	NEM Integrity Requirements/Notes
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	DC Coupled or AC Coupled NEM Paired Storage with a PCS
DC Coupled or AC Coupled Small NEM Paired Storage with no PCS (< 10 kW)	79-1193-02	79-1069-02	79-1198-02	§3ii	Per 5.i	Billed using Estimation Methodology
DC Coupled or AC Coupled Large NEM Paired Storage with no	79-1069-02	79-1069-02	79-1198-02	§3ii	Per 5.ii or iii	NGOM, No Storage Export, or additional metering required, as described above No-Grid

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<p>PCS sized > 10 kW And ≤≤ 150%¹⁰</p>						<p>Charging, No-Storage Export¹⁴</p>
<p>DC Coupled or AC Coupled Large NEM Paired Storage with no PCS sized >→ 10 kW And > 150%¹⁰</p>	<p>Set up and bill as NEMMT (not under NEM-Paired Storage section)</p>					

¹⁰ 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.

¹⁴ ~~see definition of "No Grid Charging" storage and "No Storage Export" above in 9.a above.~~

(Continued)



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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, 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 Paired Storage -eligible GFs section, or a Certified PCS, as described above. and Tthe customer may only switch at the start of a new NEM Relevant

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Period.

~~(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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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.



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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 NEM Paired Storage ~~has 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 or may chose~~ the estimation methodology described in Section 3.)(ii) of this special condition. ~~or~~

(Continued)



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Sheet 37

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

~~9.—NEM Paired Storage (Cont'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.)~~

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**ELECTRIC SCHEDULE NEM2
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**SPECIAL
CONDITIONS:
(Cont'd.)**

9. NEM Paired Storage (Cont'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.~~

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

AT&T Albion Power Company	East Bay Community Energy Ellison Schneider & Harris LLP Engineers and Scientists of California	Pioneer Community Energy
Alta Power Group, LLC Anderson & Poole	GenOn Energy, Inc. Goodin, MacBride, Squeri, Schlotz & Ritchie Green Power Institute Hanna & Morton ICF	Public Advocates Office Redwood Coast Energy Authority Regulatory & Cogeneration Service, Inc.
Atlas ReFuel BART	iCommLaw International Power Technology Intertie	Resource Innovations SCD Energy Solutions San Diego Gas & Electric Company
Barkovich & Yap, Inc. Braun Blaising Smith Wynne, P.C. California Cotton Ginners & Growers Assn California Energy Commission	Intestate Gas Services, Inc. Johnston, Kevin Kelly Group Ken Bohn Consulting Keyes & Fox LLP Leviton Manufacturing Co., Inc.	SPURR San Francisco Water Power and Sewer Sempra Utilities Sierra Telephone Company, Inc. Southern California Edison Company Southern California Gas Company Spark Energy Sun Light & Power Sunshine Design Stoel Rives LLP
California Hub for Energy Efficiency Financing	Los Angeles County Integrated Waste Management Task Force MRW & Associates Manatt Phelps Phillips Marin Energy Authority McClintock IP McKenzie & Associates	Tecogen, Inc. TerraVerde Renewable Partners Tiger Natural Gas, Inc.
California Alternative Energy and Advanced Transportation Financing Authority California Public Utilities Commission Calpine	Modesto Irrigation District NLine Energy, Inc. NRG Solar	TransCanada Utility Cost Management Utility Power Solutions Water and Energy Consulting Wellhead Electric Company Western Manufactured Housing Communities Association (WMA) Yep Energy
Cameron-Daniel, P.C. Casner, Steve Center for Biological Diversity	OnGrid Solar Pacific Gas and Electric Company Peninsula Clean Energy	
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 Dish Wireless L.L.C.		