STATE OF CALIFORNIA GAVIN NEWSOM, *Governor*

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

February 8, 2019

Advice Letter 5469-E

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

SUBJECT: Updates to PG&E's Bundled Procurement Plan - Greenhouse Gas Procurement Plan, Congestion Revenue Rights, and Electric Portfolio Hedging Plan.

Dear Mr. Jacobson:

Advice Letter 5469-E is effective as of January 16, 2019.

Sincerely,

Edward Randolph
Director, Energy Division

Pacific Gas and Electric Company

Erik Jacobson
Director
Regulatory Relations

Pacific Gas and Electric Company
77 Beale St., Mail Code B13U
P.O. Box 770000
San Francisco, CA 94177

Fax: 415-973-3582

January 16, 2019

Advice 5469-E
(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

Subject: **Updates to Pacific Gas and Electric Company's Bundled Procurement Plan – Greenhouse Gas Procurement Plan, Congestion Revenue Rights, and Electric Portfolio Hedging Plan**

Purpose

Pacific Gas and Electric Company (PG&E) hereby submits to the California Public Utilities Commission (CPUC or Commission) this advice letter to update the following sections of PG&E's approved Bundled Procurement Plan (BPP): (1) Greenhouse Gas (GHG) Procurement Plan (Appendix G) and (2) Congestion Revenue Rights (Appendix I). PG&E also provides a confidential update related to its Electric Portfolio Hedging Plan (Appendix E).

Background

Decision (D.) 15-10-031 adopted the investor-owned utilities' proposed BPPs with modifications and required PG&E to submit a conformed copy of its BPP, which was submitted on December 10, 2015.[1] Since then, PG&E has updated the BPP as needed when market conditions or electric portfolio changes necessitate modifying the BPP.

As described in the BPP, PG&E's goals are to provide safe, reliable, affordable, and environmentally sensitive electric and gas service to its customers.[2] The BPP is intended

[1] In D.15-10-031, the Commission adopted PG&E's proposed 2014 BPP with modifications and required PG&E to conform the BPP to incorporate modifications made in the Decision no later than 90 days of the Decision. PG&E filed its conformed BPP on December 10, 2015 via Advice Letter 4750-E, which was approved by the Commission on June 15, 2016.

[2] *See* BPP, pp. 1-4 (describing PG&E's procurement goals).

to achieve these goals and other Commission and legislative directives for PG&E's bundled service electric customers.[3]

On January 14, 2019, PG&E filed with the Securities and Exchange Commission a Form 8-K which summarizes among other events, its recent credit downgrades. As a result of PG&E's credit rating downgrades, PG&E is required to post significant collateral for certain contracts and financial derivatives and is exposed to significant constraints on its customary ability to trade.[4]

Discussion

By this Tier 1 filing, PG&E revises Appendix G and Appendix I of its BPP, and continues temporary management of Appendix E transactions[5] due to its impaired credit ratings. Because constraints described herein and PG&E's Form 8-K negatively impact PG&E's ability to transact, PG&E will manage its BPP as described in Confidential Attachment A of this advice letter until the Commission approves further revisions to PG&E's BPP.[6] PG&E's BPP modifications described in Confidential Appendix A will benefit PG&E's customers by enabling PG&E to prioritize providing safe, reliable, affordable, and environmentally sensitive electric and gas service.

Attachments

Confidential Attachment A	Confidential Description of PG&E's BPP Changes
Confidential Attachment B	Redline Edits, BPP Sheets 133-144 (Appendix G) and BPP Sheets 154-156 (Appendix I)
Confidential Attachment C	Clean BPP Sheets 133-144 (Appendix G) and BPP Sheets 154-156 (Appendix I)
Attachment D	Redline Edits, BPP Sheets 133-144 (Appendix G) and BPP Sheets (Appendix I) (Public Version)
Attachment E	Clean BPP Sheets 133-144 (Appendix G) and BPP Sheets (Appendix I) (Public Version)

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[3] Id. at 1.

[4] January 14, 2019 8-K, p. 5 (hyperlink at: https://www.sec.gov/Archives/edgar/data/75488/000095015719000032/form8k.htm).

[5] Advice 5282-E, describing PG&E's temporary management of its electric portfolio hedge position consistent with its Hedging Plan, was approved by Energy Division effective May 1, 2018.

[6] PG&E anticipates filing an advice letter proposing further updates to its BPP, including Appendix G and Appendix I, in the first quarter of 2019. PG&E will continue temporary management of Appendix E until PG&E files an updated Hedging Plan with the Commission, by a date no later than December 31, 2020.

Attachment F | Declaration of Maria Vanko Wilson Seeking Confidential Treatment Pursuant to D.06-06-066, D.14-10-033, and Public Utilities Code §454.5(g)

Protests

Anyone wishing to protest this filing may do so by letter sent via U.S. mail, facsimile or E-mail, no later than February 5, 2019, which is 20 days after the date of this filing. Protests must be submitted to:

CPUC Energy Division
ED Tariff Unit
505 Van Ness Avenue, 4th Floor
San Francisco, California 94102

Facsimile: (415) 703-2200
E-mail: EDTariffUnit@cpuc.ca.gov

Copies of protests also should be mailed to the attention of the Director, Energy Division, Room 4004, at the address shown above.

The protest shall also be sent to PG&E either via E-mail or U.S. mail (and by facsimile, if possible) at the address shown below on the same date it is mailed or delivered to the Commission:

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

Facsimile: (415) 973-1448
E-mail: PGETariffs@pge.com

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

Effective Date

PG&E requests that this Tier 1 advice filing become effective upon date of submittal, which is January 16, 2019.

Notice

In accordance with General Order 96-B, Section IV, a copy of this advice letter is being sent electronically and via U.S. mail to parties shown on the attached list and the parties on the service list for R.16-02-007. Address changes to the General Order 96-B service list should be directed to PG&E at email address PGETariffs@pge.com. For changes to any other service list, please contact the Commission's Process Office at (415) 703-2021 or at Process_Office@cpuc.ca.gov. Send all electronic approvals to PGETariffs@pge.com. Advice letter filings can also be accessed electronically at: http://www.pge.com/tariffs/.

/S/

Erik Jacobson
Director, Regulatory Relations

Attachments

cc: Service List R.16-02-007

ADVICE LETTER SUMMARY

ENERGY UTILITY

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

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

Utility type:
- ☑ ELC
- ☐ GAS
- ☐ WATER
- ☐ PLC
- ☐ HEAT

Contact Person: Yvonne Yang
Phone #: (415)973-2094
E-mail: PGETariffs@pge.com
E-mail Disposition Notice to: Yvonne.Yang@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) #: 5469-E

Tier Designation: 1

Subject of AL: Updates to Pacific Gas and Electric Company's Bundled Procurement Plan -- Greenhouse Gas Procurement Plan, Congestion Revenue Rights, and Electric Portfolio Hedging Plan

Keywords (choose from CPUC listing): Procurement

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

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #:
D.15-10-031

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: Wilson, Maria Vanko , MNVA@pge.com, (415)973-5639

Resolution required? ☐ Yes ☑ No

Requested effective date: 1/16/19

No. of tariff sheets: N/A

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:

Service affected and changes proposed[1]: N/A

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

[1]Discuss in AL if more space is needed.

Clear Form

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

CPUC, Energy Division Attention: Tariff Unit 505 Van Ness Avenue San Francisco, CA 94102 Email: EDTariffUnit@cpuc.ca.gov	Name: Erik Jacobson, c/o Megan Lawson Title: Director, Regulatory Relations Utility Name: Pacific Gas and Electric Company Address: 77 Beale Street, Mail Code B13U City: San Francisco, CA 94177 State: California Zip: 94177 Telephone (xxx) xxx-xxxx: (415)973-2093 Facsimile (xxx) xxx-xxxx: (415)973-3582 Email: PGETariffs@pge.com
	Name: Title: Utility Name: Address: City: State: District of Columbia Zip: Telephone (xxx) xxx-xxxx: Facsimile (xxx) xxx-xxxx: Email:

Clear Form

Advice 5469-E
January 16, 2019

Confidential Attachment A

Proposed Edits to PG&E's Bundled Procurement Plan

Description of Changes to Conformed Plan

Advice 5469-E
January 16, 2019

Confidential Attachment B

Proposed Edits to PG&E's Bundled Procurement Plan (Redline)

Update to BPP Sheets 133-144 (GHG Procurement Plan) and BPP Sheets 154-156 (Congestion Revenue Rights)

Confidential Attachment C

Proposed Edits to PG&E's Bundled Procurement Plan (Clean)

Update to BPP Sheets 133-144 (GHG Procurement Plan) and BPP Sheets 154-156 (Congestion Revenue Rights)

Advice 5469-E
January 16, 2019

Attachment D

Proposed Edits to PG&E's Bundled Procurement Plan (Redline)

Update to BPP Sheets 133-144 (GHG Procurement Plan) and BPP Sheets 154-156 (Congestion Revenue Rights)

APPENDIX G

GREENHOUSE GAS PROCUREMENT PLAN

A. Background

1. California Air Resource Board's Cap-and-Trade Regulations

Assembly Bill ("AB") 32 is California's groundbreaking Greenhouse Gas ("GHG") legislation that requires the reduction of statewide GHG emissions to 1990 levels by 2020. To this end, the California Air Resources Board ("CARB") proposed a statewide Cap-and-Trade regulation and other programmatic measures, including a Renewables Energy Standard, Customer Energy Efficiency, and Combined Heat and Power, to achieve these emissions reductions. The Cap-and-Trade regulation, which became effective on January 1, 2012, is intended to establish a market-based price for GHG emissions and, over time, provide market signals for efficient resource utilization and procurement activities to reduce GHG emissions.

Compliance with the emissions cap established in the CARB Cap-and-Trade regulation began in 2013 and is broken up into three compliance periods. The first compliance period—for the years 2013 through 2014—began on January 1, 2013. Covered entities in the first compliance period include operators of any facility that annually emits at least 25,000 metric tons of carbon dioxide equivalent ("mtCO_2e").[1] Operators are required to obtain and surrender compliance instruments equivalent to the annual GHG emissions for each such facility. Importers of electricity into California are also responsible for obtaining and retiring compliance instruments for GHG emissions deemed to be associated with electricity imports for purposes of compliance with Cap-and-Trade.

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[1] Units of GHG are typically measured in terms of mtCO2e.

The second compliance period—for the years 2015 through 2017—is scheduled to commence on January 1, 2015. Beginning in the second compliance period, covered entities expand to include, among others, suppliers of natural gas that meet or exceed the 25,000 $mtCO_2e$ threshold. A supplier of natural gas is required to obtain and surrender compliance instruments for every metric ton of CO_2e that would result from the full combustion or oxidation of all fuel delivered to end users in California, less the emissions associated with fuel that is delivered to its customers that are required to participate in the Cap-and-Trade Program ("covered entities").

This plan only covers procurement activities necessary to comply with Pacific Gas and Electric Company's ("PG&E") obligations related to electric procurement. Additional procurement necessary to meet PG&E's compliance obligations as a natural gas supplier and the associated cost recovery will be as authorized through California Public Utilities Commission ("CPUC" or "Commission") Order Instituting Rulemaking ("R.") 14-03-003 or subsequent Commission proceedings.

There are two types of compliance instruments:

i. ***Allowances*** are limited tradable authorizations accepted by CARB to emit up to one $mtCO_2e$. Allowances are year-specific and can be used for an annual compliance filing for the year it was issued or for any subsequent compliance filing. An allowance can be bought, sold, transferred, or "banked" for use in a particular compliance period. Allowances are available via direct allocation[2] by CARB, auctions conducted under the

[2] According to the Cap-and-Trade regulation, the Investor-Owned Utilities ("IOU") are required to consign 100 percent of their Electric Distribution Utility ("EDU") directly allocated allowances to the auctions in the allocation year. An IOU cannot use a directly allocated EDU allowances to satisfy its compliance obligation.

auspices of CARB, and the Allowance Price Containment Reserve[3] ("APCR") established by CARB. CARB auctions are held quarterly. Allowances are also available in the market.

ii. ***Offset Credits*** ("Offsets") are tradable compliance instruments accepted by CARB that represent verified reductions of one $mtCO_2e$ from projects whose emissions or avoided emissions are not from a source covered under the Cap-and-Trade Program. For compliance purposes, an Offset and an allowance are virtually interchangeable for the year issued, however, an entity can only use Offsets to meet up to 8 percent of its compliance obligation in any compliance period. In addition, CARB's Cap-and-Trade regulation allows CARB to invalidate an Offset for errors, regulatory violations or fraud. CARB has adopted specific rules for using Offsets for Cap-and-Trade compliance, including the types of projects that qualify and the process for Offset verification, issuance, and registration.

Allowances and Offsets may also be available from external GHG Emissions Trading Systems to which California has linked.[4]

PG&E's actual Cap-and-Trade compliance obligation for a given year is determined by the GHG emissions reported annually to CARB per the Mandatory Reporting Rule.[5] Annual reports are due to CARB by April 10 of the calendar year following the emission year for facility operators or suppliers, and June 1 for electric power entities. Cap-and-Trade compliance showings are made annually and at the end of each compliance period. In order to demonstrate compliance in a given year, PG&E must surrender enough compliance instruments to cover 30 percent of its qualifying emissions by November 1 of the following calendar year (annual surrender date). In addition,

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[3] The CARB APCR is populated with a finite quantity of allowances available for purchase at fixed prices and only by covered entities.

[4] CARB's Board-approved amendments allowing for the use of compliance instruments issued by linked jurisdictions on May 10, 2013. California is currently linked with Quebec.

[5] Regulation for the Mandatory Reporting of GHG Emissions (Division 3, Chapter 1, Subchapter 10, Article 2, Sections 95100-95133, title 17, California Code of Regulations).

PG&E must surrender enough compliance instruments to cover the balance of its qualifying emissions over a multi-year compliance period by November 1 of the calendar year following the end of each compliance period ("compliance period surrender date").

PG&E receives an allocation of free allowances associated with its business as an EDU directly from CARB annually; however, these free allowances cannot be used directly by PG&E to satisfy its compliance obligation.

All directly-allocated electric allowances must be consigned by PG&E into one or more of the auctions. In each year, allowances consigned at least 75 days prior to a quarterly auction will be offered for sale at that auction and each consigning entity agrees to accept the auction settlement price for allowances sold at auction. Until 2015, only IOUs and Publicly-Owned Utilities can consign allowances to the auction, and beginning in 2015, natural gas suppliers can also consign allowances into the auction.

2. Greenhouse Gas Compliance Instruments and CARB Auctions

A description of the authorized GHG compliance instruments is provided in Appendix A. A description of the CARB Auction and APCR process is provided in Appendix B of the Bundled Procurement Plan ("BPP").

B. PG&E's Allowance Consignment

[redacted]

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6 [redacted]

C. PG&E's Potential Greenhouse Gas Risks

1. Greenhouse Gas Obligations

PG&E is required by CARB's Cap-and-Trade regulation to surrender compliance instruments for its qualifying Utility-Owned Generation ("UOG") and imports (collectively described as "physical" obligations). PG&E also has contractual obligations associated with certain tolling agreements that require it to either: (1) provide the counterparty with compliance instruments for the energy under contract; or (2) reimburse the counterparty for the Cap-and-Trade compliance costs associated with its facility's operation under the contract.

2. Cap-and-Trade Penalties

PG&E could face CARB penalties for failure to surrender an adequate number of compliance instruments for which it has a compliance obligation. CARB's Cap-and-Trade rule imposes a four-time excess emissions penalty resulting from "untimely surrender" of allowances. This penalty would be assessed by requiring that additional compliance instruments be surrendered, rather than by cash payment. In addition, if an entity fails to surrender the required compliance instruments within five days of the first auction or reserve sale conducted by CARB following the applicable surrender date, whichever is the latter, and for which the registration deadline has not passed when the untimely surrender obligation is assessed, CARB's Cap-and-Trade rule would treat each ton of GHG emissions for which a compliance instrument was not surrendered as a separate violation for each day the violation continues.

3. Offset Credits

CARB's Cap-and-Trade regulation allows CARB to invalidate an Offset for errors, regulatory violations, or fraud. In the case where an Offset is used to meet a compliance requirement and is later invalidated, the complying entity must replace the invalidated Offset with a valid compliance instrument within six months of notification by CARB of the Offset's invalidation or be subject to compliance penalties. PG&E will only purchase Offsets if the purchase contract requires the seller to assume the risk of invalidation and to post appropriate collateral. PG&E will assess the risk of invalidation for each Offset transaction.

D. PG&E's GHG-Related Product Procurement

This GHG Procurement Plan addresses the GHG-related procurement authority necessary for PG&E to comply with the obligations associated with emissions from electricity sectors covered by Cap-and-Trade Program, namely facilities with GHG emissions greater than or equal to 25,000 mtCO_2e per year and imported electricity. As an entity that is required to comply with Cap-and-Trade, PG&E will need to procure compliance instruments to meet the compliance requirements associated with its own facilities and imports, as well as the GHG contractual obligations associated with Power Purchase Agreements with third parties that require PG&E to procure GHG compliance products or assume GHG compliance costs for such parties. Below, PG&E describes its GHG obligations and GHG procurement strategy. As noted below, Commission-approved GHG-related products ("GHG Products"), procurement processes, and GHG Procurement Limits are provided in Appendices A, B and C, respectively, of this BPP. The products, procurement processes, GHG Procurement Limits, and GHG procurement strategy establish the upfront achievable standards for PG&E's procurement activities consistent with AB 57.

1. Greenhouse Gas Obligations

PG&E's primary need to procure GHG compliance instruments and engage in GHG transactions arises in connection with the following:

- Utility-Owned Facilities: Conventional generation facilities owned by PG&E that are either operating or under construction and that emit at least 25,000 mtCO_2e per year, such as the Humboldt Generating Station, Colusa Generating Station, and Gateway Generating Station, will have a compliance obligation under Cap-and-Trade.
- Certain Tolling Agreements: Contracts that allocate to PG&E or where PG&E has assumed GHG compliance instrument procurement responsibility for such counterparties.
- Electricity Imports: PG&E is responsible for GHG emissions deemed to be associated with its electricity imports for purposes of compliance with Cap-and-Trade.

2. Greenhouse Gas-Related Products

GHG Products approved by the Commission are listed in Appendix A.

3. Greenhouse Gas-Related Processes

PG&E will procure GHG Products using the procurement methods and processes in accordance with Appendix B.

4. Greenhouse Gas Procurement Strategy

[redacted] ~~during each compliance period to meet its GHG obligations. PG&E's procurement strategy includes the following key elements:~~

[redacted]

[redacted]

~~i. GHG Procurement Limits~~

~~Each of these elements is described in more detail below.~~

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~~i.~~a. GHG Procurement Limits

GHG Procurement limits are provided in Appendix C.

5. Procurement Review Group Consultation

PG&E's consultation with the PRG is addressed in Appendix M.

6. Cost Recovery

Cost recovery of GHG Products is discussed in Section IV.C of the BPP

7. Approval for Contract Term Duration

CPUC approval of transactions is discussed in Section V of the BPP

8. Independent Evaluator

Independent Evaluator requirements are discussed in Appendix M.

[redacted]

[redacted]

[redacted]

[redacted]

APPENDIX I

CONGESTION REVENUE RIGHTS

A. Introduction

Pacific Gas and Electric Company ("PG&E") is authorized to procure Congestion Revenue Rights ("CRR") under two California Public Utilities Commission ("CPUC" or "Commission") resolutions. CRRs are financial instruments issued by the California Independent System Operator ("CAISO"). Resolution E-4135 authorized PG&E to procure CRRs in the CAISO's monthly and annual processes. Resolution E-4122 authorized PG&E to procure Long-Term Congestion Revenue Rights ("LT-CRR") in the CAISO's long-term process. Both resolutions authorized PG&E to purchase and sell CRRs in the secondary markets.

The monthly and annual CRR processes consist of up to three allocation tiers and an auction. In the allocation tiers, only Load Serving Entities ("LSE") such as PG&E can nominate CRRs that they wish to obtain at no direct cost. LSEs can procure CRRs up to an amount determined by their historical or forecasted load. In the auctions, which are open to all market participants, PG&E can purchase or sell CRRs at market-based prices determined through the competitive auction. The Annual CRR process releases CRRs with calendar quarter delivery periods that occur over the next year. The monthly CRR process releases CRRs with monthly delivery periods for the next month.

The LT-CRR process consists of one allocation tier each year and is performed as part of the annual CRR process. In this Long Term Tier, quarterly-term CRRs previously acquired from the annual Tier 1 allocation can be nominated for conversion to LT-CRRs with same quarter deliveries for the subsequent nine years.

B. Congestion Revenue Rights and Long-Term Congestion Revenue Rights Procurement Objectives

As the Commission determined in Resolutions E-4135 and E-4122, PG&E uses CRRs and LT-CRRs to hedge against expected congestion costs. PG&E does not use CRRs and LT-CRRs for financial speculation.

C. Congestion Revenue Rights Procurement

1. Congestion Revenue Rights Source-Sink Pairs and Paths

PG&E is authorized to acquire CRRs and LT-CRRs for any path (represented by a source-sink pair) connecting existing generation sources to existing loads (retail loads, Helms pumping load, and wholesale load obligations) or for any path that PG&E reasonably anticipates it might need to flow energy in the future due to the addition of new contracts, resources, or load obligations. Additionally, there may be CRRs or LT-CRRs which are positively correlated in value with CRRs or LT-CRRs for paths that have limited availability. PG&E is authorized to acquire CRRs and LT-CRRs for such positively correlated paths as well. Therefore, PG&E will obtain any CRRs and LT-CRRs that are determined to be valuable as hedges against congestion costs at the time they are offered, subject to selection criteria regarding the specific source/sink combinations as described in Section E of this Appendix.

2. Procurement Review Group Consultation

PG&E consults with its Procurement Review Group (“PRG”) regarding CRRs and LT-CRRs. PRG consultation is described in more detail in Appendix M.

D. Volume Limits

PG&E's CRR and LT-CRR procurement is subject to source-specific volume limits. That is, PG&E will limit the "net" volume[1] that it could procure at each source node to the maximum non-coincident capacity of the sources (existing, potential, planned, or "positively correlated") at that node for that delivery period. There are separate source-specific volume limits for the on-peak and off-peak hours in the delivery period. Overall or total CRR volume limits are unnecessary because PG&E is already limited by CAISO rules, and to hedging no more than its total expected or anticipated grid use.

E. Selection Criteria for Congestion Revenue Rights in Allocation ~~and Auction~~ Processes

[redacted]

- [redacted]
- [redacted]

[redacted]

[1] "Net" volume refers to the result of netting CRRs in one direction with CRRs in the counter-flow direction.

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[redacted]

F. Congestion Revenue Rights Auction Participation

[redacted]

[redacted]

2 [redacted]

[redacted]

G. Transactions in Secondary Congestion Revenue Rights Market

[redacted]

[redacted]

Advice 5469-E
January 16, 2019

Attachment E

Proposed Edits to PG&E's Bundled Procurement Plan (Clean)

Update to BPP Sheets 133-144 (GHG Procurement Plan) and BPP Sheets 154-156 (Congestion Revenue Rights)

APPENDIX G

GREENHOUSE GAS PROCUREMENT PLAN

A. Background

1. California Air Resource Board's Cap-and-Trade Regulations

Assembly Bill ("AB") 32 is California's groundbreaking Greenhouse Gas ("GHG") legislation that requires the reduction of statewide GHG emissions to 1990 levels by 2020. To this end, the California Air Resources Board ("CARB") proposed a statewide Cap-and-Trade regulation and other programmatic measures, including a Renewables Energy Standard, Customer Energy Efficiency, and Combined Heat and Power, to achieve these emissions reductions. The Cap-and-Trade regulation, which became effective on January 1, 2012, is intended to establish a market-based price for GHG emissions and, over time, provide market signals for efficient resource utilization and procurement activities to reduce GHG emissions.

Compliance with the emissions cap established in the CARB Cap-and-Trade regulation began in 2013 and is broken up into three compliance periods. The first compliance period—for the years 2013 through 2014—began on January 1, 2013. Covered entities in the first compliance period include operators of any facility that annually emits at least 25,000 metric tons of carbon dioxide equivalent ("$mtCO_2e$").[1] Operators are required to obtain and surrender compliance instruments equivalent to the annual GHG emissions for each such facility. Importers of electricity into California are also responsible for obtaining and retiring compliance instruments for GHG emissions deemed to be associated with electricity imports for purposes of compliance with Cap-and-Trade.

[1] Units of GHG are typically measured in terms of mtCO2e.

The second compliance period—for the years 2015 through 2017—is scheduled to commence on January 1, 2015. Beginning in the second compliance period, covered entities expand to include, among others, suppliers of natural gas that meet or exceed the 25,000 $mtCO_2e$ threshold. A supplier of natural gas is required to obtain and surrender compliance instruments for every metric ton of CO_2e that would result from the full combustion or oxidation of all fuel delivered to end users in California, less the emissions associated with fuel that is delivered to its customers that are required to participate in the Cap-and-Trade Program ("covered entities").

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There are two types of compliance instruments:

i. ***Allowances*** are limited tradable authorizations accepted by CARB to emit up to one $mtCO_2e$. Allowances are year-specific and can be used for an annual compliance filing for the year it was issued or for any subsequent compliance filing. An allowance can be bought, sold, transferred, or "banked" for use in a particular compliance period. Allowances are available via direct allocation[2] by CARB, auctions conducted under the

[2] According to the Cap-and-Trade regulation, the Investor-Owned Utilities ("IOU") are required to consign 100 percent of their Electric Distribution Utility ("EDU") directly allocated allowances to the auctions in the allocation year. An IOU cannot use a directly allocated EDU allowances to satisfy its compliance obligation.

auspices of CARB, and the Allowance Price Containment Reserve[3] ("APCR") established by CARB. CARB auctions are held quarterly. Allowances are also available in the market.

ii. ***Offset Credits*** ("Offsets") are tradable compliance instruments accepted by CARB that represent verified reductions of one $mtCO_2e$ from projects whose emissions or avoided emissions are not from a source covered under the Cap-and-Trade Program. For compliance purposes, an Offset and an allowance are virtually interchangeable for the year issued, however, an entity can only use Offsets to meet up to 8 percent of its compliance obligation in any compliance period. In addition, CARB's Cap-and-Trade regulation allows CARB to invalidate an Offset for errors, regulatory violations or fraud. CARB has adopted specific rules for using Offsets for Cap-and-Trade compliance, including the types of projects that qualify and the process for Offset verification, issuance, and registration.

Allowances and Offsets may also be available from external GHG Emissions Trading Systems to which California has linked.[4]

PG&E's actual Cap-and-Trade compliance obligation for a given year is determined by the GHG emissions reported annually to CARB per the Mandatory Reporting Rule.[5] Annual reports are due to CARB by April 10 of the calendar year following the emission year for facility operators or suppliers, and June 1 for electric power entities. Cap-and-Trade compliance showings are made annually and at the end of each compliance period. In order to demonstrate compliance in a given year, PG&E must surrender enough compliance instruments to cover 30 percent of its qualifying emissions by November 1 of the following calendar year (annual surrender date). In addition,

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[3] The CARB APCR is populated with a finite quantity of allowances available for purchase at fixed prices and only by covered entities.

[4] CARB's Board-approved amendments allowing for the use of compliance instruments issued by linked jurisdictions on May 10, 2013. California is currently linked with Quebec.

[5] Regulation for the Mandatory Reporting of GHG Emissions (Division 3, Chapter 1, Subchapter 10, Article 2, Sections 95100-95133, title 17, California Code of Regulations).

PG&E must surrender enough compliance instruments to cover the balance of its qualifying emissions over a multi-year compliance period by November 1 of the calendar year following the end of each compliance period ("compliance period surrender date").

PG&E receives an allocation of free allowances associated with its business as an EDU directly from CARB annually; however, these free allowances cannot be used directly by PG&E to satisfy its compliance obligation.

All directly-allocated electric allowances must be consigned by PG&E into one or more of the auctions. In each year, allowances consigned at least 75 days prior to a quarterly auction will be offered for sale at that auction and each consigning entity agrees to accept the auction settlement price for allowances sold at auction. Until 2015, only IOUs and Publicly-Owned Utilities can consign allowances to the auction, and beginning in 2015, natural gas suppliers can also consign allowances into the auction.

2. Greenhouse Gas Compliance Instruments and CARB Auctions

A description of the authorized GHG compliance instruments is provided in Appendix A. A description of the CARB Auction and APCR process is provided in Appendix B of the Bundled Procurement Plan ("BPP").

B. PG&E's Allowance Consignment

[redacted] [redacted].

6 [redacted]

C. PG&E's Potential Greenhouse Gas Risks

1. Greenhouse Gas Obligations

PG&E is required by CARB's Cap-and-Trade regulation to surrender compliance instruments for its qualifying Utility-Owned Generation ("UOG") and imports (collectively described as "physical" obligations). PG&E also has contractual obligations associated with certain tolling agreements that require it to either: (1) provide the counterparty with compliance instruments for the energy under contract; or (2) reimburse the counterparty for the Cap-and-Trade compliance costs associated with its facility's operation under the contract.

2. Cap-and-Trade Penalties

PG&E could face CARB penalties for failure to surrender an adequate number of compliance instruments for which it has a compliance obligation. CARB's Cap-and-Trade rule imposes a four-time excess emissions penalty resulting from "untimely surrender" of allowances. This penalty would be assessed by requiring that additional compliance instruments be surrendered, rather than by cash payment. In addition, if an entity fails to surrender the required compliance instruments within five days of the first auction or reserve sale conducted by CARB following the applicable surrender date, whichever is the latter, and for which the registration deadline has not passed when the untimely surrender obligation is assessed, CARB's Cap-and-Trade rule would treat each ton of GHG emissions for which a compliance instrument was not surrendered as a separate violation for each day the violation continues.

3. Offset Credits

CARB's Cap-and-Trade regulation allows CARB to invalidate an Offset for errors, regulatory violations, or fraud. In the case where an Offset is used to meet a compliance requirement and is later invalidated, the complying entity must replace the invalidated Offset with a valid compliance instrument within six months of notification by CARB of the Offset's invalidation or be subject to compliance penalties. PG&E will only purchase Offsets if the purchase contract requires the seller to assume the risk of invalidation and to post appropriate collateral. PG&E will assess the risk of invalidation for each Offset transaction.

D. PG&E's GHG-Related Product Procurement

This GHG Procurement Plan addresses the GHG-related procurement authority necessary for PG&E to comply with the obligations associated with emissions from electricity sectors covered by Cap-and-Trade Program, namely facilities with GHG emissions greater than or equal to 25,000 $mtCO_2e$ per year and imported electricity. As an entity that is required to comply with Cap-and-Trade, PG&E will need to procure compliance instruments to meet the compliance requirements associated with its own facilities and imports, as well as the GHG contractual obligations associated with Power Purchase Agreements with third parties that require PG&E to procure GHG compliance products or assume GHG compliance costs for such parties. Below, PG&E describes its GHG obligations and GHG procurement strategy. As noted below, Commission-approved GHG-related products ("GHG Products"), procurement processes, and GHG Procurement Limits are provided in Appendices A, B and C, respectively, of this BPP. The products, procurement processes, GHG Procurement Limits, and GHG procurement strategy establish the upfront achievable standards for PG&E's procurement activities consistent with AB 57.

1. Greenhouse Gas Obligations

PG&E's primary need to procure GHG compliance instruments and engage in GHG transactions arises in connection with the following:

- Utility-Owned Facilities: Conventional generation facilities owned by PG&E that are either operating or under construction and that emit at least 25,000 mtCO_2e per year, such as the Humboldt Generating Station, Colusa Generating Station, and Gateway Generating Station, will have a compliance obligation under Cap-and-Trade.
- Certain Tolling Agreements: Contracts that allocate to PG&E or where PG&E has assumed GHG compliance instrument procurement responsibility for such counterparties.
- Electricity Imports: PG&E is responsible for GHG emissions deemed to be associated with its electricity imports for purposes of compliance with Cap-and-Trade.

2. Greenhouse Gas-Related Products

GHG Products approved by the Commission are listed in Appendix A.

3. Greenhouse Gas-Related Processes

PG&E will procure GHG Products using the procurement methods and processes in accordance with Appendix B.

4. Greenhouse Gas Procurement Strategy

[redacted]

a. GHG Procurement Limits

GHG Procurement limits are provided in Appendix C.

5. Procurement Review Group Consultation

PG&E's consultation with the PRG is addressed in Appendix M.

6. Cost Recovery

Cost recovery of GHG Products is discussed in Section IV.C of the BPP

7. Approval for Contract Term Duration

CPUC approval of transactions is discussed in Section V of the BPP

8. Independent Evaluator

Independent Evaluator requirements are discussed in Appendix M.

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APPENDIX I

CONGESTION REVENUE RIGHTS

A. Introduction

Pacific Gas and Electric Company ("PG&E") is authorized to procure Congestion Revenue Rights ("CRR") under two California Public Utilities Commission ("CPUC" or "Commission") resolutions. CRRs are financial instruments issued by the California Independent System Operator ("CAISO"). Resolution E-4135 authorized PG&E to procure CRRs in the CAISO's monthly and annual processes. Resolution E-4122 authorized PG&E to procure Long-Term Congestion Revenue Rights ("LT-CRR") in the CAISO's long-term process. Both resolutions authorized PG&E to purchase and sell CRRs in the secondary markets.

The monthly and annual CRR processes consist of up to three allocation tiers and an auction. In the allocation tiers, only Load Serving Entities ("LSE") such as PG&E can nominate CRRs that they wish to obtain at no direct cost. LSEs can procure CRRs up to an amount determined by their historical or forecasted load. In the auctions, which are open to all market participants, PG&E can purchase or sell CRRs at market-based prices determined through the competitive auction. The Annual CRR process releases CRRs with calendar quarter delivery periods that occur over the next year. The monthly CRR process releases CRRs with monthly delivery periods for the next month.

The LT-CRR process consists of one allocation tier each year and is performed as part of the annual CRR process. In this Long Term Tier, quarterly-term CRRs previously acquired from the annual Tier 1 allocation can be nominated for conversion to LT-CRRs with same quarter deliveries for the subsequent nine years.

B. Congestion Revenue Rights and Long-Term Congestion Revenue Rights Procurement Objectives

As the Commission determined in Resolutions E-4135 and E-4122, PG&E uses CRRs and LT-CRRs to hedge against expected congestion costs. PG&E does not use CRRs and LT-CRRs for financial speculation.

C. Congestion Revenue Rights Procurement

1. Congestion Revenue Rights Source-Sink Pairs and Paths

PG&E is authorized to acquire CRRs and LT-CRRs for any path (represented by a source-sink pair) connecting existing generation sources to existing loads (retail loads, Helms pumping load, and wholesale load obligations) or for any path that PG&E reasonably anticipates it might need to flow energy in the future due to the addition of new contracts, resources, or load obligations. Additionally, there may be CRRs or LT-CRRs which are positively correlated in value with CRRs or LT-CRRs for paths that have limited availability. PG&E is authorized to acquire CRRs and LT-CRRs for such positively correlated paths as well. Therefore, PG&E will obtain any CRRs and LT-CRRs that are determined to be valuable as hedges against congestion costs at the time they are offered, subject to selection criteria regarding the specific source/sink combinations as described in Section E of this Appendix.

2. Procurement Review Group Consultation

PG&E consults with its Procurement Review Group (“PRG”) regarding CRRs and LT-CRRs. PRG consultation is described in more detail in Appendix M.

D. Volume Limits

PG&E's CRR and LT-CRR procurement is subject to source-specific volume limits. That is, PG&E will limit the "net" volume[1] that it could procure at each source node to the maximum non-coincident capacity of the sources (existing, potential, planned, or "positively correlated") at that node for that delivery period. There are separate source-specific volume limits for the on-peak and off-peak hours in the delivery period. Overall or total CRR volume limits are unnecessary because PG&E is already limited by CAISO rules, and to hedging no more than its total expected or anticipated grid use.

E. Selection Criteria for Congestion Revenue Rights in Allocation Processes

[redacted]

- [redacted]
- [redacted]

[redacted]

[1] "Net" volume refers to the result of netting CRRs in one direction with CRRs in the counter-flow direction.

[redacted]

[redacted] [redacted]

[redacted] [redacted]

[redacted] [redacted]

[redacted] [redacted]

[redacted] [redacted]

[redacted] [redacted]

[redacted] [redacted]

F. Congestion Revenue Rights Auction Participation

[redacted]

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2 [redacted]

G. Transactions in Secondary Congestion Revenue Rights Market

[redacted]

Advice 5469-E
January 16, 2019

Attachment F

Proposed Edits to PG&E's Bundled Procurement Plan

Declaration of Maria Vanko Wilson Seeking Confidential Treatment Pursuant to D.06-06-066, D.10-14-033, and Public Utilities Code §454.5(g)

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

DECLARATION OF MARIA VANKO WILSON
SEEKING CONFIDENTIAL TREATMENT
FOR CERTAIN DATA AND INFORMATION CONTAINED IN PG&E'S PROPOSED UPDATES TO THE BUNDLED PROCUREMENT PLAN
(ADVICE LETTER 5469-E)

I, Maria Vanko Wilson, declare:

1. I am a Senior Manager in the Portfolio Management Department within the Energy Procurement Organization at Pacific Gas and Electric Company (PG&E). In this position, my responsibilities include various policy activities, including but not limited to commercial Greenhouse Gas (GHG) procurement consistent with PG&E's Conformed Bundled Procurement Plan. This declaration is based on my personal knowledge of PG&E's electric energy and GHG compliance instrument procurement practices and my understanding of the Commission's decisions protecting the confidentiality of market-sensitive information concerning electric procurement of an investor-owned utility.

2. Based on my knowledge and experience, and in accordance with Decision (D.) 08-04-023, issued in Rulemaking 05-06-040, and D.14-10-033, I make this declaration seeking confidential treatment of Appendices A, B, and C contained in PG&E's Advice Letter 5469-E submitted on January 16, 2019.

3. Attached to this declaration is a matrix identifying the data and information for which PG&E is seeking confidential treatment. The matrix specifies that the material PG&E is seeking to protect constitutes data and information covered by Decision 14-10-033 and General Order (GO)-66-C, Section 2.2b, which would place PG&E in an unfair business disadvantage if disclosed; and Public Utilities Code Section 454.5(g), which would reveal market sensitive information. The matrix also specifies why confidential protection is justified. Further, the data and information: (1) is not already public; and (2) cannot be aggregated, redacted, summarized or otherwise protected in a way that allows partial disclosure. By this reference, I am incorporating

into this declaration all of the explanatory text that is pertinent to my testimony in the attached matrix.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct. Executed on January 16, 2019 at San Francisco, California.

/s/

MARIA VANKO WILSON

PACIFIC GAS AND ELECTRIC COMPANY (U 39 E)
ADVICE LETTER 5469-E
JANUARY 16, 2019

IDENTIFICATION OF CONFIDENTIAL INFORMATION

Redaction Reference	Category from D.06-06-066, Appendix 1, or Separate Confidentiality Order that Data Corresponds To	Justification for Confidential Treatment	Length of Time Date To Be Kept Confidential
Confidential Appendices A, B, and C	D.14-10-033 Pub. Util. Code § 454.5(g)	This information includes confidential greenhouse gas (GHG) information, PG&E's strategy related to its hedging of congestion risk and participation in the Congestion Revenue Rights (CRR) allocation and procurement processes, and PG&E's Hedging PLan. The disclosure of GHG information is prohibited according to Title 17 of the California Code of Regulations. Disclosure of the redacted CRR information would reveal to market participants PG&E's strategy for managing its congestion risk, which would harm ratepayers because suppliers could adjust either the availability or pricing of supply (CRRs) available to PG&E. Finally, any discussion of PG&E's hedging position and hedging strategies is market sensitive, and if released, this information could cause harm to PG&E's customers and put PG&E at an unfair business advantage.	Indefinite

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

AT&T
Albion Power Company
Alcantar & Kahl LLP

Alta Power Group, LLC
Anderson & Poole

Atlas ReFuel
BART

Barkovich & Yap, Inc.
Braun Blaising Smith Wynne
P.C. CalCom Solar
California Cotton Ginners & Growers Assn
California Energy Commission
California Public Utilities Commission
California State Association of Counties
Calpine
Casner, Steve
Cenergy Power
Center for Biological Diversity
City of Palo Alto

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

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

Downey & Brand
East Bay Community Energy
Ellison Schneider & Harris LLP
Energy Management Service
Evaluation + Strategy for Social Innovation
GenOn Energy, Inc.
Goodin, MacBride, Squeri, Schlotz & Ritchie
Green Charge Networks
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Linde
Los Angeles County Integrated Waste Management Task Force
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MRW & Associates
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Modesto Irrigation District
Morgan Stanley
NLine Energy, Inc.
NRG Solar

Office of Ratepayer Advocates
OnGrid Solar
Pacific Gas and Electric Company

Pioneer Community Energy
Praxair
Regulatory & Cogeneration Service, Inc.
SCD Energy Solutions

SCE
SDG&E and SoCalGas

SPURR
San Francisco Water Power and Sewer
Seattle City Light
Sempra Utilities
Southern California Edison Company
Southern California Gas Company
Spark Energy
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