

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE



July 26, 2019

Advice Letter 4108-G

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: Revisions to PG&E Gas Rule 21 Pursuant to Decision 19-05-018

Dear Mr. Jacobson:

Advice Letter 4108-G is effective as of July 17, 2019.

Sincerely,

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

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

June 17, 2019

Advice 4108-G

(Pacific Gas and Electric Company ID U 39 G)

Public Utilities Commission of the State of California

Subject: Revisions to PG&E Gas Rule 21 Pursuant to Decision 19-05-018

Purpose

Pacific Gas and Electric Company (PG&E) hereby submits revisions to its Gas Rule 21, Transportation of Natural Gas, as shown in Attachment 1.

Background

As set forth in Assembly Bill (AB) 1900, the California Public Utilities Commission (CPUC) established an Order Instituting Rulemaking to Adopt Biomethane Standards and Requirements, Pipeline Open Access Rules, and Related Enforcement Provisions or Rulemaking (R.) 13-02-008. AB 1900 amended and added several code sections to the Public Utilities Code pertaining to biogas and biomethane. AB 1900 enacted Health and Safety Code Section 25421, which required the Commission to adopt standards for constituents of concern in biomethane injected into a common carrier pipeline. This legislation also required the Commission to adopt monitoring, testing, reporting, and recordkeeping protocols to ensure the safety and integrity of pipelines and pipeline facilities.

Pursuant to AB 1900, the CPUC, with the assistance of the California Air Resources Board (CARB) and the Office of Environmental Health Hazard Assessment (OEHHA) adopted Decision (D.) 14-01-034, establishing standards for 17 constituents of concern potentially found in biomethane. Adherence to these standards and protocols would help to protect human health and the integrity and safety of the gas pipeline systems. One of the identified constituents, siloxane, poses a “risk of equipment damage and catalyst poisoning.”¹

In response to industry concerns about the testing protocol approved for siloxane, Senate Bill (SB) 840 was enacted and the Commission contracted with the California Council of Science and Technology (CCST) to conduct a siloxane study to determine,

¹ D.14-01-034 at page 63.

among other things, an appropriate maximum siloxane concentration allowed in biomethane. CCST completed its study and presented its findings, conclusions, and recommendations in a public workshop on June 11, 2018. The CCST concluded that biomethane produced from dairy or other animal manure, other agricultural waste, forest residues, and commercial food processing waste are not expected to contain siloxanes and ought to be held to a reduced and simplified verification regime to avoid unnecessarily encumbering sources which do not produce siloxanes.

On May 16, 2019, the CPUC approved D. 19-05-018 which directed the utilities to file a Tier 2 advice letter, within 30 days of its effective date, to modify their pipeline interconnection tariffs to implement the procedures for reduced siloxane testing requirements, as explicitly stated within Section 3.3.3. of D.19-05-018.

Tariff Revisions

Gas Rule 21 has been revised as follows:

1. Added note 8 to Section C.13.b.1) Table 1 footnotes to include modification for siloxane testing requirements; and
2. Added Section C.13.c.4) d) to sheet 31960-G to include reduced siloxane testing requirements.

This advice letter also corrects minor typographical errors.

This submittal will 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 via U.S. mail, facsimile or E-mail, no later than July 8, 2019, which is 21 days² 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

² The 20-day protest period concludes on a weekend, therefore, PG&E is moving this date to the following business day.

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

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

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

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

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

Effective Date

PG&E requests that this Tier 2 advice submittal become effective on regular notice, July 17, 2019 which is 30 calendar days after the date of submittal.

Notice

In accordance with General Order 96-B, Section IV, a copy of this advice letter is being sent electronically and via U.S. mail to parties shown on the attached list and the parties on the service list for R.13-02-008. 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.13-02-008



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/G/M)

Utility type:

- ELC GAS WATER
 PLC HEAT

Contact Person: Annie Ho

Phone #: (415) 973-8794

E-mail: PGETariffs@pge.com

E-mail Disposition Notice to: AMHP@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) #: 4108-G

Tier Designation: 2

Subject of AL: Revisions to PG&E Gas Rule 21 Pursuant to Decision 19-05-018

Keywords (choose from CPUC listing): Compliance,

AL Type: Monthly Quarterly Annual One-Time Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #: D.19-05-018

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: 7/17/19

No. of tariff sheets: 18

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

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

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

Tariff schedules affected: Gas Rule 21

Service affected and changes proposed¹: N/A

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

¹Discuss in AL if more space is needed.

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

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

Name: 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

Cal P.U.C. Sheet No.	Title of Sheet	Cancelling Cal P.U.C. Sheet No.
35069-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 18	31958-G
35070-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 19	33641-G
35071-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 20	
35072-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 21	32874-G
35073-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 22	31960-G
35074-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 23	31961-G
35075-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 24	31962-G
35076-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 25	31963-G
35077-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 26	31964-G
35078-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 27	31965-G
35079-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 28	31575-G
35080-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 29	31576-G
35081-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 30	31577-G
35082-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 31	33212-G

Cal P.U.C. Sheet No.	Title of Sheet	Cancelling Cal P.U.C. Sheet No.
35083-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 32	33213-G*
35084-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 33	33214-G
35085-G	GAS TABLE OF CONTENTS Sheet 1	35067-G
35086-G	GAS TABLE OF CONTENTS Sheet 7	35062-G



GAS RULE NO. 21
TRANSPORTATION OF NATURAL GAS

Sheet 18

C. QUALITY OF GAS (Cont'd.)

recycling of hazardous waste. The facility may consist of one or more treatment, transfer, storage, resource recovery, disposal, or recycling hazardous waste management units, or combinations of these units. This includes facilities permitted by the Department of Toxic Substance Control.

7) Testing Action Levels

- a) Trigger Level: Constituents found at or above the Trigger Level require additional periodic testing and analysis.
- b) Lower Action Level: The Lower Action Level is used to screen Biomethane during Pre-Injection Testing, Periodic Testing, and in the Biomethane Restart Procedure.
- c) Upper Action Level: The Upper Action Level establishes the point at which an immediate shut-off of the Biomethane supply occurs.

b. Biomethane Constituents and Quality Specifications

- 1) Biomethane must conform to the specifications shown in Table 1.

(L)

(L)

(Continued)



GAS RULE NO. 21
TRANSPORTATION OF NATURAL GAS

C. QUALITY OF GAS, Table 1 (Cont'd.)

Table 1						
Maximum Constituent Concentrations						
Biomethane Injection Constituents				Testing for Biogas Source		
	Trigger Level	Lower Action Level	Upper Action Level	Landfill	Dairies	POTW⁴
Traditional Gas Quality Requirements¹				X	X	X
Health Protective Constituents – Carcinogenic²						
Arsenic	0.019 mg/m ³ 0.006 ppmv	0.19 mg/m ³ 0.06 ppmv	0.48 mg/m ³ 0.15 ppmv	X		
p-Dichlorobenzene	5.7 mg/m ³ 0.95 ppmv	57 mg/m ³ 9.5 ppmv	140 mg/m ³ 24 ppmv	X		X
Ethylbenzene	26 mg/m ³ 6.0 ppmv	260 mg/m ³ 60 ppmv	650 mg/m ³ 150 ppmv	X	X	X
n-Nitroso-di-n-propylamine	0.033 mg/m ³ 0.006 ppmv	0.33 mg/m ³ 0.06 ppmv	0.81 mg/m ³ 0.15 ppmv	X	X	
Vinyl Chloride	0.84 mg/m ³ 0.33 ppmv	8.4 mg/m ³ 3.3 ppmv	21 mg/m ³ 8.3 ppmv	X		X
Health Protective Constituents - Non-Carcinogenic²						
Antimony	0.60 mg/m ³ 0.12 ppmv	6.0 mg/m ³ 1.2 ppmv	30 mg/m ³ 6.1 ppmv	X		
Copper	0.060 mg/m ³ 0.02 ppmv	0.60 mg/m ³ 0.23 ppmv	3.0 mg/m ³ 1.2 ppmv	X		
Hydrogen Sulfide ⁶	30 mg/m ³ 22 ppmv	300 mg/m ³ 216 ppmv	1500 mg/m ³ 1080 ppmv	X	X	X
Lead	0.075 mg/m ³ 0.009 ppmv	0.75 mg/m ³ 0.09 ppmv	3.8 mg/m ³ 0.44 ppmv	X		
Mercaptans (Alkyl Thiols) ⁶	12 ppmv	120 ppmv	610 ppmv	X	X	X
Methacrolein	1.1 mg/m ³ 0.37 ppmv	11 mg/m ³ 3.7 ppmv	53 mg/m ³ 18 ppmv	X		
Toluene	904 mg/m ³ 240 ppmv	9000 mg/m ³ 2400 ppmv	45000 mg/m ³ 12000 ppmv	X	X	X

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GAS RULE NO. 21
TRANSPORTATION OF NATURAL GAS

Sheet 21

C. QUALITY OF GAS (Cont'd.)

2. Biomethane must conform to the specifications shown in Table 2. (L)

Table 2			
Collective Risk from Carcinogenic and non-Carcinogenic Constituents			
Risk Management Levels	Risk from Carcinogenic Constituents (chances in a million)	Hazard Index from Non-Carcinogenic Constituents	Action
Trigger Level ¹	≥ 1.0	≥ 0.1	Periodic Testing Required
Lower Action Level ²	≥ 10.0	≥ 1.0	Supply shut-in after three exceedances in 12 months
Upper Action Level ³	≥ 25.0	≥ 5.0	Immediate supply shut-in
1. Applies to individual constituent concentrations. 2. Applies to the sum of all constituent concentrations over the trigger level. 3. Applies to individual constituent concentrations or to the sum of all constituent concentrations over the trigger level.			

c. Testing

- 1) Testing shall be determined according to the source feedstock. Testing for the Health Protective Constituents shall be by the methods specified in Table V-4 of CARB/OEHHA Report submitted in R. 13-02-008 as approved by D. 14-01-034.
- 2) If requested, any retesting for validation of results can be done at the cost of the entity requesting the retest.
- 3) Responsibility for Testing
 - a) During Pre-Injection Testing and Biomethane Restart Procedure testing, gas quality testing will be performed by the Supplier using independent certified third party laboratories, and results will be shared with the receiving utility.
 - b) During Periodic Testing at the interconnection, the testing entity will be the utility, who will collect the samples and send the samples to the independent certified laboratories for constituent analyses. The results will be shared with the Supplier. For raw biogas testing, and the testing of biomethane prior to interconnection, the Supplier will be the testing entity.

(Continued)



GAS RULE NO. 21
TRANSPORTATION OF NATURAL GAS

C. QUALITY OF GAS (Cont'd.)

4) Pre-Injection Testing Procedure

- a) Supplier will conduct two tests for all Constituents over a two to four week period.
- b) If during the pre-injection testing, any Health Protective Constituents are found at or above the Trigger Level, the Biomethane's collective potential cancer or non-cancer risk must be calculated. The collective potential cancer or non-cancer risk can be calculated by summing the individual risk for each Health Protective Group 2 Compound. If the collective potential cancer risk or non-cancer risk is at or above the Lower Action Level (the cancer risk Lower Action Level is >10 in a million and the non-cancer risk Lower Action Level is a Hazard Index of >1), the biomethane cannot be accepted or transported by the Utility's pipeline system. The Supplier shall make necessary modifications to lower the collective potential cancer or non-cancer risk below the Lower Action Level and restart pre-injection testing.
- c) If during the pre-injection testing the Health Protective constituents total potential cancer risk and non-cancer risk is below the Lower Action Level and Pipeline Integrity Protection Constituents are found to be below the Lower Action Level, if applicable, the Biomethane may be injected into the pipeline with Periodic Testing.
- d) Per Section C.13.b.1) Table 1, Note 8, biomethane certified for reduced siloxane testing will be as follows:
 - i. If the pre-injection testing siloxane level is below or at the trigger level shown in Table 1, then no periodic siloxane testing is required under Section C.13.c.5) b) ii.
 - ii. If the pre-injection testing siloxane level exceeds the Trigger level shown in Table 1, then quarterly testing is required for one year, and if none of those samples are above the Lower Action Level shown in Table 1, then no periodic siloxane testing is required under Section C.13.c.5) b) ii.
 - iii. If the siloxane level is above the Lower Action Level shown in Table 1, then the biomethane certification for reduced testing is no longer applicable and the Supplier will be required to comply with the periodic testing requirements for siloxane under Section C.3.c.5) b) ii.

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GAS RULE NO. 21
TRANSPORTATION OF NATURAL GAS

Sheet 24

C. QUALITY OF GAS (Cont'd.)

(L)

iii. Collective risk from Carcinogenic and Non-carcinogenic Health Protective Constituents

(a) Cancer Risk

The collective cancer risk for Group 2 compounds can be estimated by summing the individual potential cancer risk for each carcinogenic constituent of concern. Specifically, the cancer risk can be calculated using the ratio of the concentration of the constituent in the biomethane to the health protective ("trigger") concentration value corresponding to one in a million cancer risk for that specific constituent and then summing the risk for all the Group 2 constituents. (for reference, see CARB/OEHHA Report submitted in R. 13-02-008, p. 67)

(b) Non-Cancer Risk

The collective non-cancer risk can be calculated using the ratio of the concentration of the constituent in biomethane to the health protective concentration value corresponding to a hazard quotient of 0.1 for that specific non carcinogenic constituent, then multiplying the ratio by 0.1, and then summing the non-cancer chronic risk for these Group 2 compounds. (for reference, see CARB/OEHHA Report submitted in R.13-02-008, p. 67)

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GAS RULE NO. 21
TRANSPORTATION OF NATURAL GAS

Sheet 25

- C. QUALITY OF GAS (Cont'd.) (L)
- (c) If the result is at or above the Lower Action Level on three occurrences in a 12-month period, the Biomethane shall be shut-in until the concentrations are below the Lower Action Level, after which it will be subject to the Biomethane Restart Procedures (see C.13.c.6). |
 - (d) If quarterly testing over four consecutive tests demonstrates that the collective risk from Carcinogenic and Non-carcinogenic Constituents is below the Lower Action Level, then the testing period will change to once every 12 month period during which injection occurs for each Constituent in the group. |
 - (e) If annual testing demonstrates that collective risk from Carcinogenic and Non-carcinogenic Constituents is at or above the Lower Action Level, then testing for the Carcinogenic or Non-carcinogenic Constituents will revert to quarterly. (L)

(Continued)

Advice 4108-G
Decision 19-05-018

Issued by
Robert S. Kenney
Vice President, Regulatory Affairs

Submitted June 17, 2019
Effective
Resolution



GAS RULE NO. 21
TRANSPORTATION OF NATURAL GAS

Sheet 26

- C. QUALITY OF GAS (Cont'd.) (L)
- (f) If any Constituent concentration, or the collective risk from Carcinogenic or Non-carcinogenic Constituents, is at or above the Upper Action Level, the Biomethane shall be shut-in until the concentration is below the Lower Action Level, after which it will be subject to the Biomethane Restart Procedures (see C.13.c.6).
 - (g) If Supplier's Biomethane is refused in accordance with this Rule, testing for all Group 1 and Group 2 Compounds will then be performed according to the Biomethane Restart Procedure.
- 6) Biomethane Restart Procedure
- a) The Pre-Injection Testing Procedure will be performed by the Supplier if
 - i. There is a change in the biogas source at the facility or a change of the biogas processing equipment design (other than for functional equivalence) that the Commission determines will potentially increase the level of any Constituent over the previously measured baseline levels.
 - ii. Biomethane injection into the pipeline is refused because there are three exceedances of the Lower Action Level in a 12-month period.
 - iii. Biomethane injection into the pipeline is refused because a Constituent concentration or the total cancer or non-cancer risk is above the Upper Action Level.
 - b) If the results of the first test indicate that all Constituents and collective potential cancer and non-cancer risk are below the Lower Action Level, Biomethane may be injected into the pipeline subject to the testing requirements in Section C.13.c.5).
 - c) After re-starting Biomethane deliveries, Periodic Testing for all Group 1 and Group 2 Compounds will be performed as indicated in Section C.13.c.5). (L)

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GAS RULE NO. 21
TRANSPORTATION OF NATURAL GAS

Sheet 27

- C. QUALITY OF GAS (Cont'd.) (L)
- d) Gas from Hazardous Waste Landfills
 - i. Biomethane sourced from Hazardous Waste Landfills will not be knowingly purchased, accepted into or transported on the pipeline system.
 - ii. Supplier must certify and provide documentation or other suitable proof that the biogas source feedstock was not derived or collected from a hazardous waste landfill, as defined herein.
 - e) Reporting and recordkeeping will be as described in D.14-01-034 and as specified in the CARB/OEHHA Report submitted in R.13-02-008. (L)

(Continued)

Advice 4108-G
Decision 19-05-018

Issued by
Robert S. Kenney
Vice President, Regulatory Affairs

Submitted June 17, 2019
Effective
Resolution



GAS RULE NO. 21
TRANSPORTATION OF NATURAL GAS

Sheet 28

- D. ACCOUNTING AND BILLING (L)
1. DESIGNATION OF QUANTITIES DELIVERED FOR TRANSPORTATION
- PG&E may be receiving gas from various sources at the Receipt Point(s). Gas entering the PG&E system shall be measured by either PG&E or a third party designated by PG&E as its agent. Where such third party acts as PG&E's measuring agent, the Customer shall accept as correct the agent's determination of the quantity of gas (in Mcf and Decatherms) it has delivered to PG&E for the Customer's account subject to the limitations of Rule 14. Where gas is measured by PG&E, the Customer shall accept as correct PG&E's measurement of the gas received (see Section D.3 below for information about access to meters and charts and other records).
2. BILLING
- Each month, PG&E shall send the Customer a bill. The bill will show the quantities of gas adjusted for In-Kind Shrinkage Allowance, delivered to PG&E for the Customer's account at each Delivery Point for the billing month. PG&E may use estimated quantities in the bill, and the Customer shall be obligated to pay the estimated bill as presented; PG&E will then make any necessary adjustments in the subsequent months' billings. (L)

(Continued)



GAS RULE NO. 21
TRANSPORTATION OF NATURAL GAS

Sheet 29

D. ACCOUNTING AND BILLING (Cont'd.)

(L)

3. BOOKS AND RECORDS

PG&E and the Customer shall keep accounting records and books in accordance with generally accepted accounting principles and practices in the industry. PG&E and the Customer shall have the right to examine those books and accounting records of the other.

Any examination will be at the examining party's expense, must be conducted at a reasonable time, and must be confined to the extent necessary to verify the accuracy of any statement, charge, or computation or any demand made under or as a result of transporting Customer-Owned Gas.

E. ADDITIONAL FACILITIES

Transportation of Customer-Owned Gas does not obligate PG&E to construct any additional facilities (including measuring facilities) or to modify any existing facilities to provide for receipt of Customer-Owned natural gas into the PG&E system. Customer shall have a separate agreement covering any new facilities or necessary modifications for either receipt or delivery of Customer-Owned Gas.

F. POSSESSION OF GAS

For Customer Owned Gas, the Customer shall be deemed to be in control and possession of the gas until the gas is delivered to PG&E at the Receipt Point(s). The Customer shall be deemed to regain control and possession of the gas upon delivery from PG&E to or on behalf of the Customer.

G. INDEMNIFICATION

The Customer shall indemnify and hold harmless PG&E, its officers, agents and employees against all loss, damage, expense, and liability, resulting from injury to or death of any person, including but not limited to employees of PG&E, Customer or any third party, or for loss, destruction, damage to property, including but not limited to property of PG&E, Customer, or any third party, arising out of or in any way connected with the transportation of customer-owned gas, however caused, except to the extent caused by the active negligence or willful misconduct of PG&E, its officers, agents and employees. The Customer shall on PG&E's request, defend any suit asserting a claim covered by this indemnity. The indemnifying party shall pay all costs that may be incurred by the other party in enforcing this indemnity, including all reasonable attorney's fees.

(L)

(Continued)



GAS RULE NO. 21
TRANSPORTATION OF NATURAL GAS

Sheet 30

H. OPEN ACCESS Interconnection of NEW GAS SUPPLY

(L)

PG&E will provide non-discriminatory interconnection to its pipeline system for an Applicant to deliver new gas supply. Upon interconnection PG&E will provide open access transportation of the gas under the applicable PG&E rate schedules, rules and transportation agreements. PG&E will perform interconnection-related work under the following conditions:

1. The Applicant's gas supply can be received into PG&E's existing system without jeopardizing the integrity or normal operation of its pipeline system and without adversely affecting PG&E's Customers. The specific interconnection point will be determined by PG&E.
2. The maximum delivery capacity for Applicant's gas at the interconnection point will be determined by the size of the interconnection facilities and PG&E's ability to redeliver the gas supply downstream of the interconnection point.
3. The available capacity for Applicant's gas supply on any particular day may be affected by physical flows from other points of receipt, daily pipeline operating conditions, and end-use demand.
4. The Applicant shall pay PG&E's costs for all engineering and construction of facilities on PG&E's side of the interconnection point necessary to receive Applicant's gas. Such facilities may include, but are not limited to, taps, valves, piping, measuring equipment, odorizing equipment, land rights, permits, and communication equipment. The Applicant also shall pay for computer programming changes to PG&E's scheduling system, if any, required to add the Applicant's new interconnection point for the purpose of nominating the gas. PG&E shall own and operate all facilities on PG&E's side of the interconnection point.
5. The Applicant shall execute a standard "Agreement to Perform Tariff Schedule Related Work" (Form 62-4527), which shall contain a description of the work to be performed by PG&E, the cost estimate, and payment terms.
6. The Applicant, at its expense, shall obtain all land rights, easements, permits or other authorizations, and shall design and construct the piping, valves, filter separators, and other equipment that is required on the Applicant's side of the interconnection point to effectuate deliveries of gas to PG&E, in accordance with sound and prudent natural gas industry practice and with all applicable laws, rules, and regulations of any authority having jurisdiction.

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(Continued)

Advice 4108-G
Decision 19-05-018

Issued by
Robert S. Kenney
Vice President, Regulatory Affairs

Submitted
Effective
Resolution

June 17, 2019



GAS RULE NO. 21
TRANSPORTATION OF NATURAL GAS

Sheet 31

- H. OPEN ACCESS INTERCONNECTION OF NEW GAS SUPPLY (Cont'd.) (L)
7. The Applicant shall install and maintain in good working condition the necessary pressure regulation and flow equipment to effectuate delivery of gas to the interconnection point at or above the prevailing pressure in PG&E's pipeline. Applicant's equipment shall be designed and installed to protect PG&E's pipeline from exposure to pressures in excess of PG&E's then current maximum operating pressure at the interconnection point.
 8. Applicant's gas supply at the interconnection point shall comply with all PG&E tariffs and rules including gas quality and nomination procedures.
 9. The Applicant and PG&E shall execute operating and balancing agreements prior to final interconnection and gas flow.
 10. Pursuant to D.15-06-029, approved June 11, 2015, as modified by D.16-12-043, biomethane project developers are eligible to participate in a monetary incentive program to encourage biomethane project developers to successfully operate projects that can safely interconnect with PG&E's pipelines and inject biomethane for PG&E customer usage. The total state-wide monetary incentives for this monetary incentive program is capped at \$40 million for five years ending on December 31, 2021 or until the program has exhausted funding including the California Council on Science and Technology study costs. Biomethane project developers can receive up to 50% of the project's eligible interconnection costs, up to \$3 million for a non-dairy cluster biomethane project and up to \$5 million for a dairy cluster biomethane project. Eligible interconnection costs to be credited under this incentive program include study and design costs, total installed costs of receipt point facilities (e.g., meters, regulators, appurtenant facilities, quality measurement, odorization facilities and auxiliary facilities), PG&E facility enhancement costs (e.g., PG&E-owned gas pipelines, other related system upgrades and enhancements required to enable continued safe and reliable operation of PG&E's system due to the addition of each biomethane interconnection). For a dairy cluster biomethane project as defined in Public Utilities Code 399.19(b), the eligible interconnection costs also include project developer costs for biogas gathering lines, which includes multiple pipelines installed to transport biogas from three or more dairies in close proximity to one another for injection into PG&E's pipeline system.
- (L)

(Continued)



GAS RULE NO. 21
TRANSPORTATION OF NATURAL GAS

Sheet 32

- H. OPEN ACCESS INTERCONNECTION OF NEW GAS SUPPLY (Cont'd.) (L)
10. Engineering and capacity studies and agreement terms and conditions are specified in PG&E Gas Rule 21. These eligible facility costs include the costs necessary to interconnect downstream of the biomethane project developer's processing plants for the purposes of delivering biomethane onto PG&E's system. For example, pipeline costs from the biomethane project developer's plant to PG&E's pipeline for purposes of injecting biomethane onto PG&E's system is an eligible cost under the monetary incentive program, whereas any pipeline costs from PG&E's pipeline to the biomethane project developer's facilities for the purposes of blending to increase the heating value is not an eligible cost under the monetary incentive program. Other upstream costs, such as the costs for processing or blending, (including the pipelines used for blending), do not qualify as eligible interconnection costs under the monetary incentive program. The biomethane project developer shall provide cost information to PG&E for eligible costs in a timely manner, as specified by PG&E. To be eligible for the monetary incentive program, a biomethane project developer must comply with the standards and protocols adopted in D.14-01-034 as modified by D.16-11-008, successfully interconnect to PG&E's pipeline system and meet the operational requirement as described in D.15-06-029 as modified by D.16-12-043, and provide cost information to PG&E for eligible costs in a timely manner, as specified by PG&E.
 11. Biomethane project developers must meet the 30-day operational requirement to be eligible for the incentive program pursuant to D.15-06-029 as modified by D.16-12-043. The operational requirement shall be met only if the biomethane project developer successfully interconnects with PG&E's pipeline system, and remains in operation for a minimum of 30 out of 40 days with a flow each of those 30 days within the measurement range of the meter, as specified by PG&E measurement standards and based on the meter type as specified by PG&E and site conditions and shall exclude any interruption of delivery as specified by PG&E Gas Rule 14. The biomethane developer must notify PG&E in writing at least 2 business days prior to the start of flows so as to specify the 40 day testing period. A biomethane developer can restart Day 1 of the testing period at any time by providing a new written notification at least 2 business days in advance of when the new 40-day testing period is to begin and end. (L)

(Continued)



GAS RULE NO. 21
TRANSPORTATION OF NATURAL GAS

Sheet 33

- H. OPEN ACCESS INTERCONNECTION OF NEW GAS SUPPLY (Cont'd.) (L)
12. Within 60 days following the successful operational period, PG&E will pay or credit the biomethane project developer in the amount of 50% of the eligible reconciled and undisputed portions of the interconnection costs not to exceed \$3 million for a non-dairy cluster biomethane project or \$5 million for a dairy cluster biomethane project. A payment will be provided to the biomethane project developer if all costs have been paid in full; if there are remaining costs they shall be treated as a credit. In the event that all interconnection costs have not been reconciled by PG&E and the developer within 60 days following the successful operational period, PG&E shall resume paying the biomethane project developer upon cost reconciliation. If additional eligible cost information becomes available within 12 months following the initial payment, the utility shall pay to the biomethane project developer 50% of the remaining eligible interconnection costs, not to exceed \$3 million for a non-dairy cluster biomethane project or \$5 million for a dairy cluster biomethane project, including all previous payments. PG&E will provide notification to the CPUC Director of the Energy Division and the biomethane project developer of the initial payment as well as any other potentially eligible future payments (L)



GAS TABLE OF CONTENTS

Sheet 1

TITLE OF SHEET	CAL P.U.C. SHEET NO.	
Title Page	35085-G	(T)
Rate Schedules	35065,5061-G	
Preliminary Statements.....	34990,35068-G	
Preliminary Statements, Rules	34881-G	
Rules, Maps, Contracts and Deviations.....	35086-G	(T)
Sample Forms	34229,32986,32987,32886,34953,32888-G	

(Continued)

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GAS TABLE OF CONTENTS

Sheet 7

RULE	TITLE OF SHEET	CAL P.U.C. SHEET NO.
Rules		
Rule 19.1	California Alternate Rates for Energy for Individual Customers and Submetered Tenants of Master-Metered Customers.....	34521,34220,30445,28210-G
Rule 19.2	California Alternate Rates for Energy for Nonprofit Group-Living Facilities.....	32051,34221,17035,31217,34522-G
Rule 19.3	California Alternate Rates for Energy for Qualified Agricultural Employee Housing Facilities	32053,34222,31219,34523-G
Rule 19.4	California Alternate Rates for Energy for Qualified Food Bank Facilities	35059-G
Rule 21	Transportation of Natural Gas	27591,32269,32270,31872,32557,32558,32559,32560, 32561,32562,32563,32564,32565,31955,29231,33640, 31957, 35069,35070,35071,35072, 35073,35074,35075, 35076, 35077,35078,35079,35080,35081,35082,35083,35084-G
Rule 23	Gas Aggregation Service for Core Transport Customers.....	30871,29675,26664,18265, 30872,26666,,24825,24826,24827,29677,29678,30873,30874,30875,29681,29682, 30876,30877,30878,30879,30880,30881,30882,30883,30884,30885,30886,30887-G
Rule 25	Gas Services-Customer Creditworthiness and Payment Terms	28816,28817,28818, 28819.28820.28821.28822.28823.28824.28825.28826.28827.28828-G
Rule 26	Standards of Conduct and Procedures Related to Transactions with Intracompany Departments, Reports of Negotiated Transactions, and Complaint Procedures. 29688,29689,29690,31933-G	
Rule 27	Privacy and Security Protection for Energy Usage.....	30095,30096,30097,30098,30099 30100,30101,30102,30103,30104,30105,30106,30107,30108,30109,30110,30111-G
Rule 27.1	Access to Energy Usage and Usage-Related Data While Protecting Privacy of Personal Data	31387,31388,31389,31390,31391-G
Rule 28	Mobilehome Park Utility Upgrade Program	34941,21773,31774,31775, 31776-31777,32133,32134-G

(T)
(T)

Maps, Contracts and Deviations

SERVICE AREA MAPS:

Gas Service Area Map 31641-G

LIST OF CONTRACTS AND DEVIATIONS:

.....20211,13247,13248,28466,17112,22437,29938,31542,13254,14426,13808,29284,
.....20390,16287,29333,29053,29334,14428,13263,14365,32879,33164,16264,13267-G

(Continued)

Advice 4108-G
June 17, 2019

Attachment 2

Redline Tariffs



GAS RULE NO. 21
TRANSPORTATION OF NATURAL GAS

Table 1						
Maximum Constituent Concentrations						
Biomethane Injection Constituents				Testing for Biogas Source		
	Trigger Level	Lower Action Level	Upper Action Level	Landfill	Dairies	POTW⁴
Traditional Gas Quality Requirements¹				X	X	X
Health Protective Constituents – Carcinogenic²						
Arsenic	0.019 mg/m ³ 0.006 ppmv	0.19 mg/m ³ 0.06 ppmv	0.48 mg/m ³ 0.15 ppmv	X		
p-Dichlorobenzene	5.7 mg/m ³ 0.95 ppmv	57 mg/m ³ 9.5 ppmv	140 mg/m ³ 24 ppmv	X		X
Ethylbenzene	26 mg/m ³ 6.0 ppmv	260 mg/m ³ 60 ppmv	650 mg/m ³ 150 ppmv	X	X	X
n-Nitroso-di-n-propylamine	0.033 mg/m ³ 0.006 ppmv	0.33 mg/m ³ 0.06 ppmv	0.81 mg/m ³ 0.15 ppmv	X	X	
Vinyl Chloride	0.84 mg/m ³ 0.33 ppmv	8.4 mg/m ³ 3.3 ppmv	21 mg/m ³ 8.3 ppmv	X		X

C. QUALITY OF GAS, Table 1 (Cont'd.)

Health Protective Constituents - Non-Carcinogenic²						
Antimony	0.60 mg/m ³ 0.12 ppmv	6.0 mg/m ³ 1.2 ppmv	30 mg/m ³ 6.1 ppmv	X		
Copper	0.060 mg/m ³ 0.02 ppmv	0.60 mg/m ³ 0.23 ppmv	3.0 mg/m ³ 1.2 ppmv	X		
Hydrogen Sulfide ⁶	30 mg/m ³ 22 ppmv	300 mg/m ³ 216 ppmv	1500 mg/m ³ 1080 ppmv	X	X	X
Lead	0.075 mg/m ³ 0.009 ppmv	0.75 mg/m ³ 0.09 ppmv	3.8 mg/m ³ 0.44 ppmv	X		
Mercaptans (Alkyl Thiols) ⁶	12 ppmv	120 ppmv	610 ppmv	X	X	X
Methacrolein	1.1 mg/m ³ 0.37 ppmv	11 mg/m ³ 3.7 ppmv	53 mg/m ³ 18 ppmv	X		
Toluene	904 mg/m ³ 240 ppmv	9000 mg/m ³ 2400 ppmv	45000 mg/m ³ 12000 ppmv	X	X	X

(Continued)



GAS RULE NO. 21
TRANSPORTATION OF NATURAL GAS

Sheet 19

Pipeline Integrity Protective Constituents³						
Ammonia	0.001%	TBD ⁵	TBD ⁵	X	X	X
Biologicals	4 x 10 ⁴ / scf (qPCR per APB, SRB, IOB ⁷ group) and commercially free of bacteria of > 0.2 microns	TBD ⁵	TBD ⁵	X	X	X
Hydrogen	0.10%	TBD ⁵	TBD ⁵	X	X	X
Mercury	0.08 mg/m ³	TBD ⁵	TBD ⁵	X	X	X
Siloxanes ⁸	0.01 mg Si/m ³	0.1 mg Si/m ³	TBD ⁵	X	X	X

Notes:

- Traditional gas quality requirements are found in Gas Rule 21.C in Sections 1-12.
- Health protective constituents are shown in Table V-3 the CARB/OEHHA Report.
- Pipeline integrity protective constituents are shown in Section 4.4.3.3 of D.14-01-034.
- POTW means "Publicly Owned Treatment Works" or sewage treatment plant, or wastewater plant, and includes all biogas sources other than landfill and dairy manure.
- The lower and upper action levels will be established in the next update proceeding.
- Testing requirement will be the lower of stated biomethane values or other tariff requirements.
- Acid-producing Bacteria (**ABPAPB**), Sulfate-reducing Bacteria (SRB), and Iron-oxidizing Bacteria (IOB).

8. The Supplier that certifies (1) the only biogas fuel sources for its biomethane are: dairy or other animal manure, other agricultural waste, forest residues, and/or commercial food processing waste and (2) products that contain siloxanes are not included in the biogas and are not used at the facility in any way that allows siloxanes to enter the biomethane, shall have reduced siloxane testing requirements, as described in this Rule. If these conditions change, the Supplier must notify PG&E immediately and the full siloxane testing requirements will apply as described in Section 13.c.4) d). PG&E, at its discretion and cost, may test pursuant to applicable tariff rules. If PG&E test results show the siloxane levels exceed the Lower Action Level, the full siloxane testing requirements will apply as described in this Rule.

(Continued)

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GAS RULE NO. 21
TRANSPORTATION OF NATURAL GAS

Sheet 21

C. QUALITY OF GAS (Cont'd.)

4) Pre-Injection Testing Procedure

- a) Supplier will conduct two tests for all Constituents over a two to four week period.
- b) If during the pre-injection testing, any Health Protective Constituents are found at or above the Trigger Level, the Biomethane's collective potential cancer or non-cancer risk must be calculated. The collective potential cancer or non-cancer risk can be calculated by summing the individual risk for each Health ~~Protective~~ Protective Group 2 Compound. If the collective potential cancer risk or non-cancer risk is at or above the Lower Action Level (the cancer risk Lower Action Level is >10 in a million and the non-cancer risk Lower Action Level is a Hazard Index of >1), the biomethane cannot be accepted or transported by the Utility's pipeline system. The Supplier shall make necessary modifications to lower the collective potential cancer or non-cancer risk below the Lower Action Level and restart pre-injection testing.
- c) If during the pre-injection testing the Health Protective constituents total potential cancer risk and non-cancer risk is below the Lower Action Level and Pipeline Integrity Protection Constituents are found to be below the Lower Action Level, if applicable, the Biomethane may be injected into the pipeline with Periodic Testing.
- d) ~~-Per Section C.13.b.1) Table 1, Note 8, biomethane certified for reduced siloxane testing will be as follows:~~
 - i. ~~If the pre-injection testing siloxane level is below or at the trigger level shown in Table 1³, then no periodic siloxane testing is required under Section C.13.c.5) b) ii.~~
 - ii. ~~If the pre-injection testing siloxane level exceeds the Trigger level shown in Table 1, then quarterly testing is required for one year, and if none of those samples are above the Lower Action Level shown in Table 1, then no periodic siloxane testing is required under Section C.13.c.5) b) ii.~~
 - iii. ~~If the siloxane level is above the Lower Action Level shown in Table 1, then the biomethane certification for reduced testing is no longer applicable and the Supplier will be required to comply with the periodic testing requirements for siloxane under Section C.3.c.5) b) ii.~~

(Continued)

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

AT&T	Downey & Brand	Pioneer Community Energy
Albion Power Company	East Bay Community Energy	Praxair
Alcantar & Kahl LLP	Ellison Schneider & Harris LLP	Regulatory & Cogeneration Service, Inc.
	Energy Management Service	SCD Energy Solutions
Alta Power Group, LLC	Engineers and Scientists of California	
Anderson & Poole	Evaluation + Strategy for Social Innovation	SCE
	GenOn Energy, Inc.	SDG&E and SoCalGas
Atlas ReFuel	Goodin, MacBride, Squeri, Schlotz & Ritchie	
BART	Green Charge Networks	SPURR
	Green Power Institute	San Francisco Water Power and Sewer
Barkovich & Yap, Inc.	Hanna & Morton	Seattle City Light
P.C. CalCom Solar	ICF	Sempra Utilities
California Cotton Ginners & Growers Assn	International Power Technology	Southern California Edison Company
California Energy Commission	Intestate Gas Services, Inc.	Southern California Gas Company
California Public Utilities Commission	Kelly Group	Spark Energy
California State Association of Counties	Ken Bohn Consulting	Sun Light & Power
Calpine	Keyes & Fox LLP	Sunshine Design
	Leviton Manufacturing Co., Inc. Linde	Tecogen, Inc.
Cameron-Daniel, P.C.	Los Angeles County Integrated Waste Management Task Force	TerraVerde Renewable Partners
Casner, Steve	Los Angeles Dept of Water & Power	Tiger Natural Gas, Inc.
Cenergy Power	MRW & Associates	
Center for Biological Diversity	Manatt Phelps Phillips	TransCanada
City of Palo Alto	Marin Energy Authority	Troutman Sanders LLP
	McKenzie & Associates	Utility Cost Management
City of San Jose	Modesto Irrigation District	Utility Power Solutions
Clean Power Research	Morgan Stanley	Utility Specialists
Coast Economic Consulting	NLine Energy, Inc.	
Commercial Energy	NRG Solar	Verizon
County of Tehama - Department of Public Works		Water and Energy Consulting
Crossborder Energy		Wellhead Electric Company
Crown Road Energy, LLC		Western Manufactured Housing Communities Association (WMA)
Davis Wright Tremaine LLP		Yep Energy
Day Carter Murphy		
	Office of Ratepayer Advocates	
Dept of General Services	OnGrid Solar	
Don Pickett & Associates, Inc.	Pacific Gas and Electric Company	
Douglass & Liddell	Peninsula Clean Energy	