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February 18, 2014

**Advice 3455-G**

(Pacific Gas and Electric Company ID U 39 G)

Public Utilities Commission of the State of California

**Subject: Revisions to PG&E Gas Rules 1 and 21 to Adopt Biomethane Standards and Requirements as Required by Assembly Bill 1900**

**Purpose**

In compliance with Decision (D.) 14-01-034, Ordering Paragraphs (OP) 4, 12, and 14, Pacific Gas and Electric Company (PG&E) is filing a Tier 2 Advice Letter to incorporate the California Public Utilities Commission (CPUC or Commission) adopted standards and requirements for Biomethane supplies, including concentration standards for identified constituents of concern related to public health and safety and to pipeline integrity, and monitoring, testing, reporting, and recordkeeping requirements, into PG&E's affected gas tariffs (see Attachments).

**Background**

Assembly Bill (AB) 1900 required the Commission to approve standards and requirements for health, safety, and pipeline integrity for Biomethane injected into the pipelines and access rules for nondiscriminatory open access. Per D.14-01-034, issued on January 22, 2014, the Commission identified 17 constituents of concern related to Biomethane, and adopted the monitoring, testing, reporting, and recordkeeping protocols that were recommended in the May 15, 2013 "Recommendations to the California Public Utilities Commission Regarding Health Protective Standards for the Injection of Biomethane into the Common Carrier Pipeline"<sup>1</sup>.

**Tariff Revisions**

PG&E's Gas Rule 1 has been revised to add a definition of Biomethane, and to update and clarify the definition of Biogas.

Gas Rule 21 has been revised to include a new subsection that describes the requirements for biomethane injection into PG&E's pipeline system as directed by the Commission, including procedures for pre-injection and periodic testing, and the

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<sup>1</sup> Prepared by the Office of Environmental Health Hazard Assessment (OEHHA) in conjunction with the California Air Resources Board (CARB)

restarting of biomethane delivery in the event of a shut down. Also included is a prohibition against receipt of gas from hazardous waste landfills, and a reference to the reporting and recordkeeping requirements outlined in D.14-01-034.

PG&E has noted several inconsistencies between D.14-01-034 and the Joint Report, as described below. Based on the Commission's adoption of the monitoring and testing protocols in the Joint Report, this Advice Letter incorporates aspects of the Joint Report which differ from D.14-01-034. PG&E believes the above discrepancies were made in error, and anticipates taking additional steps to modify D.14-01-034 so as to parallel the May 23, 2013 version of the Joint Report.

- In the D.14-01-034 discussion of shut-off and restart procedure at page 82, the biomethane supplier is required to meet the "trigger level" before it can resume operation. The Joint Report at page 68 recommends that the biomethane supplier meet the "lower action level" before it can resume operation.
- D.14-01-034 at page 100 states that the total health risk should be "eliminated" when constituents are above the trigger level. The Joint Report at page 67 recommends that the total health risk be "estimated".
- D.14-01-034 does not include a correction to the Joint Report, which was issued by CARB on May 23, 2013.<sup>2</sup>

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

### **Protests**

Anyone wishing to protest this filing may do so by letter sent via U.S. mail, facsimile or E-mail, no later than March 10, 2014, 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, 4<sup>th</sup> Floor  
San Francisco, California 94102

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

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<sup>2</sup> See Recommendations to the California Public Utilities Commission Regarding Health Protective Standards for the Injection of Biomethane into the Common Carrier Pipeline at 2, footnote 2 ("Errata: An error in the report released on May 15, 2013 resulted in p-Dichlorobenzene being checked as a constituent of concern for dairies instead of for POTWs. This error was corrected on May 23, 2013 and is reflected in this document.")

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:

Brian K. Cherry  
Vice President, Regulatory Relations  
Pacific Gas and Electric Company  
77 Beale Street, Mail Code B10C  
P.O. Box 770000  
San Francisco, California 94177

Facsimile: (415) 973-7226  
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 filing become effective on regular notice, **March 20, 2014** which is 30 calendar days after the date of filing.

### **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>

*Brian Cherry /KAC*

Vice President, Regulatory Relations

Attachments

cc: Service List R.13-02-008

# CALIFORNIA PUBLIC UTILITIES COMMISSION

## ADVICE LETTER FILING 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 G)**

Utility type:

ELC       GAS  
 PLC       HEAT       WATER

Contact Person: Kingsley Cheng

Phone #: (415) 973-5265

E-mail: k2c0@pge.com and PGETariffs@pge.com

EXPLANATION OF UTILITY TYPE

ELC = Electric      GAS = Gas  
PLC = Pipeline      HEAT = Heat      WATER = Water

(Date Filed/ Received Stamp by CPUC)

Advice Letter (AL) #: **3455-G**

Tier: **2**

Subject of AL: **Revisions to PG&E Gas Rules 1 and 21 to Adopt Biomethane Standards and Requirements as Required by Assembly Bill 1900**

Keywords (choose from CPUC listing): Compliance, Rules

AL filing type:  Monthly  Quarterly  Annual  One-Time  Other \_\_\_\_\_

If AL filed in compliance with a Commission order, indicate relevant Decision/Resolution #: D.14-01-034

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: \_\_\_\_\_

Is AL requesting confidential treatment? If so, what information is the utility seeking confidential treatment for: No

Confidential information will be made available to those who have executed a nondisclosure agreement: N/A

Name(s) and contact information of the person(s) who will provide the nondisclosure agreement and access to the confidential information: \_\_\_\_\_

Resolution Required?  Yes  No

Requested effective date: **March 20, 2014**

No. of tariff sheets: **20**

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 1 and Gas Rule 21

Service affected and changes proposed: N/A

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

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

**California Public Utilities Commission**  
**Energy Division**  
**EDTariffUnit**  
**505 Van Ness Ave., 4<sup>th</sup> Flr.**  
**San Francisco, CA 94102**  
**E-mail: EDTariffUnit@cpuc.ca.gov**

**Pacific Gas and Electric Company**  
**Attn: Brian K. Cherry**  
**Vice President, Regulatory Relations**  
**77 Beale Street, Mail Code B10C**  
**P.O. Box 770000**  
**San Francisco, CA 94177**  
**E-mail: PGETariffs@pge.com**

**ATTACHMENT 1  
Advice 3455-G**

<b>Cal P.U.C. Sheet No.</b>	<b>Title of Sheet</b>	<b>Cancelling Cal P.U.C. Sheet No.</b>
31061-G	GAS RULE NO. 1 DEFINITIONS Sheet 3	25123-G
31062-G	GAS RULE NO. 1 DEFINITIONS Sheet 4	29671-G
31063-G	GAS RULE NO. 1 DEFINITIONS Sheet 5	29672-G
31064-G	GAS RULE NO. 1 DEFINITIONS Sheet 6	26824-G
31065-G	GAS RULE NO. 1 DEFINITIONS Sheet 8	18200-G
31066-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 16	24444-G
31067-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 17	
31068-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 18	
31069-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 19	
31070-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 20	
31071-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 21	
31072-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 22	

**ATTACHMENT 1  
Advice 3455-G**

<b>Cal P.U.C. Sheet No.</b>	<b>Title of Sheet</b>	<b>Cancelling Cal P.U.C. Sheet No.</b>
31073-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 23	
31074-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 24	
31075-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 25	24445-G
31076-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 26	22735-G
31077-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 27	22736-G
31078-G	GAS RULE NO. 21 TRANSPORTATION OF NATURAL GAS Sheet 28	22737-G
31079-G	GAS TABLE OF CONTENTS Sheet 1	31056-G
31080-G	GAS TABLE OF CONTENTS Sheet 6	30924-G



**GAS RULE NO. 1**  
**DEFINITIONS**

Sheet 3

**BALANCING SERVICE:** A best-efforts service to accommodate imbalances between actual Customer usage and Customer-owned gas delivered to PG&E.

**BASELINE:** A rate structure mandated by the California Legislature and implemented at PG&E in 1984 that ensures all residential customers are provided a minimum necessary quantity of gas at the lowest possible cost.

**BILLING CYCLE:** The regular interval at which a bill for gas service is rendered; typically spans a 27-to-33 day period.

**BIOGAS:** Biogas refers to gas that is produced from the anaerobic decomposition of organic material. The gas is a mixture of methane, carbon dioxide, and other constituents, and must be conditioned into Biomethane prior to receipt into the natural gas pipeline system.

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**BIOMETHANE:** Biomethane refers to biogas that meets the standards adopted pursuant to subdivisions (c) and (d) of Health and Safety Code Section 25421 for injection into a common carrier pipeline. Biomethane must be free from bacteria, pathogens and any other substances injurious to utility facilities, or other constituents that would cause the gas to be unmarketable. Biomethane must conform to the gas quality specifications identified in Gas Rule 21, and to all other tariffs and standard utility operating practices and guidelines.

(N)

**BRANCH SERVICE:** A service that is not connected to a gas main and has another service as its source of supply.

**BRITISH THERMAL UNIT (Btu):** The standard unit for measuring a quantity of thermal energy. One Btu equals the amount of thermal energy required to raise the temperature of one pound of water one degree Fahrenheit and is exactly defined as equal to 1,055.05585262 joule, rounded to 1,055.056 joule. (A joule is equal to one watt-second.)

**BROKERAGE FEE:** Rates for customers, including UEG and Wholesale, who procure supply from PG&E's gas supply portfolio, include a component for the Brokerage Fee.

**Btu AREA:** A physically identifiable area of the gas transmission and/or distribution system in which the Btu and specific gravity of the gas is measured at a single point representative of the entire area.

(Continued)





**GAS RULE NO. 1**  
**DEFINITIONS**

Sheet 5

COMMON USE AREAS: Those areas that may be shared or used by occupants within a multifamily accommodation, including, but not limited to, laundry room, recreation room, swimming pool, tennis courts, gardens, hall/outdoor lighting. (L)

COMPANY: Pacific Gas and Electric Company (PG&E). |

COMPANY'S OPERATING CONVENIENCE: The use, under certain circumstances, of facilities or practices not ordinarily employed which contribute to the overall efficiency of PG&E's operations; the term does not refer to customer convenience nor to the use of facilities or adoption of practices required to comply with applicable laws, ordinances, rules, regulations, or similar requirements of public authorities. |

CONSUMER PRICE INDEX: The Index, as published monthly by the Bureau of Labor Statistics in its "Consumer Price Index Detailed Report"; specifically therein referred to as the "San Francisco-Oakland Consumer Price Index." (L)

CORE END-USE CUSTOMER: A Core End-Use Customer is a Customer physically connected to the local distribution system. Core End-Use Customers normally lack alternatives to natural gas service. Core End-Use Customers include all residential Customers, and non-residential Customers whose natural gas use does not meet the minimum usage requirements specified in the noncore rate schedules, or whose gas use meets the minimum usage requirements, but do not elect to be classified as a Noncore End-Use Customer.

CORE PROCUREMENT GROUP: Core Transport Groups and PG&E's Core Gas Supply Department.

CORE TRANSPORT AGENT: An individual or company that contracts with PG&E and participating core gas transportation service Customers as the responsible agent to manage natural gas deliveries to PG&E on behalf of a Core Transport Group.

CORE TRANSPORT GROUP: Any combination of core Customers (individual commercial and/or residential customers) whose total gas use is greater than or equal to 120,000 therms on an annual basis. The aggregation of gas accounts into a Core Transport Group is needed for core Customers to qualify for core gas transportation service.

COST OF OWNERSHIP (COO): A monthly charge applied to special facilities to recover the cost to PG&E of operating the special facility. When applicant-financed the charge includes the cost components for operations and maintenance (O&M), administration and general expenses (A&G), property taxes, and franchise fees and uncollectibles, and the cost of replacement facilities at no additional cost for sixty (60) years The applicant-financed percentage is also used to calculate COO charges on unsupported distribution line extension costs. See Rule 15.E.6 (L)

(Continued)



**GAS RULE NO. 1**  
**DEFINITIONS**

Sheet 6

When PG&E-financed the monthly cost components include all of those listed above for applicant-financed special facilities plus components to cover the costs of income taxes, return on investment, and depreciation. The PG&E-financed COO is also used to calculate line extension allowances. (See Rule 15. C. 2 & C.3.) (L)

CPUC (CALIFORNIA PUBLIC UTILITIES COMMISSION): The Public Utilities Commission of the State of California. |

CUBIC FOOT OF GAS: The quantity of gas that, at a temperature of sixty (60) degrees Fahrenheit and a pressure of 14.73 pounds per square inch absolute, occupies one cubic foot. (L)

CUSTOMER: The person, group of persons, firm, corporation, institution, municipality, or other civic body, in whose name service is rendered, as evidenced by the signature on the application, contract, or agreement for that service or, in the absence of a signed instrument, by the receipt and payment of bills regularly issued in that name, regardless of the identity of the actual user of the service.

CUSTOMER-OWNED GAS: Gas procured by the Customer which is not part of PG&E's procured supplies.

DAILY AVAILABLE CAPACITY: The maximum capacity of a pipeline system on a given day. This capacity can vary from day to day depending on the operating conditions, e.g., load pressures and ambient temperatures, and the availability of facilities and equipment, such as compressor units.

(Continued)



**GAS RULE NO. 1**  
**DEFINITIONS**

Sheet 8

**GAS:** Any combustible gas or vapor, or combustible mixture of gaseous constituents used to produce heat by burning. It shall include, but not be limited to, natural gas, gas manufactured from coal or oil, Biogas, Biomethane, or a mixture of any or all of the above. (T)

**HEATING VALUE:** The term "heating value" as used in these rules shall mean total heating value of the gas normally measured on a dry basis (unless otherwise specified), and is defined as the number of British Thermal Units evolved by the complete combustion, at constant pressure, of one standard cubic foot of gas with air, the temperature of the gas, air and products of combustion being 60 degrees Fahrenheit and all of the water formed by the combustion reaction being condensed to the liquid state.

**HOUSING PROJECT:** A building or group of buildings located on a single premises and containing residential dwelling units for which master metering of gas service at one location has been requested.

**INDIVIDUAL METERING:** Where PG&E installs a separate service and meter for each individual residence, apartment dwelling unit, mobilehome space, store, office, etc.

**INDUSTRIAL USE:** Services to Customers engaged primarily in a process which creates or changes raw unfinished materials into another form or product. Industrial use is further defined as uses in the categories falling under Division B, Mining, Division C, Construction, and Division D, Manufacturing in the Standard Industrial Classification Manual issued by the Executive Office of the President, Office of Management and Budget.

(Continued)



**GAS RULE NO. 21**  
 TRANSPORTATION OF NATURAL GAS

Sheet 16

C. QUALITY OF GAS

Gas delivered to PG&E for transportation to the Delivery Point(s) shall meet the gas quality specifications stated in the service agreement between the delivering pipeline company and PG&E. If no gas-quality specifications agreement exists between the delivering pipeline company and PG&E for the Receipt Point(s), or if the natural gas is not delivered by a pipeline, the gas received by PG&E shall meet the following specifications:

1. Carbon dioxide: The gas shall contain no more than one percent by volume of carbon dioxide.
2. Oxygen: The gas shall contain no more than 0.1 percent by volume of oxygen.
3. Hydrogen sulfide: The gas shall contain no more than 0.25 grains of hydrogen sulfide, measured as hydrogen sulfide, per one hundred standard cubic feet (4 parts per million (ppm)).
4. Mercaptan sulfur: The gas shall contain no more than 0.5 grains of mercaptan sulfur, measured as sulfur, per one hundred standard cubic feet (8 ppm).
5. Total sulfur: The gas shall contain no more than one grain of total sulfur, measured as sulfur, per one hundred standard cubic feet (17 ppm).
6. Water vapor: The gas shall contain no more than seven pounds of water vapor per million standard cubic feet at 800 pounds per square inch gauge (psig) or less; dew point of 20° Fahrenheit (F) if gas is supplied at over 800 psig.
7. Hydrocarbon dewpoint: The gas shall have a hydrocarbon dewpoint of 45°F or less for gas delivered at 800 psig or below, but measured at 400 psig; or 20°F for gas delivered at above 800 psig, also measured at 400 psig.
8. Liquids: The gas shall contain no liquids at, or immediately downstream of, the Receipt Point(s).
9. Merchantibility: The gas shall not contain dust, sand, dirt, gums, oils, or other substances in an amount sufficient to be injurious to PG&E facilities or which shall cause the gas to be unmarketable.
10. Temperature: The gas shall not be delivered at less than 60 degrees Fahrenheit or more than 100 degrees Fahrenheit. (L)
11. Gas interchangeability: The gas shall be interchangeable with the gas in the receiving pipeline. Interchangeability shall be determined in accordance with the methods and limits presented in Bulletin 36 of the American Gas Association. (L)

(Continued)





**GAS RULE NO. 21**  
**TRANSPORTATION OF NATURAL GAS**

Sheet 18

C. QUALITY OF GAS (Cont'd.)

(N)

7. Testing Action Levels

- a. Trigger Level: The Trigger Level is the acceptable concentration level for each Constituent. If the Trigger Level is exceeded for a Constituent, routine monitoring is required.
- 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.

<b>Table 1</b>						
<b>Maximum Constituent Concentrations</b>						
<b>Biomethane Injection Constituents</b>				<b>Testing for Biogas Source</b>		
	<b>Trigger Level</b>	<b>Lower Action Level</b>	<b>Upper Action Level</b>	<b>Landfill</b>	<b>Dairies</b>	<b>POTW <sup>4</sup></b>
<b>Traditional Gas Quality Requirements <sup>1</sup></b>				X	X	X
<b>Health Protective Constituents - Carcinogenic <sup>2</sup></b>						
Arsenic	0.019 mg/m <sup>3</sup> 0.006 ppmv	0.19 mg/m <sup>3</sup> 0.06 ppmv	0.48 mg/m <sup>3</sup> 0.15 ppmv	X		
p-Dichlorobenzene	5.7 mg/m <sup>3</sup> 0.95 ppmv	57 mg/m <sup>3</sup> 9.5 ppmv	140 mg/m <sup>3</sup> 24 ppmv	X		X
Ethylbenzene	26 mg/m <sup>3</sup> 6.0 ppmv	260 mg/m <sup>3</sup> 60 ppmv	650 mg/m <sup>3</sup> 150 ppmv	X	X	X
n-Nitroso-di-n-propylamine	0.033 mg/m <sup>3</sup> 0.006 ppmv	0.33 mg/m <sup>3</sup> 0.06 ppmv	0.81 mg/m <sup>3</sup> 0.15 ppmv	X	X	
Vinyl Chloride	0.84 mg/m <sup>3</sup> 0.33 ppmv	8.4 mg/m <sup>3</sup> 3.3 ppmv	21 mg/m <sup>3</sup> 8.3 ppmv	X		X

(Continued)



**GAS RULE NO. 21**  
 TRANSPORTATION OF NATURAL GAS

Sheet 19

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

<b>Health Protective Constituents - Non-Carcinogenic <sup>2</sup></b>						
Antimony	0.60 mg/m <sup>3</sup> 0.12 ppmv	6.0 mg/m <sup>3</sup> 1.2 ppmv	30 mg/m <sup>3</sup> 6.1 ppmv	X		
Copper	0.060 mg/m <sup>3</sup> 0.02 ppmv	0.60 mg/m <sup>3</sup> 0.23 ppmv	3.0 mg/m <sup>3</sup> 1.2 ppmv	X		
Hydrogen Sulfide <sup>6</sup>	30 mg/m <sup>3</sup> 22 ppmv	300 mg/m <sup>3</sup> 216 ppmv	1500 mg/m <sup>3</sup> 1080 ppmv	X	X	X
Lead	0.075 mg/m <sup>3</sup> 0.009 ppmv	0.75 mg/m <sup>3</sup> 0.09 ppmv	3.8 mg/m <sup>3</sup> 0.44 ppmv	X		
Mercaptans (Alkyl Thiols) <sup>6</sup>	12 ppmv	120 ppmv	610 ppmv	X	X	X
Methacrolein	1.1 mg/m <sup>3</sup> 0.37 ppmv	11 mg/m <sup>3</sup> 3.7 ppmv	53 mg/m <sup>3</sup> 18 ppmv	X		
Toulene	904 mg/m <sup>3</sup> 240 ppmv	9000 mg/m <sup>3</sup> 2400 ppmv	45000 mg/m <sup>3</sup> 12000 ppmv	X	X	X
<b>Pipeline Integrity Protective Constituents <sup>3</sup></b>						
Ammonia	0.001%	TBD <sup>5</sup>	TBD <sup>5</sup>	X	X	X
Biologicals	4 x 10 <sup>4</sup> / scf (qPCR per group) and free of <0.2 micron filter	TBD <sup>5</sup>	TBD <sup>5</sup>	X	X	X
Hydrogen	0.10%	TBD <sup>5</sup>	TBD <sup>5</sup>	X	X	X
Mercury	0.08 mg/m <sup>3</sup>	TBD <sup>5</sup>	TBD <sup>5</sup>	X	X	X
Siloxanes	0.01 mg Si/m <sup>3</sup>	0.1 mg Si/m <sup>3</sup>	TBD <sup>5</sup>	X	X	X
<b>Notes:</b>						
1. Traditional gas quality requirements are found in Gas Rule 21.C in Sections 1-12.						
2. Health protective constituents are shown in Table V-3 of D.14-01-034.						
3. Pipeline integrity protective constituents are shown in Section 4.4.3.3 of D.14-01-034.						
4. POTW means "Publicly Owned Treatment Works" or sewage treatment plant, or wastewater plant, and includes all biogas sources other than landfill and dairy manure.						
5. The lower and upper action levels will be established in the next update proceeding.						
6. Testing requirement will be the lower of stated biomethane values or other tariff requirements.						

(Continued)



**GAS RULE NO. 21**  
 TRANSPORTATION OF NATURAL GAS

Sheet 20

C. QUALITY OF GAS (Cont'd.)

2. Biomethane must conform to the specifications shown in Table 1.

<b>Table 2</b>			
<b>Total Risk from Carcinogenic and non-Carcinogenic Constituents</b>			
<b>Risk Management Levels</b>	<b>Risk from Carcinogenic Constituents</b>	<b>Hazard Index from Non-Carcinogenic Constituents</b>	<b>Action</b>
Trigger Level <sup>1</sup>	≥ 1.0	≥ 0.1	Periodic Testing Required
Lower Action Level <sup>2</sup>	≥ 10.0	≥ 1.0	Supply shut-in after three exceedances in 12 months
Upper Action Level <sup>3</sup>	≥ 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.
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, gas quality testing will be performed by the utility using independent certified third party laboratories, and test results will be shared with Supplier.

(N)

(Continued)



**GAS RULE NO. 21**  
 TRANSPORTATION OF NATURAL GAS

Sheet 21

C. QUALITY OF GAS (Cont'd.)

(N)

4. Pre-Injection Testing Procedure

- a. Supplier will conduct two tests for all Constituents over a two to four week period.
- b. If any Constituent concentration is at or above the Lower Action Level, or is at or above the Trigger Level if the Lower Action Level is not established, in either of the two tests, Biomethane cannot be injected into the pipeline. Supplier must restart Pre-Injection Testing.
- c. If all Constituent concentrations are below the test detection or the Lower Action Levels, or below the Trigger Level if the Lower Action Level is not established, in both of the two tests, Biomethane may be injected into the pipeline with Periodic Testing.

5. Periodic Testing

- a. Group 1 Constituents
  - 1. Group 1 Constituents will be tested annually.
  - 2. Any Group 1 Constituent with a concentration below the test detection level or below the Trigger Level for two consecutive annual tests will be tested biennially.
  - 3. A Group 1 Constituent will become a Group 2 Constituent if testing indicates a concentration at or above the Trigger Level.
- b. Group 2 Constituents
  - 1. Testing for Group 2 Constituents will be quarterly.
  - 2. Individual Constituents
    - a. Any Constituent with a concentration below the Trigger Level in four consecutive quarterly tests will be tested annually.
    - b. If annual testing demonstrates that a Constituent concentration is at or above the Trigger Level, testing for that Constituent will revert to quarterly.

(N)

(Continued)



**GAS RULE NO. 21**  
 TRANSPORTATION OF NATURAL GAS

Sheet 22

C. QUALITY OF GAS (Cont'd.)

(N)

- c. For any Pipeline Integrity Protective Constituent with a concentration at or above the Lower Action Level, or at or above the Trigger Level if the Lower Action Level is not established, the Constituent risk will be assessed and a mitigation method determined, which may include, but is not limited to, additional monitoring or prohibiting the Biomethane from injection into the pipeline, at PG&E's discretion.
  - d. If any Constituent concentration is at or above the Lower Action Level, or is at or above the Trigger Level if the Lower Action Level is not established, on three occurrences in a 12-month period, the Biomethane cannot be injected into the pipeline until the concentration is below the Lower Action Level or the Trigger Level if the Lower Action Level is not established.
3. Total risk from Carcinogenic and Non-carcinogenic Health Protective Constituents
- a. Risk will be estimated by calculating the ratio of each Constituent concentration to the Trigger Level for that Constituent, and then summing the ratios for all Carcinogenic and Non-carcinogenic Group 2 Constituents, respectively, as shown in Table 2.
  - b. If the result is at or above the Lower Action Level on three occurrences in a 12-month period, the Biomethane cannot be injected into the pipeline until the concentrations are below the Lower Action Level.
  - c. If quarterly testing over four consecutive tests demonstrates that the total risk from Carcinogenic and Non-carcinogenic Constituents is below the Lower Action Level, then the testing period will change to annual for each Constituent in the group.
  - d. If annual testing demonstrates that total 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.

(N)

(Continued)



**GAS RULE NO. 21**  
 TRANSPORTATION OF NATURAL GAS

Sheet 23

C. QUALITY OF GAS (Cont'd.)

(N)

- c. If any Constituent concentration, or the total risk from Carcinogenic or Non-carcinogenic Constituents, is at or above the Upper Action Level, the Biomethane cannot be injected into the pipeline until the concentration is below the Lower Action Level.
  - d. If Supplier's Biomethane is refused in accordance with this Rule, testing for all Group 1 and Group 2 Constituents 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
    - 1. 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.
    - 2. Biomethane injection into the pipeline is refused because there are three occurrences of a Constituent concentration being over the Lower Action Level in a 12-month period.
    - 3. 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 are below the Lower Action Level, or below the Trigger Level if the Lower Action Level is not established, Biomethane may be injected into the pipeline.
  - c. After re-starting Biomethane deliveries, Periodic Testing for all Group 1 and Group 2 Constituents will be performed quarterly.
    - 1. Any Constituent with a concentration below the test detection level or below the Trigger Level for two consecutive quarterly tests will be considered a Group 1 Constituent.

(N)

(Continued)







**GAS RULE NO. 21**  
 TRANSPORTATION OF NATURAL GAS

Sheet 26

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 27

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.

(L)

(Continued)



**GAS RULE NO. 21**  
 TRANSPORTATION OF NATURAL GAS

Sheet 28

- 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. (L)



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**Brian K. Cherry**  
 Vice President  
 Regulatory Relations

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

1st Light Energy	Douglass & Liddell	OnGrid Solar
AT&T	Downey & Brand	Pacific Gas and Electric Company
Alcantar & Kahl LLP	Ellison Schneider & Harris LLP	Praxair
Anderson & Poole	G. A. Krause & Assoc.	Regulatory & Cogeneration Service, Inc.
BART	GenOn Energy Inc.	SCD Energy Solutions
Barkovich & Yap, Inc.	GenOn Energy, Inc.	SCE
Bartle Wells Associates	Goodin, MacBride, Squeri, Schlotz & Ritchie	SDG&E and SoCalGas
Braun Blaising McLaughlin, P.C.	Green Power Institute	SPURR
California Cotton Ginners & Growers Assn	Hanna & Morton	San Francisco Public Utilities Commission
California Energy Commission	In House Energy	Seattle City Light
California Public Utilities Commission	International Power Technology	Sempra Utilities
California State Association of Counties	Intestate Gas Services, Inc.	SoCalGas
Calpine	K&L Gates LLP	Southern California Edison Company
Casner, Steve	Kelly Group	Spark Energy
Cenergy Power	Linde	Sun Light & Power
Center for Biological Diversity	Los Angeles Dept of Water & Power	Sunshine Design
City of Palo Alto	MRW & Associates	Tecogen, Inc.
City of San Jose	Manatt Phelps Phillips	Tiger Natural Gas, Inc.
Clean Power	Marin Energy Authority	TransCanada
Coast Economic Consulting	McKenna Long & Aldridge LLP	Utility Cost Management
Commercial Energy	McKenzie & Associates	Utility Power Solutions
County of Tehama - Department of Public Works	Modesto Irrigation District	Utility Specialists
Crossborder Energy	Morgan Stanley	Verizon
Davis Wright Tremaine LLP	NLine Energy, Inc.	Water and Energy Consulting
Day Carter Murphy	NRG Solar	Wellhead Electric Company
Defense Energy Support Center	Nexant, Inc.	Western Manufactured Housing Communities Association (WMA)
Dept of General Services	North America Power Partners	
Division of Ratepayer Advocates	Occidental Energy Marketing, Inc.	