

**PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

**ENERGY DIVISION**

**RESOLUTION G-3585  
AUGUST 5, 2021**

**R E S O L U T I O N**

Resolution G-3585. Approving Pacific Gas and Electric Company (PG&E), Southern California Gas Company (SoCalGas), Southwest Gas Corporation (SWG), and San Diego Gas and Electric Company (SDG&E) request to modify tariffs, pursuant to Ordering Paragraph (OP) 11 in Decision (D.) 20-12-031, to revise thresholds for biological contaminants in biomethane.

**PROPOSED OUTCOME:**

- Approves PG&E Advice Letter (AL) 4413-G, SoCalGas AL 5792-G, SWG AL 1171-G, and SDG&E AL 2962-G.

**SAFETY CONSIDERATIONS:**

- This resolution authorizes California's four largest gas utilities to perform pre-injection screening for biological contaminants contained in biomethane and eliminate lower and upper action level specifications for those contaminants.

**ESTIMATED COST:**

- There are no costs associated with this resolution.

By PG&E AL 4413-G filed on April 1, 2021; SoCalGas AL 5792-G filed on April 1, 2021; SWG AL 1171-G filed on April 1, 2021; and SDG&E AL 2962-G filed on April 1, 2021.

---

---

<sup>1</sup> Lower and upper action levels are defined in D.14-01-034 at 82: "The lower action level is used to screen biomethane suppliers during the initial gas quality review and as an ongoing screening level during the

*Footnote continued on next page*

## **SUMMARY**

This resolution eliminates lower and upper action level<sup>1</sup> specifications for biological contaminants – formally referred to as "biologicals" – from the Standard Renewable Gas Interconnection (SRGI) Tariff, deletes biologicals from the table of "Maximum Constituent Concentrations," includes biologicals in the pre-injection testing procedure, and implements this modification in each gas utility's respective tariff, as Pacific Gas and Electric Company (PG&E), Southern California Gas Company (SoCalGas), Southwest Gas Company (SWG), and San Diego Gas and Electric Company (SDG&E) (collectively the "Gas IOUs") requested in their Advice Letters (ALs) filed pursuant to Ordering Paragraph (OP) 11 of Decision (D.) 20-12-031.

## **BACKGROUND**

Assembly Bill (AB) 1900 (Gatto, 2012) requires the Public Utilities Commission (Commission) to adopt, by rule or order, (1) standards for biomethane that specify the concentrations of constituents of concern that are reasonably necessary to protect public health and ensure pipeline integrity and safety, as specified, and (2) requirements for monitoring, testing, reporting, and recordkeeping, as specified.

The Commission opened Rulemaking (R.) 13-02-008 on February 13, 2013, to implement AB 1900. Health and Safety Code Section 25421(c) required the Commission to adopt biomethane standards that specify the concentrations of allowable constituents in biomethane injected into a common carrier pipeline.<sup>2</sup> The Commission adopted the required biomethane standards as part of

---

periodic testing. During the initial gas quality review, the constituents of concern in the biomethane will need to be below the lower action level before biomethane can be injected into the pipeline. Afterwards, if a constituent exceeds the lower action level concentration three times within a 12-month period, the biomethane supplier will be shut-off and will be required to repair its biogas processing facility until the biomethane meets the trigger level. The upper action level establishes the point at which an immediate shut-off of the biomethane supply occurs. This occurs when the concentration amount for a constituent reaches that level. The pipeline will shut-off access when the upper action level is reached, and the biomethane supplier will be required to shut-off the biomethane supply, and to repair its biogas processing facility until the biomethane meets the trigger level concentrations."

<sup>2</sup> Common carrier pipelines are synonymous with gas IOU pipelines.

D.14-01-034, which identified a total of 17 constituents of concern: 12 relating to the protection of human health and five relating to pipeline system integrity.

OP 7 of D.14-01-034 ordered the Gas IOUs to file an application within five years of the Decision for the Commission to carry out its first biomethane standards update. OP 9 of D.14-01-034 required that the Gas IOUs' respective applications "specify the lower action and upper action levels for ammonia, biologicals, hydrogen, mercury, and siloxanes." The Gas IOUs were subsequently granted a temporary waiver of their obligation to file an application by the Commission's Executive Director in December 2018 because the California Air Resources Board had not yet published any updated guidance regarding updating biomethane standards.

D.20-08-035 and D.20-12-031 required the Gas IOUs to adopt an SRGI Tariff and SRGI Agreement, respectively. The two decisions created a uniform method of facilitating the injection of biomethane and other renewable gases into the four utilities' gas pipelines, in accordance with AB 1900. D.20-08-035 established a uniform tariff that includes the constituents of concern identified in D.14-01-034. Since no application was filed pursuant to OP 7 of D.14-01-034, D.20-12-031 required the Gas IOUs to establish lower and upper action level specifications for four of the five constituents of concern that were identified in D.14-01-034 to ensure pipeline integrity. The fifth constituent of concern – hydrogen – will be the subject of Phase 4B of R.13-02-008.

OP 11 of D.20-12-031 specifically ordered the Gas IOUs to file Tier 2 ALs establishing lower and upper action level specifications for biologicals by April 1, 2021.<sup>3</sup> The Gas IOUs filed ALs requesting elimination of lower and upper action level specifications for biologicals, deleting biologicals from the table of "Maximum Constituent Concentrations," and adding biologicals to the pre-injection testing procedure.

The Gas IOUs' stated rationale for eliminating lower and upper action levels for biologicals is that there has been no evidence of microbially induced corrosion (MIC) yet observed and that the level of biologicals was measured at or below

---

<sup>3</sup> The IOUs are required to make similar filings for ammonia, mercury, and siloxanes by January 1, 2022.

40,000 parts per standard cubic feet ( $4 \times 10^4$ /scf)<sup>4</sup> in testing conducted between 2012 and 2019. SoCalGas and the Gas Technology Institute (GTI) participated in multiple projects and commissioned five corrosion studies examining MIC, relying on a genetic-based testing method developed by GTI. Additional GTI studies dating back to 2009 reached the conclusion that observed levels of biologicals in fossil natural gas are similar to those levels observed in renewable natural gas.

## **NOTICE**

Notice of PG&E AL 4413-G,<sup>5</sup> SoCalGas AL 5792-G, SWG AL 1171-G, and SDG&E AL 2962-G were made by publication in the Commission's Daily Calendar. The Gas IOUs state that a copy of each AL was mailed and distributed in accordance with Section 4 of General Order 96-B.

## **PROTESTS**

PG&E AL 4413-G, SoCalGas AL 5792-G, SWG AL 1171-G, and SDG&E AL 2962-G were not protested.

## **DISCUSSION**

The Commission has reviewed the Gas IOUs' ALs and approves their requests to eliminate lower and upper action level specifications for biologicals, delete biologicals from the table of "Maximum Constituent Concentrations," and add biologicals to the pre-injection testing procedure.

Based on SoCalGas and GTI test results spanning 2009 through 2019,<sup>6</sup> eliminating lower and upper action levels is reasonable so long as pre-injection testing can ensure safe levels of biologicals before startup. As with all constituents of concern established in D.14-01-034, pre-injection testing is required to ensure that health and integrity protective constituents meet the

---

<sup>4</sup> See PG&E AL 4413-G at 3, SoCalGas AL 5792-G at 3, SWG AL 1171-G at 3, and SDG&E AL 2962-G at 2.

<sup>5</sup> References to PG&E AL 4413-G includes both the original AL and all substitute sheets.

<sup>6</sup> SoCalGas and GTI testing is discussed in PG&E AL 4413-G at 3, SoCalGas AL 5792-G at 3, SWG AL 1171-G at 2-3, and SDG&E AL 2962-G at 2-3.

required gas specifications in the SRGI Tariff. However, the pre-injection testing procedure currently requires renewable gas to be equal to or less than lower action levels. Further, periodic testing is required for lower and upper action levels. Since there is no evidence of pipeline corrosion after pre-injection testing, periodic testing for lower and upper action levels should not be required for biologicals. Thus, the pre-injection testing procedure needs to be modified to add biologicals as a constituent of concern that does not require the same periodic testing as constituents with lower and upper action level specifications.

Additionally, GTI observed similar levels of biologicals in fossil natural gas as in renewable natural gas, which suggests that the gas quality specifications for biologicals in fossil natural gas should be applied to renewable natural gas. None of the Gas IOUs' fossil natural gas quality rules require lower and upper action levels for biologicals.<sup>7</sup> It is therefore reasonable to approve the Gas IOUs' requests to eliminate lower and upper action levels for biologicals in the gas specifications section of the SRGI Tariff and make appropriate corresponding edits.

## **COMMENTS**

This is an uncontested matter in which the resolution grants the relief requested. Accordingly, pursuant to Public Utilities Code Section 311(g)(2), the otherwise applicable 30-day period for public review and comment is being waived.

## **FINDINGS**

1. Assembly Bill 1900 (Gatto, 2012) required the Commission to adopt biomethane standards that specify the concentration of allowable constituents of concern in biomethane injected into a common carrier pipeline.
2. Ordering Paragraph 7 of Decision 14-01-034 ordered Pacific Gas and Electric Company, Southern California Gas Company, Southwest Gas Corporation,

---

<sup>7</sup> See SoCalGas Rule 30 Section I, PG&E Rule 21, Section C, SDG&E Rule 30 Section I, and SWG Rule 2 Section A.

and San Diego Gas and Electric Company to file an application within five years of the Decision for the Commission to carry out its review of Health and Safety Code Section 25421(e).

3. Ordering Paragraph 9 of Decision 14-01-034 required that the gas utilities' application should "specify the lower action and upper action levels for ammonia, biologicals, hydrogen, mercury, and siloxanes."
4. No application was filed in compliance with Ordering Paragraph 7 of Decision 14-01-034, as the gas utilities were granted a temporary waiver of their obligation to file an application by the Commission's Executive Director in December 2018 because the California Air Resources Board had not yet published any updated guidance regarding updating biomethane standards.
5. Decision 20-12-031 required the gas Investor-Owned Utilities to establish lower and upper action level specifications for four constituents of concern that were identified in Decision 14-01-034: ammonia, biologicals, mercury, and siloxanes.
6. Ordering Paragraph 11 of Decision 20-12-031 specifically ordered the gas Investor-Owned Utilities to file Tier 2 Advice Letters establishing lower and upper action level specifications for biologicals by April 1, 2021. Rather than establish limits, the gas Investor-Owned Utilities filed Advice Letters to eliminate lower and upper action level specifications for biologicals, delete biologicals from the table of "Maximum Constituent Concentrations," and add biologicals to the pre-injection testing procedure.
7. The gas Investor-Owned Utilities timely filed Tier 2 Advice Letters, as required by Ordering Paragraph 11 of Decision 20-12-031. However, the request to eliminate lower and upper action levels for biologicals was not explicitly authorized in a prior Commission decision.
8. The most prudent path is to approve Pacific Gas & Electric Company Advice Letter 4413-G, Southern California Gas Company Advice Letter 5792-G, Southwest Gas Corporation AL 1171-G, and San Diego Gas and Electric Company Advice Letter 2962-G through a resolution.
9. The gas Investor-Owned Utilities request to eliminate lower and upper action level specifications for biologicals is reasonable because safety is maintained and there is no risk to pipeline integrity if the pre-injection levels meet the proposed levels for the pre-injection testing procedure.

**THEREFORE IT IS ORDERED THAT:**

1. The request of Pacific Gas and Electric Company, Southern California Gas Company, Southwest Gas Corporation, and San Diego Gas and Electric Company to modify the Standard Renewable Gas Interconnection Tariff to eliminate lower and upper action level specifications for biologicals, delete biologicals from the table of "Maximum Constituent Concentrations," and add biologicals to the pre-injection testing procedure in Advice Letter 4413-G, Advice Letter 5792-G, Advice Letter 1171-G, and Advice Letter 2962-G, respectively, is approved.

This Resolution is effective today.

I certify that the foregoing resolution was duly introduced, passed, and adopted at a conference of the Public Utilities Commission of the State of California held on August 5, 2021; the following Commissioners voting favorably thereon:

*/s/ Rachel Peterson*

RACHEL PETERSON

Executive Director

MARYBEL BATJER

President

MARTHA GUZMAN ACEVES

CLIFFORD RECHTSCHAFFEN

GENEVIEVE SHIROMA

DARCIE HOUCK

Commissioners

**ADVICE LETTER (AL) SUSPENSION NOTICE**  
**ENERGY DIVISION**

Utility Name: Southwest Gas Co.

Utility No./Type GAS

Advice Letter No. 1171-G

Date AL filed: 4/1/21

Utility Contact Person: Valerie Ontiveroz

Utility Phone No. (702) 876-7323

Date Utility Notified: 4/30/21 via: e-mail

[ x ] E-Mail to: [valerie.ontiveroz@swgas.com](mailto:valerie.ontiveroz@swgas.com)

Fax No.: N/A

ED Staff Contact: Karin Sung

**For Internal Purposes Only:**

Date Calendar Clerk Notified: \_\_\_\_/\_\_\_\_/\_\_\_\_

Date Commissioners/Advisors Notified: \_\_/\_\_/\_\_

**[X ] INITIAL SUSPENSION (up to 120 DAYS)**

This is to notify that the above-indicated AL is suspended for up to 120 days beginning 4/30/21 for the following reason(s) below. If the AL requires a Commission resolution and the Commission's deliberation on the resolution prepared by Energy Division extends beyond the expiration of the initial suspension period, the advice letter will be automatically suspended for up to 180 days beyond the initial suspension period.

[ ] Section 455 Hearing is Required.

[ ] Advice Letter Requests a Commission Order.

[ X ] Advice Letter Requires Staff Review

Expected duration of initial suspension period: 30 days.

---

**[ ] FURTHER SUSPENSION (up to 180 DAYS beyond initial suspension period)**

The AL requires a Commission resolution and the Commission's deliberation on the resolution prepared by Energy Division has extended beyond the expiration of the initial suspension period. The advice letter is suspended for up to 180 days beyond the initial suspension period.

---

If you have any questions regarding this matter, please contact Karin Sung at (213) 266-4743 or via e-mail at [karin.sung@cpuc.ca.gov](mailto:karin.sung@cpuc.ca.gov).

cc: ED Tariff Unit





# SOUTHWEST GAS CORPORATION

April 1, 2021

**Advice Letter No. 1171-G**

(U 905 G)

Public Utilities Commission of the State of California

**Subject: Modifications to Rule No. 22 to Provide Lower and Upper Action Level Specifications, Pursuant to Decision (D.) 20-12-031**

**Purpose**

Pursuant to Ordering Paragraph (OP) 11 in D.20-12-031 *Adopting the Standard Renewable Gas Interconnection and Operating Agreement*, Southwest Gas Corporation (Southwest Gas) hereby submits this Tier 2 Advice Letter to modify Rule No. 22, Standard Renewable Gas Interconnections to the Utility's Pipeline System (Rule No. 22), to provide lower and upper action level specifications for biologicals in Renewable Gas. The tariff sheets being modified as a result of this submission are listed on Attachment A.

**Background**

Rulemaking (R.) 13-02-008 was opened on February 13, 2013, to implement Assembly Bill (AB) 1900 (Gatto, 2012) which required the California Public Utilities Commission (Commission) to take certain action with respect to biogas and biomethane. Health and Safety Code § 25421(c) required the Commission to adopt biomethane standards that specify the concentration of allowable constituents in biomethane injected into a common carrier pipeline. The adoption of the biomethane standards is to ensure the protection of human health, and to ensure pipeline and pipeline facility integrity and safety.

Health and Safety Code Section § 25421(a) specifies that the process for creating and updating biomethane standards starts with the Office of Environmental Health Hazard Assessment (OEHHA), who shall, in consultation with the California Air Resources Board (CARB) and other agencies, compile a list of constituents of concern that could pose risks to human health and that are found in biogas at concentrations that significantly exceed the concentrations of those constituents in natural gas. This review and update procedure is to take place every five years, or earlier if new information becomes available.

D.14-01-034 adopted the original biomethane standards pursuant to the process established by AB 1900. OP 7 of D.14-01-034 requires the Joint Utilities<sup>1</sup> to file an application with the Commission to formally update biomethane standards within five

---

<sup>1</sup> Southern California Gas Company (SoCalGas), San Diego Gas & Electric Company (SDG&E), Pacific Gas and Electric Company (PG&E) and Southwest Gas.



Advice Letter No. 1171-G  
Page 2  
April 1, 2021

years from the effective date of the decision. Additionally, OP 8 of D.14-01-034 states that either OEHHA or CARB can send a letter to the Commission requesting updates to the biomethane standards if they deem necessary prior to the five-year mark. OP 9 of D.14-01-034 requires the Joint Utilities to specify the lower and upper action levels for ammonia, biologicals, hydrogen, mercury, and siloxanes as part of the process of updating biomethane standards for the first time.

The Joint Utilities requested and received a waiver of their filing obligation by the Commission's Executive Director on December 10, 2018, given that CARB had not published any updated guidance for constituents of concern at that time. OP 11 of D.20-12-031 ordered the Joint Utilities to specify lower and upper action levels for ammonia, biologicals, hydrogen, mercury, and siloxanes as soon as practicable as CARB had not published updated guidance in response to OEHHA's report of January 2020.

OP 11 of the D.20-12-031 states:

Pacific Gas and Electric Company, Southwest Gas Corporation, Southern California Gas Company, and San Diego Gas & Electric Company shall provide upper and lower action level specifications in a joint filing to be submitted to the Commission no later than April 1, 2021 for biologicals and January 1, 2022 for ammonia, mercury, and siloxanes. Upper and lower action levels of hydrogen will be established pursuant to Phase 4 of this proceeding.

Pursuant to direction provided by Energy Division staff on March 19, 2021, the Joint Utilities were instructed to submit separate Advice Letters instead of a joint Advice Letter submittal. This allows each utility to submit their own tariff sheet modifications, which would not be possible with a joint advice letter submission.

### **Proposed Revisions to Rule No. 22 to Eliminate Biologicals as an Integrity Protective Constituent**

#### **Rationale for Eliminating Biologicals as an Integrity Protective Constituent**

Southwest Gas is currently working to have its first renewable gas interconnection in Southern California. Since the inception of R.13-02-008, Southwest Gas has collaborated with the other California utilities, including SoCalGas, to gain from their experience with renewable gas interconnections. Like SoCalGas, Southwest Gas has participated as a member company in multiple projects with the Gas Technology Institute (GTI), with the support of other operators. GTI has collected many data points since 2009 from multiple sources of renewable gas and natural gas and has reached the conclusion that levels of biologicals observed in natural gas are similar to those observed in renewable gas. Specifically, in working with the Joint Utilities in preparation for this Advice Letter submission, SoCalGas provided data that supports this finding based on test results and



corrosion coupon inspections from their active renewable gas producers. SoCalGas found no evidence of microbially induced corrosion when the level of biologicals measured was at or below  $4 \times 10^4$ /scf. Therefore, Southwest Gas proposes to eliminate the specification for biological upper action level and lower action level, and simply require pre-injection testing with results for biologicals at or below  $4 \times 10^4$ /scf.

#### Requested Revisions to Rule No. 22

In accordance with OP 11, Southwest Gas proposes the following updates to Sheet 35 in Rule No. 22 for trigger level, lower action level and upper action levels for biological constituents as listed below.

- Delete Biologicals and Note 7 from Table 1 - Maximum Constituent Concentrations

To implement these updates for biological constituents and to ensure the renewable gas is commercially free of bacteria, Southwest Gas requests approval to amend Rule No. 22 and add the following language in the Pre-injection Testing Procedure:<sup>2</sup>

#### K.5.e.ii.b) Biologicals (Sheet 40)

(i) Renewable Gas must be commercially free of bacteria which cause corrosion, also referred to as biologicals.

(ii) To ensure Renewable Gas is commercially free of biologicals, the Interconnector will test for total bacteria including but not limited to Acid-producing Bacteria (APB), Sulfate-reducing Bacteria (SRB), and Iron-oxidizing Bacteria (IOB) by quantitative Polymerase Chain Reaction (qPCR) method during pre-injection testing. If the total bacteria results are at or below  $4 \times 10^4$ /scf, then Renewable Gas may be injected into the Utility's system subject to all other requirements set forth in this Rule.

#### Effective Date

Southwest Gas believes this Advice Letter is subject to Energy Division disposition and should be classified as Tier 2 (effective after Energy Division approval) pursuant to General Order (GO) 96-B. Southwest Gas respectfully requests that this Advice Letter be approved effective May 1, 2021, which is thirty (30) calendar days after the date submitted.

---

<sup>2</sup> A redlined version of the tariff revisions is included as Attachment B.



Advice Letter No. 1171-G  
Page 4  
April 1, 2021

### **Protest**

Anyone may protest this Advice Letter to the Commission. The protest must state the grounds upon which it is based with specificity. The protest must be sent no later than 20 days after the date of this Advice Letter submission and shall be sent by letter via U.S. Mail, facsimile, or electronically mailed. The address for mailing or delivering a protest to the Commission is:

ATTN: Tariff Unit  
Energy Division  
California Public Utilities Commission  
505 Van Ness Avenue, 4<sup>th</sup> Floor  
San Francisco, CA 94102  
Email: [edtariffunit@cpuc.ca.gov](mailto:edtariffunit@cpuc.ca.gov)  
Facsimile: 415-703-2200

Copies should also be mailed to the attention of the Director, Energy Division, Room 4004, at the same address as above and an additional copy should be mailed, emailed or faxed to:

Mr. Justin Lee Brown  
Senior Vice President/General Counsel  
Southwest Gas Corporation  
P.O. Box 98510  
Las Vegas, NV 89193-8510  
Email: [justin.brown@swgas.com](mailto:justin.brown@swgas.com)  
Facsimile: 702-364-3452

### **Notice**

Southwest Gas is exempt from the notice requirements set forth in General Rule 4.2 in GO 96-B since this Advice Letter will not increase any rate or charge, cause the withdrawal of service, or conflict with any schedule or rule.

### **Service**

In accordance with GO 96-B, General Rule 7.2, Southwest Gas is serving copies of this Advice Letter and related tariff sheets to the utilities and interested parties shown on the attached distribution list and the office service list in R.13-02-008.

///  
///  
///  
///




Advice Letter No. 1171-G  
Page 5  
April 1, 2021

Communications regarding this submission should be directed to:

Valerie J. Ontiveroz  
Regulatory Manager/California  
Southwest Gas Corporation  
P.O. Box 98510  
Las Vegas, NV 89193-8510  
Telephone: 702-876-7323  
Email: [valerie.ontiveroz@swgas.com](mailto:valerie.ontiveroz@swgas.com)

Respectfully submitted,

SOUTHWEST GAS CORPORATION

By:   
Valerie J. Ontiveroz

Attachments

## **Distribution List**

Advice Letter No. 1171-G

In conformance with GO 96-B, General Rule 4.3

The following individuals or entities have been served by electronic mail:

Elizabeth Echols, Director  
Public Advocates Office  
[elizabeth.echols@cpuc.ca.gov](mailto:elizabeth.echols@cpuc.ca.gov)

Pacific Gas & Electric Company  
[PGETariffs@pge.com](mailto:PGETariffs@pge.com)

Southern California Gas Company  
[ROrtiz@SempraUtilities.com](mailto:ROrtiz@SempraUtilities.com)

San Diego Gas & Electric Company  
[SDG&ETariffs@SempraUtilities.com](mailto:SDG&ETariffs@SempraUtilities.com)

Robert M. Pocta  
Public Advocates Office  
California Public Utilities Commission  
[robert.pocta@cpuc.ca.gov](mailto:robert.pocta@cpuc.ca.gov)

Nathaniel Skinner  
Public Advocates Office  
California Public Utilities Commission  
[nathaniel.skinner@cpuc.ca.gov](mailto:nathaniel.skinner@cpuc.ca.gov)

Pearlie Sabino  
Public Advocates Office  
California Public Utilities Commission  
[pearlie.sabino@cpuc.ca.gov](mailto:pearlie.sabino@cpuc.ca.gov)

ATTACHMENT A  
Advice Letter No. 1171-G

Cal. P.U.C. Sheet No.	Title of Sheet	Canceling Cal. P.U.C. Sheet No.
1st Revised Sheet No. 279.14.16	Rule No. 22 – Standard Renewable Gas Interconnections to the Utility’s Pipeline System <i>(Continued)</i>	Original Sheet No. 279.14.16
1st Revised Sheet No. 279.14.21	Rule No. 22 – Standard Renewable Gas Interconnections to the Utility’s Pipeline System <i>(Continued)</i>	Original Sheet No. 279.14.21
1st Revised Sheet No. 279.14.22	Rule No. 22 – Standard Renewable Gas Interconnections to the Utility’s Pipeline System <i>(Continued)</i>	Original Sheet No. 279.14.22

RULE NO. 22

Sheet 35

**STANDARD RENEWABLE GAS INTERCONNECTIONS  
TO THE UTILITY'S PIPELINE SYSTEM (Continued)**

**K. RENEWABLE GAS QUALITY AND SPECIFICATIONS (Continued)**

Table 1 (Continued) Maximum Constituent Concentrations						
Renewable Gas Injection Constituents				Testing for Gas Source		
	Trigger Level	Lower Action Level	Upper Action Level	Non-Hazardous Landfill	Dairies	Other <sup>4</sup>
<b>Integrity Protective Constituents<sup>3</sup></b>						
Ammonia	0.001%	TBD <sup>5</sup>	TBD <sup>5</sup>	■	■	■
Hydrogen	0.10%	TBD <sup>5</sup>	TBD <sup>5</sup>	■	■	■
Mercury	0.08 mg/m <sup>3</sup>	TBD <sup>5</sup>	TBD <sup>5</sup>	■	■	■
Siloxanes <sup>7</sup>	0.01 mg Si/m <sup>3</sup>	0.1 mg Si/m <sup>3</sup>	TBD <sup>5</sup>	■	■	■

**Notes:**

- Base Utility Gas Specifications are identified in K1.
- Health Protective Constituents (HPC) are shown in Table V-3 of the CARB/OEHHA Report.
- Integrity Protective Constituents are shown in Section 4.4.3.3 of D.14-01-034 and identified as pipeline integrity protective constituents.
- Other organic sources, includes all Biogas sources other than landfill and dairy manure, including but not limited to, a sewage treatment plant or wastewater plant ("Publicly Owned Treatment Works" or "POTW").
- The Lower and Upper Action Levels will be established in the next update proceeding.
- Testing requirement will be the stricter of the stated Renewable Gas values or other tariff requirements.
- The Interconnector that meets this Rule's Section K.4.b certification requirements shall have reduced siloxanes testing requirements. Utility, at its discretion and at its own cost, may still test pursuant to Utility's applicable tariff rules. If the Utility test results show the siloxanes levels exceed the Lower Action Level, the full siloxanes testing requirements will apply as described in this Rule.

D

D

T



RULE NO. 22

Sheet 40

STANDARD RENEWABLE GAS INTERCONNECTIONS  
TO THE UTILITY'S PIPELINE SYSTEM (Continued)

K. RENEWABLE GAS QUALITY AND SPECIFICATIONS (Continued)

5. Testing (Continued)

e. Pre-Injection Testing Procedure (Continued)

ii. Integrity Protective Constituents (Continued)

a) Reduced Siloxanes Testing (Continued)

- (ii) If the pre-injection testing siloxanes level exceeds the Trigger Level, then quarterly testing for siloxanes is required for one year, and if none of those samples are above the Lower Action Level, then no periodic testing for siloxanes is required.
- (iii) If the siloxanes are above the Lower Action Level, then the Renewable Gas certification for reduced testing is no longer applicable and the Interconnector will be required to comply with the periodic testing requirements for siloxanes.
- (iv) Utility, at its discretion and at its own cost, may still test pursuant to Utility's applicable tariff rules. If the Utility test results show the siloxanes levels exceed the Lower Action Level, this Rule's full siloxanes testing requirements will apply.

b) Biologicals

- (i) Renewable Gas must be commercially free of bacteria which cause corrosion, also referred to as biologicals.
- (ii) To ensure Renewable Gas is commercially free of biologicals, the Interconnector will test for total bacteria including but not limited to Acid-producing Bacteria (APB), Sulfate-reducing Bacteria (SRB), and Iron-oxidizing Bacteria (IOB) by quantitative Polymerase Chain Reaction (qPCR) method during pre-injection testing. If the total bacteria results are at or below  $4 \times 10^4$ /scf, then Renewable Gas may be injected into the Utility's system subject to all other requirements set forth in this Rule.

f. Periodic Testing

i. Group 1 Compounds

- a) Group 1 Compounds will be tested once every 12-month period in which injection occurs.

RULE NO. 22

Sheet 41

STANDARD RENEWABLE GAS INTERCONNECTIONS  
TO THE UTILITY'S PIPELINE SYSTEM (Continued)

K. RENEWABLE GAS QUALITY AND SPECIFICATIONS (Continued)

5. Testing (Continued)

f. Periodic Testing (Continued)

i. Group 1 Compounds (Continued)

- b) Any Group 1 Compounds with a concentration below the Trigger Level for two consecutive annual tests will be tested once every two-year period in which injection occurs.
- c) A Group 1 Compound will become a Group 2 Compound if testing indicates a concentration at or above the Trigger Level and will be tested quarterly.

ii. Group 2 Compounds

- a) Testing for Group 2 Compounds will be quarterly (at least once every three-month period in which injection occurs).
- b) Any Group 2 Compound with a concentration below the Trigger Level in four consecutive quarterly tests will become a Group 1 Compound and will be tested once every 12-month period in which injection occurs.
- c) If any constituent is above the Upper Action Level, the Renewable Gas shall be shut-in until the concentration level is below the Lower Action Level, after which it will be subject to the Section K.5.g. Restart Procedure.

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

a) Cancer Risk

The collective potential cancer risk for Group 2 Compounds is determined by summing the individual potential cancer risk for each carcinogenic Constituent of Concern. Specifically, the cancer risk is calculated using the ratio of the concentration of the Constituent in the Renewable Gas 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 Compounds. (for reference, see CARB/OEHHA Report submitted in R.13-02-008, p. 67)

**ADVICE LETTER NO. 1171-G  
ATTACHMENT B**

**REDLINED TARIFF SHEETS**

RULE NO. 22

Sheet 35

**STANDARD RENEWABLE GAS INTERCONNECTIONS  
TO THE UTILITY'S PIPELINE SYSTEM (Continued)**

**K. RENEWABLE GAS QUALITY AND SPECIFICATIONS (Continued)**

Table 1 (Continued) Maximum Constituent Concentrations						
Renewable Gas Injection Constituents				Testing for Gas Source		
	Trigger Level	Lower Action Level	Upper Action Level	Non-Hazardous Landfill	Dairies	Other <sup>4</sup>
<b>Integrity Protective Constituents<sup>3</sup></b>						
Ammonia	0.001%	TBD <sup>5</sup>	TBD <sup>5</sup>	■	■	■
Biologicals	4 x 10 <sup>4</sup> /scf (qPCR per APB, SRB, IOB <sup>7</sup> group) and commercially free of bacteria of >0.2 micron	TBD <sup>5</sup>	TBD <sup>5</sup>	■	■	■
Hydrogen	0.10%	TBD <sup>5</sup>	TBD <sup>5</sup>	■	■	■
Mercury	0.08 mg/m <sup>3</sup>	TBD <sup>5</sup>	TBD <sup>5</sup>	■	■	■
<del>Siloxanes<sup>8</sup></del> <u>Siloxanes<sup>7</sup></u>	0.01 mg Si/m <sup>3</sup>	0.1 mg Si/m <sup>3</sup>	TBD <sup>5</sup>	■	■	■
<b>Notes:</b> 1. Base Utility Gas Specifications are identified in K1. 2. Health Protective Constituents (HPC) are shown in Table V-3 of the CARB/OEHHA Report. 3. Integrity Protective Constituents are shown in Section 4.4.3.3 of D.14-01-034 and identified as pipeline integrity protective constituents. 4. Other organic sources, includes all Biogas sources other than landfill and dairy manure, including but not limited to, a sewage treatment plant or wastewater plant ("Publicly Owned Treatment Works" or "POTW"). 5. The Lower and Upper Action Levels will be established in the next update proceeding. 6. Testing requirement will be the stricter of the stated Renewable Gas values or other tariff requirements. 7. <del>Acid-producing Bacteria (APB), Sulfate-reducing Bacteria (SRB), and Iron-oxidizing Bacteria (IOB).</del> 8.7. The Interconnector that meets this Rule's Section K.4.b certification requirements shall have reduced siloxanes testing requirements. Utility, at its discretion and at its own cost, may still test pursuant to Utility's applicable tariff rules. If the Utility test results show the siloxanes levels exceed the Lower Action Level, the full siloxanes testing requirements will apply as described in this Rule.						

RULE NO. 22

Sheet 40

STANDARD RENEWABLE GAS INTERCONNECTIONS  
TO THE UTILITY'S PIPELINE SYSTEM (Continued)

K. RENEWABLE GAS QUALITY AND SPECIFICATIONS (Continued)

5. Testing (Continued)

e. Pre-Injection Testing Procedure (Continued)

ii. Integrity Protective Constituents (Continued)

a) Reduced Siloxanes Testing (Continued)

- (ii) If the pre-injection testing siloxanes level exceeds the Trigger Level, then quarterly testing for siloxanes is required for one year, and if none of those samples are above the Lower Action Level, then no periodic testing for siloxanes is required.
- (iii) If the siloxanes are above the Lower Action Level, then the Renewable Gas certification for reduced testing is no longer applicable and the Interconnector will be required to comply with the periodic testing requirements for siloxanes.
- (iv) Utility, at its discretion and at its own cost, may still test pursuant to Utility's applicable tariff rules. If the Utility test results show the siloxanes levels exceed the Lower Action Level, this Rule's full siloxanes testing requirements will apply.

b) Biologicals

(i) Renewable Gas must be commercially free of bacteria which cause corrosion, also referred to as biologicals.

(ii) To ensure Renewable Gas is commercially free of biologicals, the Interconnector will test for total bacteria including but not limited to Acid-producing Bacteria (APB), Sulfate-reducing Bacteria (SRB), and Iron-oxidizing Bacteria (IOB) by quantitative Polymerase Chain Reaction (qPCR) method during pre-injection testing. If the total bacteria results are at or below  $4 \times 10^4$ /scf, then Renewable Gas may be injected into the Utility's system subject to all other requirements set forth in this Rule.

f. Periodic Testing

i. Group 1 Compounds

- a) Group 1 Compounds will be tested once every 12-month period in which injection occurs.

SOUTHWEST GAS CORPORATION

P.O. Box 98510

Las Vegas, Nevada 89193-8510

California Gas Tariff

Canceling \_\_\_\_\_

Cal. P.U.C. Sheet No. \_\_\_\_\_

Cal. P.U.C. Sheet No. \_\_\_\_\_

- b) Any Group 1 Compounds with a concentration below the Trigger Level for two consecutive annual tests will be tested once every two-year period in which injection occurs.
- c) A Group 1 Compound will become a Group 2 Compound if testing indicates a concentration at or above the Trigger Level and will be tested quarterly.

Advice Letter No. \_\_\_\_\_  
Decision No. \_\_\_\_\_

Issued by  
Justin Lee Brown  
**Senior** Vice President

Date Filed \_\_\_\_\_  
Effective \_\_\_\_\_  
Resolution No. \_\_\_\_\_

RULE NO. 22

Sheet 41

STANDARD RENEWABLE GAS INTERCONNECTIONS  
TO THE UTILITY'S PIPELINE SYSTEM (Continued)

K. RENEWABLE GAS QUALITY AND SPECIFICATIONS (Continued)

5. Testing (Continued)

f. Periodic Testing (Continued)

i. Group 1 Compounds (Continued)

b) Any Group 1 Compounds with a concentration below the Trigger Level for two consecutive annual tests will be tested once every two-year period in which injection occurs.

c) A Group 1 Compound will become a Group 2 Compound if testing indicates a concentration at or above the Trigger Level and will be tested quarterly.

ii. Group 2 Compounds

a) Testing for Group 2 Compounds will be quarterly (at least once every three-month period in which injection occurs).

b) Any Group 2 Compound with a concentration below the Trigger Level in four consecutive quarterly tests will become a Group 1 Compound and will be tested once every 12-month period in which injection occurs.

c) If any constituent is above the Upper Action Level, the Renewable Gas shall be shut-in until the concentration level is below the Lower Action Level, after which it will be subject to the Section K.5.g. Restart Procedure.

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

a) Cancer Risk

The collective potential cancer risk for Group 2 Compounds is determined by summing the individual potential cancer risk for each carcinogenic Constituent of Concern. Specifically, the cancer risk is calculated using the ratio of the concentration of the Constituent in the Renewable Gas 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 Compounds. (for reference, see CARB/OEHHA Report submitted in R.13-02-008, p. 67)



# ADVICE LETTER SUMMARY

## ENERGY UTILITY



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

Company name/CPUC Utility No.:

Utility type:

ELC       GAS       WATER  
 PLC       HEAT

Contact Person:

Phone #:  
E-mail:  
E-mail Disposition Notice to:

EXPLANATION OF UTILITY TYPE

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

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #:

Tier Designation:

Subject of AL:

Keywords (choose from CPUC listing):

AL Type:  Monthly     Quarterly     Annual     One-Time     Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #:

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL:

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:

No. of tariff sheets:

Estimated system annual revenue effect (%):

Estimated system average rate effect (%):

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<sup>1</sup>:

Pending advice letters that revise the same tariff sheets:

<sup>1</sup>Discuss 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](mailto:EDTariffUnit@cpuc.ca.gov)

Name:  
Title:  
Utility Name:  
Address:  
City: State:  
Telephone (xxx) xxx-xxxx:  
Facsimile (xxx) xxx-xxxx:  
Email:

Name:  
Title:  
Utility Name:  
Address:  
City: State:  
Telephone (xxx) xxx-xxxx:  
Facsimile (xxx) xxx-xxxx:  
Email:

## ENERGY Advice Letter Keywords

Affiliate	Direct Access	Preliminary Statement
Agreements	Disconnect Service	Procurement
Agriculture	ECAC / Energy Cost Adjustment	Qualifying Facility
Avoided Cost	EOR / Enhanced Oil Recovery	Rebates
Balancing Account	Energy Charge	Refunds
Baseline	Energy Efficiency	Reliability
Bilingual	Establish Service	Re-MAT/Bio-MAT
Billings	Expand Service Area	Revenue Allocation
Bioenergy	Forms	Rule 21
Brokerage Fees	Franchise Fee / User Tax	Rules
CARE	G.O. 131-D	Section 851
CPUC Reimbursement Fee	GRC / General Rate Case	Self Generation
Capacity	Hazardous Waste	Service Area Map
Cogeneration	Increase Rates	Service Outage
Compliance	Interruptible Service	Solar
Conditions of Service	Interutility Transportation	Standby Service
Connection	LIEE / Low-Income Energy Efficiency	Storage
Conservation	LIRA / Low-Income Ratepayer Assistance	Street Lights
Consolidate Tariffs	Late Payment Charge	Surcharges
Contracts	Line Extensions	Tariffs
Core	Memorandum Account	Taxes
Credit	Metered Energy Efficiency	Text Changes
Curtable Service	Metering	Transformer
Customer Charge	Mobile Home Parks	Transition Cost
Customer Owned Generation	Name Change	Transmission Lines
Decrease Rates	Non-Core	Transportation Electrification
Demand Charge	Non-firm Service Contracts	Transportation Rates
Demand Side Fund	Nuclear	Undergrounding
Demand Side Management	Oil Pipelines	Voltage Discount
Demand Side Response	PBR / Performance Based Ratemaking	Wind Power
Deposits	Portfolio	Withdrawal of Service
Depreciation	Power Lines	