BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

FILED
11/01/19
04:59 PM

Order Instituting Rulemaking to Adopt Biomethane Standards and Requirements, Pipeline Open Access Rules, and Related Enforcement Provisions.	R.13-02-008 (Filed February 13, 2013)

JOINT UTILITIES RENEWABLE GAS INTERCONNECTION RULE OF PACIFIC GAS AND ELECTRIC COMPANY (U 39 G), SOUTHWEST GAS CORPORATION (U 905 G), SOUTHERN CALIFORNIA GAS COMPANY (U 904 G), AND SAN DIEGO GAS & ELECTRIC COMPANY (U 902 G)

JONATHAN D. PENDLETON

Attorney for:
PACIFIC GAS AND ELECTRIC COMPANY
77 Beale Street, B30A
San Francisco, California 94105
Telephone: (415) 973-2916
Facsimile: (415) 973-5520
E-Mail: Jonathan.Pendleton@pge.com

DANA R. WALSH

Attorney for:
SOUTHWEST GAS CORPORATION
5241 Spring Mountain Road
Las Vegas, Nevada 89150-0002
Telephone: (702) 876-7396
Facsimile: (702) 252-7283
E-Mail: dana.walsh@swgas.com

JOHNNY Q. TRAN

Attorney for:
SOUTHERN CALIFORNIA GAS COMPANY
SAN DIEGO GAS & ELECTRIC COMPANY
555 West Fifth Street, Suite 1400, GT14E7
Los Angeles, California 90013
Telephone: (213) 244-2981
Facsimile: (213) 629-9620
E-Mail: JQTran@SoCalGas.com

November 1, 2019

TABLE OF CONTENTS

Page

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Adopt Biomethane Standards and Requirements, Pipeline Open Access Rules, and Related Enforcement Provisions.	R.13-02-008 (Filed February 13, 2013)

JOINT UTILITIES RENEWABLE GAS INTERCONNECTION RULE OF PACIFIC GAS AND ELECTRIC COMPANY (U 39 G), SOUTHWEST GAS CORPORATION (U 905 G), SOUTHERN CALIFORNIA GAS COMPANY (U 904 G), AND SAN DIEGO GAS & ELECTRIC COMPANY (U 902 G)

Pursuant to the Assigned Commissioner's Ruling on Joint Motion Regarding Further Procedural Schedule for a Standard Renewable Gas Interconnection Tariff and Agreement dated August 22, 2019 (ACR), Pacific Gas and Electric Company (PG&E), Southwest Gas Corporation (Southwest Gas), Southern California Gas Company (SoCalGas), and San Diego Gas & Electric Company (SDG&E) (collectively, the Joint Utilities)[1] respectfully submit a proposed Renewable Gas Interconnection Rule, which includes a definition of renewable gas (RG), setting forth the interconnection process and injection standards for RG, attached hereto as Attachment A.

I. INTRODUCTION

The Joint Utilities strongly support the California Public Utilities Commission's (CPUC or Commission) efforts to encourage and facilitate the interconnection of RG supplies in California. This effort can help to increase the receipt of RG into utility pipelines for

[1] Pursuant to Rule 1.8(d), SoCalGas/SDG&E has been authorized to file this document on behalf of the Joint Utilities.

transportation and stationary end-uses and is an important step in reducing carbon in the gas system to contribute to achieving California's short-lived climate pollutant and greenhouse gas (GHG) reduction goals.[2]

With that common goal in mind and pursuant to Assigned Commissioners' Amended Scoping Memo and Ruling issued July 5, 2018 (Scoping Memo), the Joint Utilities previously filed a draft utility biomethane interconnection tariff and identified utility biomethane interconnection agreement approaches for discussion at a workshop[3] held on May 23-24, 2019. On June 28, 2019, the Joint Utilities filed their Motion to Request Further Procedural Schedule for Biomethane Interconnection Tariff and Agreement. On August 22, 2019, the Assigned Commissioner issued the ACR. Pursuant to the ACR, the Joint Utilities file their proposed RG Interconnection Rule.

II. OVERVIEW OF PROPOSED JOINT UTILITIES RENEWABLE GAS INTERCONNECTION RULE

To aid the Commission and stakeholders in the interconnection workshop discussions scheduled for November 13, 2019, the following is a summary of the proposed RG Interconnection Rule and how each utility's existing interconnection agreements will be used in the interim should the Commission adopt the RG Interconnection Rule before the proposed Joint Utilities' interconnection agreement(s) is/are adopted.[4]

---

[2] Assembly Bill (AB) 32 (Nunez, Pavley), Senate Bill (SB) 32 (Pavley), AB 1900 (Gatto), AB 2196 (Chesbro), SB 1122 (Rubio), SB 840 (Budget), AB 2313 (Williams), SB 605 (Lara), SB 1383 (Lara), Air Resources Board (*ARB)'s Short-Lived Climate Pollutant Reduction Strategy* and *California's 2017 Climate Change Scoping Plan* available at https://arb.ca.gov/cc/scopingplan/scopingplan.htm.

[3] See Discussion Draft of Joint Utility Biomethane Interconnection Tariff of PG&E, Southwest Gas, SoCalGas, SDG&E and Biomethane Interconnection Agreements for Workshop Discussions (10/3/18).

[4] On November 1, 2019, the Assigned Commissioner granted the Joint Utilities' motion to extend the deadline for filing the Joint Utilities proposed Interconnection Agreement from February 1, 2020 to May 1, 2020. See Assigned Commissioner's Ruling Extending Deadline for Submitting Joint Utility Interconnection Agreement (issued November 1, 2019).

A. Renewable Gas Interconnection Rule Summary

The attached proposed RG Interconnection Rule, among other things, provides:

(i) standardized RG interconnection processes;

(ii) an RG definition that would allow for the Joint Utilities' receipt of RG produced from various processes and technologies, specifying the applicable gas quality standards,[5] and setting out the process for RG interconnectors to interconnect to the utility's system;

(iii) a government entity section to account for unique property ownership, creditworthiness and approval processes when a local government entity is the interconnector; and

(iv) an extension of applicability of interconnection incentives to third party pipeline interconnections.

B. Interim Interconnection and Operational Agreements

It is unclear when the Commission intends to adopt the proposed RG Interconnection Rule (i.e., before or concurrently with the Joint Utilities' Renewable Gas Interconnection Agreement(s)). Should the Commission decide to adopt the RG Interconnection Rule prior to adopting the Joint Utilities' Renewable Gas Interconnection Agreement(s), the Joint Utilities propose that each utility would in the interim use its existing interconnection, operating, and balancing agreements with RG interconnectors as described below.[6] The existing

[5] In an effort to be inclusive of all viable renewable gas sources that may be injected into utility pipelines, the Joint Utilities opted to define "Renewable Gas" instead of "Renewable Methane." Renewable Methane could limit some forms of renewable gas, such as renewable hydrogen, that might be safely injected into the pipeline in the future.

[6] The Joint Utilities currently have different Operation and Maintenance (O&M) cost recovery mechanisms established through different regulatory proceedings. Changes to a standardized recovery

interconnection and operating agreements may require modifications to accommodate RG interconnectors, and such modifications may require the utility to file deviation requests with the Commission.

PG&E

PG&E will perform interconnection-related work subject to (i) the standard "Agreement to Perform Tariff Schedule Related Work" (Form 62-4527[7]), which contains a brief description of the work to be performed by PG&E, an engineering advance funding amount, and payment terms; (ii) the California Biomethane Interconnection and Operating Agreement (CBIOA) or the California Municipal Interconnection and Operating Agreement (CMBIOA)[8] that allow for the delivery of RG onto the PG&E system; and (iii) the California Production Balancing Agreement (Form 79-944) and other necessary agreements prior to final interconnection and gas flow.

SoCalGas & SDG&E

SoCalGas and SDG&E propose the following default applicable agreements: SoCalGas' California Producer Interconnection Agreement, Form No. 6454[9], California Producer Interconnection Collectible System Upgrade Agreement[10] (CPICSUA) Form No. 6456, California Producer Operating and Balancing Agreement (CPOBA), Form No.6452[11] and, if

would require changes to existing authorized recovery mechanisms. PG&E collects O&M through backbone transmission rates from all shippers; SoCalGas/SDG&E collect O&M from each interconnector through Schedule G-CPS; Southwest Gas does not currently have a recovery mechanism in place, and intends to collect its incremental O&M from each interconnector through contracted rates approved by the Commission.

[7] https://www.pge.com/tariffs/assets/pdf/tariffbook/GAS_FORMS_62-4527.pdf

[8] For the CBIOA, and CMBIOA, please refer to PG&E's Advice 3950-G-A, and Advice 4144-G, respectively.

[9] https://www.socalgas.com/regulatory/tariffs/tm2/pdf/CPIA.pdf

[10] https://www.socalgas.com/regulatory/tariffs/tm2/pdf/CPICSUA.pdf

[11] https://www.socalgas.com/regulatory/tariffs/tm2/pdf/CPOBA.pdf

applicable, Form No. 6458 California Producer Agreement for Transfer of Ownership[12] (CPATO). RG interconnectors have been requesting to use these forms and cite many of the same attributes (small, varying production, etc.) cited by California producers and the Commission in Decision (D.) 07-08-029[13], which established those forms. For SDG&E, SoCalGas' California Producer forms would be modified to reflect SDG&E's utility role and any unique SDG&E system attributes, since the California Producer forms were not established for SDG&E due to the lack of any existing California production in SDG&E's territory at that time.

SoCalGas and SDG&E have been seeking CPUC approval to use California Producer forms instead of the base Interconnection Agreement, Form 6450 and Form 143-005[14], Interconnect Collectible System Upgrade Agreement, Form 6430 and Form 143-006[15] and Operational Balancing Agreement, Form 6435 and Form 143-007[16] (collectively, the Base forms) created for interstate pipelines and liquified natural gas (LNG) suppliers. SoCalGas and SDG&E would seek CPUC approval in those rarer instances when the Base forms are more suitable for both the RG interconnector and the utility.

SoCalGas and SDG&E would continue to use the consulting service and/or the collectible system upgrade forms, Consulting Services Agreement, Form 6440[17] and Form 143-

[12] https://www.socalgas.com/regulatory/tariffs/tm2/pdf/CPATO.pdf
[13] http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/71690.PDF
[14] https://www.socalgas.com/regulatory/tariffs/tm2/pdf/IA.pdf; http://regarchive.sdge.com/tm2/pdf/GAS_GAS-SF_143-005.pdf
[15] https://www.socalgas.com/regulatory/tariffs/tm2/pdf/ICSUA.pdf; http://regarchive.sdge.com/tm2/pdf/GAS_GAS-SF_143-006.pdf
[16] https://www.socalgas.com/regulatory/tariffs/tm2/pdf/OBA.pdf; http://regarchive.sdge.com/tm2/pdf/GAS_GAS-SF_143-007.pdf
[17] https://www.socalgas.com/regulatory/tariffs/tm2/pdf/CSA.pdf

002[18], Access to the SoCalGas Pipeline System Collectible System Upgrade Agreement, Form 6420[19] and the Collectible System Upgrade Agreement, Form 143-003[20], respectively.

Southwest Gas

Southwest Gas would use a Letter Agreement for renewable natural gas (RNG) detailed engineering studies; Construction and Interconnection Agreement; Interconnection Operating Agreement; and a Gas Purchasing Agreement.

III. DISCUSSION OF JOINT UTILITY RENEWABLE GAS INTERCONNECTION RULE

The Joint Utilities have been working diligently to develop the proposed Joint Utilities' RG Interconnection Rule. Multiple team members from each utility met regularly, often several times per week via conference calls, to discuss, draft, and resolve differences in utility tariff provisions and approaches. The Joint Utilities have also had regular communication with Energy Division staff to provide updates and discuss various issues related to the RG Interconnection Rule. The proposed Joint Utilities' RG Interconnection Rule follows the project development process and functions as a central resource for RG suppliers seeking to access the gas marketplace via a utility or third-party interconnector that is already or will be interconnected into a California utility pipeline system. This Rule is designed to: (a) facilitate the initiation of RG supply projects by providing a roadmap for RG interconnectors; (b) identify the required RG quality specifications; and (c) provide the steps necessary for each project to advance from engineering through construction and release to operations as outlined below.

[18] http://regarchive.sdge.com/tm2/pdf/GAS_GAS-SF_143-002.pdf; https://www.socalgas.com/regulatory/tariffs/tm2/pdf/Access-CSUA.pdf
[20] http://regarchive.sdge.com/tm2/pdf/GAS_GAS-SF_143-003.pdf

A. Renewable Gas Interconnection Process

Interconnector Intake

In this phase, a potential interconnector makes initial contact with the utility regarding its interest in interconnecting an RG supply to the utility pipeline. The utility sends the interconnector a request for general project information, including, among other things, contact information, RG source, delivery volumes at full project build-out, gas delivery pattern, and the project location. When this information is received from the interconnector, the utility will perform a screening study.

Screening Study

The utility will assess the ability of the pipeline system to receive delivery of the interconnector's RG on a 24x7x365 basis. If the potential interconnector elects to move forward with the project, a contract must be executed, and funding must be advanced before the utility will begin to design the receipt point facilities as described below.

Preliminary and Detailed Engineering Designs

The utility and interconnector project teams will engage to discuss the project, and the utility will develop a preliminary design and an initial cost estimate. If the interconnector wishes to continue project development, the project teams will move forward to design the necessary receipt point facilities.

The utility will complete the final facility design, produce a final cost estimate, and deliver all documents necessary for the construction of the facilities.

Construction and Interconnection to the Pipeline

The utility or interconnector, using utility-approved contractors, materials and vendors, will construct the necessary facilities and the utility will interconnect the facilities to its pipeline system.

B. Renewable Gas Quality Specification Updates

a. Pipeline Blending Exception Process

A pipeline blending exception process is included providing that the utility will review and determine whether each blending request can be accepted. Blending exception requests will be accepted if the conditioned or upgraded renewable raw product gas is interchangeable with historical or contractual gas supplies after blending and will not cause increased risk or safety concerns to the Utility's employees, downstream customers or pipeline. The Interconnector requesting the Pipeline Blending Exception Study (Blending Study) will be responsible for the cost for the Utility to conduct the Blending Study. The Utility shall have the continuing right at any time to re-evaluate, revise, and rescind the granted blending exception as a result of ongoing operations, changes to the Utility's management of its system operations, or in accordance with the Utility's tariffs.

b. Testing for Siloxanes

Interconnectors that meet the certification requirements shall continue to have reduced siloxanes testing requirements, and the utilities, at their own discretion and at their own cost, may still test for siloxanes, as is currently stated in the Joint Utilities' tariffs. The siloxanes testing and certification for reduced testing requirements were standardized in the proposed RG

Interconnection Rule such that if the utilities' test results show the siloxanes levels exceed the Lower Action Level, the full siloxanes testing requirements will apply to the interconnector.

c. Constituents of Concern Updates

For other RG sources, such as, gasification of organic waste, the Joint Utilities' recommend adding carbon monoxide as an Integrity Protective Constituents (IPC). The Joint Utilities recommend that the IPC Trigger Level be established at 0.03 mole %, to protect storage fields and compressed natural gas (CNG) uses.

The Joint Utilities also recommend that the California Air Resources Board (CARB) and Office of Environmental Health Hazard Assessment (OEHHA) consider adding carbon monoxide as a Non-Carcinogenic Health Protective Constituents (NC-HPC) and to consider the appropriate Trigger, Lower and Upper Action Levels. The Joint Utilities recommend that the Lower and Upper Action Levels for the IPC be based on the NC-HPC levels.

d. Retention of Each Utility's Historical Gas Quality Specifications

The Joint Utilities appreciate the benefits of having a unified gas quality specification to simplify gas suppliers' contractual obligations throughout the State. However, it is important to also acknowledge that certain historical key differences pose a challenge to a unified gas tariff and standardizing those differences will have an effect on some stakeholders, such as natural gas customers and California Producers.

For example, baseline gas quality specifications are set to protect the integrity of the pipeline. The combination of wet gas with oxygen and carbon dioxide is known to cause severe corrosion to the pipeline. PG&E gas quality specifications for oxygen and carbon dioxide are more restrictive than SoCalGas and SDG&E because of the higher moisture content in existing California production in Northern California. By allowing more oxygen and carbon dioxide into

the system, PG&E would increase the risk of corrosion. In addition, since PG&E only takes periodic measurements, there is a higher risk of high moisture gas entering the system with these supplies. The Joint Utilities also recognize that a more restrictive tariff may have long-term pipeline integrity benefits. However, D.06-09-039 denied tightening SoCalGas' and SDG&E's carbon dioxide and oxygen limits due, in part, to the restrictive effect it can have on California's production of natural gas, estimated to impact about 60% of the instate production.[21] Based on the foregoing, the Joint Utilities consider it prudent to retain current baseline gas quality specifications for each utility at this time and focus instead on RG specifications, which can further benefit in-state production.

C. Financial Incentives for Renewable Gas Technology

The Joint Utilities support extension of the biomethane interconnection incentives approved in D.15-06-029 and as amended in D.16-12-043 to include instances when an interconnector injects biomethane into a third-party California pipeline that ultimately delivers that gas to the utility pipeline system. These third-party California pipelines frequently track through areas of California not served by existing utility pipelines and may offer a pathway for uneconomical and remote biomethane projects to successfully interconnect with a pipeline system. Making incentives available to such interconnections supports the spirit of AB 1900 and the goals expressed by the Commission in this rulemaking.[22] Substantial changes to the approved incentive program would not be required, as the utility would make incentive payments

[21] D.06-09-036, at 128.

[22] AB 1900 was enacted into law in Chapter 602 of the Statutes of 2012, made certain changes to the Health and Safety Code, added Public Resources Code Section 25326, and added Public Utilities Code (PUC) Sections 399.24 and 784. PUC Section 399.24 provides that the Commission "shall adopt policies and programs that promote the in-state production and distribution of biomethane," and that "such policies and programs shall facilitate the development of a variety of sources of in-state biomethane."

directly to the interconnector upon presentation of proof of payment and fulfilment of tariff requirements, similar to the traditional scenario of a direct interconnection.

IV. CONCLUSION

The Joint Utilities appreciate the opportunity to provide the attached proposed RG Interconnection Rule and look forward to discussing these materials in detail at the Energy Division's interconnection workshop scheduled for November 13, 2019, and to continued collaboration with stakeholders to advance California RG interconnections.

Respectfully submitted,

By: *__/s/ Johnny Q. Tran__*
Johnny Q. Tran

JOHNNY Q. TRAN

Attorney for:
SOUTHERN CALIFORNIA GAS COMPANY
SAN DIEGO GAS & ELECTRIC COMPANY
555 West Fifth Street, Suite 1400, GT14E7
Los Angeles, California 90013
Telephone: (213) 244-2981
Facsimile: (213) 629-9620
E-Mail: JQTran@SoCalGas.com

November 1, 2019

ATTACHMENT A

Renewable Gas Interconnections to the Utility's Pipeline System

A. Contents

B. Definitions

The definitions set forth in this Section B of this Rule shall only apply to this Rule and may not apply to Utility's other tariffs. Certain words beginning with capital letters that are not defined in this Rule may be defined in [SoCalGas' Rule 1 and Rule 30, SDG&E's Rule 1 and Rule 30, PG&E's Gas Rule 1 and Gas Rule 21, SWG's Rule 1 and Rule 21].

1. Alternative Dispute Resolution (ADR)

   Processes administered by the Administrative Law Judge (ALJ) Division of the Commission to help disputants resolve a conflict without a formal decision by a court or agency.

2. Biogas

   Gas produced from the anaerobic decomposition of organic material.

3. Biomethane

   Biogas that has been conditioned or upgraded to comply with this Rule's gas quality specifications. Biomethane does not include Biogas collected from a hazardous waste facility, as defined in Health & Safety Code § 25117.

4. Blending

   Utility pipeline mixing with other pipeline gas to dilute conditioned or upgraded Raw Product Gas or Biogas that does not meet all gas specifications at the Interconnection Point to achieve pipeline gas quality specifications as required under the Pipeline Blending Exception Study.

5. 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.

6. Btu [Area or District]

   A physically identifiable area of the gas transmission and/or distribution system in which the Btu of the Gas is measured and is representative of the entire area.

7. California Producer or Production

   An entity which interconnects with the Utility's pipeline system to deliver Gas produced in California.

8. CARB

   California Air Resources Board of the California Environmental Protection Agency.

9. CARB/OEHHA Report

The report entitled Recommendations to the California Public Utilities Commission Regarding Health Protective Standards for the Injection of Renewable Natural into the Common Carrier Pipeline, prepared by Staff of the California Air Resources Board and the Office of Health Hazard Assessment. The CARB/OEHHA Report was submitted in Rulemaking (R.)13-02-008 and adopted in Decision (D.) 14-01-034.

10. Commission (CPUC)

    The Public Utilities Commission of the State of California, sometimes referred to as the Public Utilities Commission (PUC), CPUC, or Commission.

11. Conditioning or Upgrading

    The removal of non-compliant components from Biogas or Raw Product Gas to meet Utility pipeline quality gas specifications. Blending is not considered to be a form of Conditioning or Upgrading.

12. Conditioning or Upgrading Facilities
    Interconnector's Facilities used for Conditioning and Upgrading.

13. Constituent of Concern (Constituent)

    A chemical or compound that may negatively impact the Merchantability of Renewable Gas.

14. Day(s)

    Refers to calendar day(s) unless otherwise stated.

15. Displacement Receipt Point Capacity

    Utility pipeline system improvements which increase the takeaway capacity from a Receipt Point but do not increase the overall downstream capacity of the Utility's pipeline system. The addition of Displacement Receipt Point Capacity increases the ability of the Utility to receive gas from a particular Receipt Point or zone in competition with other gas supplies delivered into the Utility's pipeline system.

16. End Use Customer (Customer)

    Ultimate consumer of gas using Utility intrastate transportation services on either a bundled, commodity and intrastate transportation basis or an intrastate transportation only basis.

17. Expansion Receipt Point Capacity

    Utility pipeline system improvements which increase the takeaway capacity from a Receipt Point and the overall downstream capacity of the Utility's pipeline system.

18. Gas

    Any mixture of combustible and non-combustible gases used to produce heat by burning that can be accepted into a Utility pipeline without any compromise to operational safety

or integrity. It shall include, but not be limited to, natural gas, renewable gas, biomethane, manufactured gas, or a mixture of any or all of the above. It shall meet the Utility's quality specifications, tariffs, rules, and other applicable regulations.

19. Group 1 Compound

    Any Health Protective Constituent with a concentration below the Trigger Level.

20. Group 2 Compound

    Any Health Protective Constituent with a concentration at or above the Trigger Level.

21. Hazardous Waste Landfill

    For the purposes of this Rule, Hazardous Waste Landfill shall be given the same definition as provided in the California Health and Safety Code, including facilities permitted by the California Department of Toxic Substances Control.

22. Health Protective Constituents

    1. Carcinogenic (cancer risk): Any Constituent determined by the State of California to cause cancer, as listed below in Table 1, Maximum Constituent Concentrations.

    2. Non-carcinogenic (non-cancer risk or chronic risk): Any Constituent determined by the State of California to cause non-cancer health risk, as listed below in Table 1, Maximum Constituent Concentrations.

23. Heating Value

    Total heating value of the gas normally measured on a gross dry higher heating value (HHV) basis (unless otherwise specified), and is defined as the number of British Thermal Units (Btu) 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.

24. Integrity Protective Constituents

    Constituents that may impact the integrity of the Utility's pipeline system as listed in Table 1 Maximum Constituent Concentrations.

25. Interconnect Capacity

    The metering, regulation and odorization daily capacity of the Utility Facilities, which is not necessarily the Takeaway Capacity and is not, nor is it intended to be, any commitment by Utility of Takeaway Capacity.

26. Interconnection Point

    The point where the Utility Facilities and Interconnector's Facilities physically interconnect for delivery of Gas by Interconnector to, and receipt thereof by, Utility.

27. Interconnector's Facilities

    The Gas pipeline facilities constructed and operated by an Interconnector up to the Interconnection Point.

28. Issued for Construction (IFC)

    Drawings and documents which are used for construction work and activities.

29. Local Government Entity Renewable Gas Interconnector (Government Entity)

    A city or county as defined by Article XI of the California Constitution.

30. Lower Action Level

    The concentration or measured value of a Constituent, used to screen Renewable Gas during the initial gas quality review and ongoing periodic testing, requiring a shut-off of Renewable Gas supply if exceeded three times in a 12-month period.

31. Merchantability

    The ability to purchase, sell, or market Gas. The Gas shall not contain dust, sand, dirt, gums, oils, microbes, bacteria, pathogens and/or other substances at levels that would be injurious to Utility facilities or which would present a health and/or safety hazard to Utility employees, customers, and/or the public or that would cause Gas to be unmarketable.

32. Million Standard cubic feet per day (MMScfd or MMScf/d)

    Volumetric flow rate of Gas measured in millions of standard cubic feet per Day.

33. OEHHA

    Office of Environmental Health Hazard Assessment of the California Environmental Protection Agency.

34. Raw Product Gas or Feedstock Gas

    Gas from biogenic or other renewable sources, such as Biogas, biomass, or power to Gas from renewable electricity, before conditioning or upgrading to comply with this Rule's Gas quality specifications.

35. Receipt Point(s) or Points of Receipt

    The place(s) where Interconnector delivers, or has delivered on its behalf, Gas into the Utility's pipeline system.

36. Renewable Gas

    Gas from biogenic or other renewable sources, such as Biogas, biomass, or power to Gas from renewable electricity that has been conditioned or upgraded to comply with this Rule's Gas quality specifications, including Biomethane.

37. Renewable Gas [Interconnector or Producer or Supplier] (Interconnector)

Party physically interconnecting or interconnected with the Utility and effectuating the delivery of Renewable Gas through new or modified facilities.

38. Takeaway Capacity

    Utility's physical takeaway capability downstream of the outlet of the Utility Facilities at the Interconnection Point. Takeaway Capacity for any particular day may be affected by physical flows from other Receipt Points, physical pipeline and/or storage conditions for that Day, and end-use demand on the Utility's pipeline system, and will be solely determined by the Utility.

39. Thousand Standard cubic feet per day (MScfd or MScf/d)

    Volumetric flow of Gas measured in thousands of standard cubic feet per day.

40. Trigger Level

    The concentration or measured value of a Constituent requiring additional periodic testing and analysis.

41. Upper Action Level

    The concentration or measured value of a Constituent requiring an immediate shut-off of Renewable Gas supply.

42. Utility Facilities

    Facilities owned and operated by Utility, including but not limited to, pipelines, appurtenant facilities, meters, regulators, quality measurement, other equipment and related system upgrades at and from the Interconnection Point, for receipt into Utility's pipeline system in the State of California pursuant to the Utility's interconnection agreement.

43. Wobbe Index

    HHV / ($\sqrt{\text{Relative Density}_{real}}$) as defined in Section 2.20 in the 2009 American Gas Association (AGA) Report No. 5 Natural Gas Energy Measurement.

C. Applicability / Open Access

1. Applicability

   The Utility shall provide nondiscriminatory open access to its system to any party for the purpose of physically interconnecting with the Utility and effectuating the delivery of Renewable Gas, subject to the terms and conditions set forth in this Rule and the Utility's applicable interconnection, operating, and balancing agreements.

2. End Use Customer Priority

The interconnection and physical flows shall not jeopardize the integrity of, or interfere with, the normal operation of the Utility's pipeline system and provision of service to its End Use Customers.

3. Scheduling and Nominations

   The Receipt Point shall be established as a transportation scheduling point, pursuant to the provisions of Utility's transportation of customer owned Gas tariff.

4. Interconnect Capacity and Takeaway Services

   The maximum physical capacity of the interconnection will be determined by the sizing of the Receipt Point components, including the metering and odorization capacities, but is not the capacity of the Utility's pipeline system to transport gas away from the Interconnection Point and is not, nor is it intended to be, any commitment by the Utility of Takeaway Capacity. The Utility separately provides takeaway services, including the option to expand system capacity to increase takeaway services, through its otherwise applicable tariffs.

5. Daily Available Receipt Capacity

   The available receipt capacity for any particular day may be affected by physical flows from other Points of Receipt, physical pipeline and storage conditions for that day, and end-use demand on the Utility's pipeline system.

6. Pressure Regulation and Flow

   Interconnector's Facilities shall be designed, installed, and operated to protect Utility's pipeline system from exposure to pressures in excess of Utility's then current maximum allowable operating pressure and operating pressures at the Interconnection Point.

   Interconnector shall monitor discharge pressure and temperature to limit and shut down, or otherwise control, its compression to ensure that it does not cause any damage to the Utility Facilities.

   Interconnector shall ensure that compression does not adversely affect or impair the accuracy of Utility measurement equipment at the Interconnect Point. Interconnector shall eliminate compressor-induced pulsation or vibration before Gas is delivered at the Interconnection Point. The Utility shall not be required to accept delivery of Interconnector's Gas if compressor-induced pulsation or vibration exists.

7. Compliance with Utility's Tariffs

   Interconnector's Gas supply at the Interconnection Point shall comply with all Utility tariffs, including Gas quality and nomination procedures, except as permitted under the Pipeline Blending Exception Study procedures of this Rule.

8. Authorization Required to Operate

The Interconnector and Utility shall execute interconnection, operating and balancing agreements prior to any performance, including, but not limited to, final interconnection and gas flow.

9. Separate Agreements Required for Other Services

   An Interconnector requiring other Gas services from Utility, including, but not limited to, Utility intrastate transportation service, must enter into agreements with Utility for such services in accordance with Utility's CPUC-approved tariffs.

10. Services Under This Rule Limited to Interconnection

    Interconnection with Utility's pipeline system under this Rule does not provide Interconnector any rights to use Utility's pipeline system for the transportation or selling of Gas, nor does it limit those rights.

11. Confidentiality

    Utility and Interconnector may enter into a confidentiality or non-disclosure agreement using Utility's then-existing standard agreement, as needed to protect the confidential, critical infrastructure, and trade secret information of either party. If the Utility provides any confidential, critical infrastructure, and/or trade secret information to the Interconnector, provision of such information shall require the Interconnector to enter into a confidentiality or non-disclosure agreement using Utility's then-existing standard agreement.

D. Interconnector Request

Interconnector shall complete Utility's interconnect fact sheet and submit a written request for each scope of work: screening, engineering, procurement, and construction as further described herein.

E. Interconnection Screening

1. Applicability

   Any Renewable Gas Interconnector, including an interconnecting pipeline or a supply source, may request one displacement Interconnection Screening for each project, free of charge. Any party may request, on an actual cost basis, an expansion or an additional displacement Interconnection Screening, or a Pipeline Blending Exception Study, which entails study of an interconnection to a specific pipeline.

2. Scope of Services

   Utility will analyze the impact on its gas system of receiving Interconnector- specified new supply at specified locations.

   Utility conducts the following analysis:

a) Preliminary, non-binding initial assessment of the nearest pipeline that has Takeaway Capacity to accommodate Interconnector's maximum injection volume/flow rate.

b) A preliminary pipeline route and length for interconnection to Utility's pipeline system.

c) The then-current maximum allowable operating pressure and, if available, operating pressures of the existing Utility pipeline system receiving Gas from the Receipt Point.

3. Report

The report provided to the Interconnector summarizes the study parameters, assumptions, limitations and results of Utility's analysis.

F. Preliminary and Detailed Engineering Studies

1. Preliminary Engineering Study (PES)

a. Applicability

Upon completion of the Section E Interconnection Screening, if requested by the Interconnector in writing.

b. Interconnector Request

Interconnector submits a written request detailing the interconnection expected minimum, average and maximum hourly production volume(s) and proposed site location(s) in addition to the information provided during the Interconnection Screening.

c. Scope of Services

Utility proposes to analyze the impact on its gas system of receiving Interconnector-specified new supply at specified location.
Utility provides:

i. Confirmation that the intended Utility pipeline system has sufficient physical Takeaway Capacity to safely accommodate Interconnector's specified maximum delivery volume.
ii. Recommendation as to the pipeline route using Utility rights of way for interconnection to the gas system.
iii. Confirmation of the then-current maximum allowable operating pressure and, if available, operating pressures of the Utility's gas system.
iv. Potential obstructions in the pipeline route, if applicable, as determined by physical observation by Utility.
v. Cost estimate calculated by the Utility including, but not limited to, land acquisition, site development, right-of-way, metering, gas quality, permitting, regulatory, environmental, unusual construction costs and, if applicable, operating

and maintenance costs for any facility improvements. Other service costs associated with construction of the Interconnector's Facility that are not part of already offered services could include, but not be limited to, engineering, consulting, contracting, construction costs, environmental studies.

a) Utility will provide a cost estimate accurate to +100%/- 50% or better based on a site visit and route evaluation for the Interconnector's project in the preliminary engineering estimate.

Because of the exclusions and limitations of this initial review, Utility does not guarantee or recommended use of the PES for any purpose, including any substantive planning or other decisions regarding the cost or viability of its project except to determine whether to proceed with a detailed engineering study.

Any use by the Interconnector is solely at its own risk and should factor in the above risks and limitations.

d. Interconnector Pre-payment of Utility Cost Estimates

Interconnector is required to provide funding in advance of a PES being performed for Interconnector's proposed project. Utility personnel will charge their time and any necessary materials to analyze the project on an actual cost basis. Additional funding will be required from Interconnector to continue work if the actual costs exceed the advance.

e. Contracts

The Interconnector and the Utility must execute an agreement prior to initiating any work and Interconnector shall provide payment equal to the estimated cost of the study prior to the Utility proceeding. Payment in full of the estimated cost is required upon execution of an agreement to proceed with the analysis. The Interconnector will be responsible for the actual costs of the services; to this end, a refund will be issued to the Interconnector at the completion of the project for any difference between the actual costs and this advance.

f. PES Report

The report summarizes the study parameters, assumptions, limitations and results of Utility's analyses, identifies any facility improvements, and estimates the cost of construction of those improvements. The Interconnector will be granted an unrestricted license to use, copy, and distribute the report subject to the terms of an executed Utility confidentiality agreement, if applicable; however, the report and all work product shall remain the property of Utility.

2. Detailed Engineering Study (DES)

   a. Applicability

      Upon completion of the PES or in combination with a PES, if requested by the Interconnector in writing.

   b. Interconnector Request

      Interconnector submits a written request detailing the interconnection expected production volume(s) and proposed site location(s).

   c. Scope of Services (Work)

      Utility will design and engineer interconnection facilities or provide specifications, inspection and oversight of the Interconnector design and engineering of the interconnection facilities including a Receipt Point station and lateral pipeline, if applicable. Cost estimates may be generated at 30%, for long-lead material items, 60% level and at Issued for Construction level, of facility design based on the Interconnector's estimated completion date accurate to +50% / -30%.

      i. Confirm pipeline route using Utility rights-of-way for interconnection to the Gas system.
      ii. Confirm obstructions in the pipeline route, if applicable, as determined by physical observation by Utility.
      iii. Cost estimate calculated by the Utility including, but not limited to, land acquisition, site development, right-of-way, metering, gas quality, permitting, regulatory, environmental, unusual construction costs and, if applicable, operating and maintenance costs for any facility improvements. Other service costs associated with construction of the facility that are not part of already offered services could include, but not be limited to, engineering, consulting, contracting, construction costs, environmental studies.

   d. Interconnector Pre-payment of Utility Cost Estimate

      Engineering advances will be collected to fund the DES through commissioning and final drawings. Interconnector is responsible for making all payments in advance of Utility's performance of the interconnection work scope and for the purchase of long lead equipment. All final payments will be determined on the basis of the actual DES project costs incurred by Utility.

   e. Contracts

      The Interconnector and the Utility must execute an agreement prior to an analysis being performed and payment shall have been provided prior to Utility proceeding with the analysis. The Interconnector will be responsible for the actual costs of the services; to this end, a refund or an invoice will be issued to the Interconnector at the completion of the project to true-up actual costs to the estimated costs as provided for in the interconnection agreement between the parties.

f. DES Report

The report summarizes the study parameters, assumptions, limitations and results of Utility's analyses, identifies any facility improvements, and estimates the cost of construction of those improvements. The Interconnector will be granted an unrestricted license to use, copy, and distribute the report subject to the terms of an executed Utility confidentiality agreement; however, the report and all work product shall remain the property of Utility.

G. Construction and Installation Options

1. Construction and Installation

a. Construction and Installation Options
Interconnector may elect for Utility or Interconnector to construct and install new Receipt Point facilities. Interconnector will be subject to construction and installation terms and conditions provided by the Utility and in accordance with the interconnection agreement.

b. Commissioning Gas Quality Verification

Prior to commencing Utility operations, sampling of Interconnector's Renewable Gas shall be performed according to the procedures in Section K.5 Renewable Gas Quality and Specifications Testing, as revised from time to time.

Utility may, at Interconnector's expense, perform gas quality and equipment startup testing to verify compliance with this Rule's gas quality specifications and proper operation of gas quality monitoring equipment and enforcement system.

c. Receipt Point Facilities Ownership

Receipt Point facilities provided by Utility under this Rule or transferred to Utility as part of any Interconnector design-build shall, at all times, be and remain the property of Utility.

2. Alternative Interconnection of a Renewable Gas Production Facility.

The parties may consider alternatives to Receipt Point and Utility Facilities to enable interconnection of a Renewable Gas production facility to the Utility pipeline system such as, but not limited to, the utilization of mobile and temporary resources for the delivery of Renewable Gas to the Utility pipeline system. At the Utility's sole discretion, the parties may negotiate interconnection alternatives.

H. Interconnection Request Withdrawal

1. Interconnector may withdraw its Interconnection Request at any time by written notice of such withdrawal to Utility.

2. Withdrawal shall result in the removal of the Interconnection Request from the interconnection process and Utility shall return any unspent funds less any costs to discontinue the work and return the site(s) to pre-existing conditions received from the Interconnector, if applicable.

3. In the event of such withdrawal, Utility shall provide, at Interconnector's request, any completed engineering study conducted up to the date of withdrawal of the Interconnection Request.

I. Costs

1. Interconnector Cost Responsibility

   The Interconnector shall pay all costs necessary to effectuate and maintain deliveries at and from the Interconnection Point, including but not limited to computer programming changes to the Utility's pipeline system, engineering, equipment and construction (valves, separators, meters, quality measurement, odorant, and other equipment), land rights and permits necessary to regulate and deliver gas to and from the Interconnection Point, and repairs, upgrades, modifications, or replacements of the Utility Facilities

2. Expansion of Receipt Point and/or Takeaway Capacity

   The Utility will expand specific Receipt Point capacity and/or Takeaway Capacity at the request and expense of the Interconnector. The Interconnector and the Utility must execute the applicable Utility agreement prior to any work commencing.

3. Operation and Maintenance

   Utility shall recover its operation and maintenance costs, as determined from time to time by the Utility, associated with the operation and maintenance of the metering equipment and other related facilities at and from the Interconnection Point that are owned and operated by the Utility and that are necessary to accept Renewable Gas from Interconnector and redeliver it to End Use Customers in accordance with good industry practice, Utility's normal procedures and governmental regulations pursuant to the Utility interconnection agreement.

4. Repair, Upgrade, Modification or Replacement of Utility's Facilities

   a. Utility

      Utility shall provide notice, except under emergency conditions, to Interconnector if Utility determines, at Utility's sole discretion, that the Utility's Facilities, require repair, upgrade, modification or replacement.

      Utility's notice shall describe and include Utility's estimate to perform the necessary repairs, upgrades, modifications or replacements, all of which will be at Interconnector's expense as set forth in this Rule's Section I.1, and, if applicable, be prorated for each Interconnector based on each Interconnector's share of the total Interconnect Capacity.

b. Interconnector

Interconnector shall notify Utility within thirty (30) days of receipt of Utility's notice that the Interconnector requests that Utility make the necessary repairs, upgrades, modifications or replacements, which will be at Interconnector's expense.

The Interconnector shall have the right to review and to propose reasonable changes to any Utility proposal or request to repair, upgrade, modify or replace existing equipment so long as the Interconnector's proposed changes meet industry and Utility's standards and applicable codes and neither delay implementation nor jeopardize timely safety and code compliance. Utility is, however, under no obligation, expressed or implied, to accept such proposed changes.

Interconnector shall pay Utility within thirty (30) days of the date of the Interconnector's receipt of Utility's estimate for the necessary repairs, upgrades, modifications or replacements. At Utility's sole discretion, the Parties may agree on a mutually agreeable payment schedule subject to Utility's credit requirements.

If any Interconnector fails to request in writing that Utility make the necessary repairs, upgrades, modifications or replacements and pay Utility's estimated costs, within thirty (30) days of receipt of Utility's notice that Utility make the repairs, upgrades, modifications or replacements at Interconnector's expense, then Utility shall have the right to refuse to accept that Interconnector's Gas, and may proceed to reallocate the Interconnect Capacity and costs to the remaining Interconnectors or abandon, retire, or sell the Receipt Point facilities, at its sole discretion.

Any Utility abandonment shall be at Interconnector's sole expense.

c. Reconciliation of Actual to Estimated Costs

If, at any time and upon completion of the work, the Utility costs exceed or are expected to exceed Utility estimated costs or Interconnector's payments, Utility will invoice the Interconnector for the difference between the estimate and the Utility costs. Interconnector shall pay the invoice for the remaining amount to Utility within thirty (30) days of receipt. At Utility's sole discretion, the Parties can agree on a mutually agreeable payment schedule subject to Utility credit requirements. Upon completion of the work, if the Utility costs are less than Utility's estimate, Utility will refund the difference between the paid estimate and the Utility costs within thirty (30) days of the invoice.

5. Incentive Programs

a. Background

Pursuant to D.15-06-029, as modified by D.16-12-043, the Utility shall provide a monetary incentive to eligible Biomethane Interconnections built before December 31, 2021. The monetary incentive program shall be in effect until the end of

December 31, 2021, or until the program has exhausted its $40 million funding, including the California Council on Science and Technology study costs. If there are funds remaining at the time of program termination, Biomethane Interconnectors that have started to deliver qualifying Biomethane into the Utility's pipeline system as of the termination date of this program are eligible for an incentive payment if they otherwise meet the program criteria.

b. Monetary Incentive

The monetary incentive is for up to 50% of the eligible interconnection costs incurred by a Biomethane Interconnector, up to $3 million per interconnection for a non-dairy cluster Biomethane Interconnector and up to $5 million per interconnection for a dairy cluster Biomethane Interconnector. A dairy cluster Biomethane interconnection project, as defined by Public Utilities Code Section 399.19(b), is a Biomethane project of three or more dairies in close proximity to one another employing multiple facilities for the capture of Biogas that is transported to a centralized processing facility and ultimately injected into the Utility pipeline through a single interconnection.

c. Eligible Interconnection Costs

The monetary incentive is limited to eligible interconnection costs, which include:

i. Engineering costs (Interconnect Screening, Preliminary Engineering Study, and Detailed Engineering Study costs).

ii. Costs associated with facilities downstream of the Biomethane Interconnector's processing plants use for delivering Biomethane into the Utility or third-party pipeline system.

iii. Total installed costs of receipt point facilities. These facilities include, but are not limited to: meters, regulators, appurtenant facilities, quality measurement, odorization facilities, and auxiliary facilities.

iv. Facility enhancement costs. These enhancements include but are not limited to: enhancements to gas pipelines and other related system upgrades that are required to enable continued safe and reliable operation of Utility's system due to the addition of each Biomethane Interconnection.

v. For dairy cluster Biomethane Interconnection, costs incurred for Biogas gathering lines to help reduce emissions of short-lived climate pollutants pursuant to Section 39730 of the Health and Safety Code shall be considered eligible costs.

Other costs associated with processing and blending upstream of Interconnection Point, including facilities serving natural gas to Biomethane Interconnector's facilities, are ineligible costs.

d. Eligibility of Interconnector for Monetary Incentive

To be eligible for the monetary incentive program, a Biomethane Interconnector must:

i. Comply with Utility's rule regarding transportation of customer-owned gas [PG&E Rule 21, Transportation of Natural Gas; SoCalGas Rule 30, Transportation of Customer Owned Gas, SDG&E Rule 30, Transportation of Customer-Owned Gas; SWG Rule 21, Transportation of Customer-Secured Gas] and this Rule.

ii. Comply with the standard and protocols adopted in D.14-01-034 as modified by D.16-11-008.

iii. Successfully interconnect to the Utility or third-party California pipeline system and meet the operational requirement as described in D.15-06-029 as modified by D.16-12-043. This operational requirement entails that the Biomethane Interconnector produce Biomethane flow for a minimum of 30 days out of a 40-day testing period, within the minimum and maximum measurement range of the meter, as specified by Utility's measurement standards and based on the meter type specified by the Utility.

a) Biomethane Interconnectors must declare in a written notice to the Utility at least two business days in advance, the specific start and end date of this 40-day testing period.

b) The 30 out of 40-day requirement is extended 1 day for each day that the Biomethane Interconnector is unable to produce flow because of an interruption of delivery as set forth in Utility's rule regarding interruption of delivery.

c) Biomethane Interconnectors may elect to restart the 40-day testing period by providing a new written notice declaring the new start and end dates at least two business days in advance of when the new 40-day testing period is to begin.

iv. Provide cost information to Utility for eligible costs in a timely manner, as specified by Utility.

e. Payment of Monetary Incentive

Within 60 days following successful compliance with the 30 out of 40-day biomethane delivery requirement, the Utility will pay the Biomethane Interconnector the amount up to 50% of the eligible reconciled and undisputed portions of the interconnection costs, not to exceed $3 million per interconnection for a non-dairy cluster Biomethane Interconnector, or $5 million per interconnection for a dairy cluster Biomethane Interconnector. Payment will be provided to the Biomethane Interconnector if all costs have been paid in full; if there are remaining costs it shall be treated as a credit. In the event that all interconnection costs have not been

reconciled by the Utility and the Biomethane Interconnector within 60 days following the successful compliance with the 30 out of 40-day Biomethane delivery requirement, the Utility shall resume paying the Biomethane Interconnector upon cost reconciliation. If additional eligible cost information becomes available within 12 months following the initial payment, the Utility shall pay to the Biomethane Interconnector up to 50% of the remaining eligible interconnection costs, not to exceed $3 million per interconnection for a non-dairy cluster Biomethane Interconnector, or $5 million per interconnection for a dairy cluster Biomethane Interconnector, including all previous payments. The Utility will provide notification to the CPUC Director of the Energy Division and the Biomethane Interconnector of the initial payment as well as any other potentially eligible future payments.

J. Local Government Entity Renewable Gas Interconnectors

Local Government Entity Renewable Gas Interconnectors may be evaluated by the Utility on a case-by-case basis for the granting of contractual provisions that recognize commercial considerations unique to local government entities including, but not limited to:

1. Transference of title to land owned by the government entity to the Utility or, alternatively, provision of easements satisfactory to the Utility, for the purpose of establishing the Utility's Facilities;
2. Local Government Entity Renewable Gas Interconnectors that generally can meet contractual obligations are not required to post performance assurance; and
3. Allowance of additional flexibility for a Local Government Entity Renewable Gas Interconnector to make payments based on the meeting cycle of the governing body.

K. Renewable Gas Quality and Specifications

1. Base Utility Gas Specifications

   Renewable Gas must meet the gas quality specifications identified in [SoCalGas' Rule 30 I., SDG&E's Rule 30 I., PG&E's Rule 21 C. and SWG's Rule, Section A of Rule No. 2, Description of Service and Section B of Rule No. 21 Transportation of Customer-Secured Natural Gas] and this Rule xx, as adopted and periodically updated by the Commission.

2. Renewable Gas Constituent Concentrations

   In addition to Section K.1. requirements, the following requirements are also applicable to Renewable Gas injected into the Utility's gas system. The Biomethane rules in this section are intended to implement D.14-01-034 and D.19-05-018, including rules regarding Constituent concentration standards, monitoring and testing requirements, and reporting and record keeping requirements.

   a. Renewable Gas must conform to the specifications listed in Table 1 and Table 2

Table 1
Maximum Constituent Concentrations

Renewable Gas Injection Constituents				Testing for Gas Source		
	Trigger Level	**Lower Action Level**	**Upper Action Level**	**Non-Hazardous Landfill**	**Dairies**	**Other[4]**
Base Gas Quality Specifications [1]				X	X	X
Health Protective Constituents (HPC) – Carcinogenic [2]						
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 (HPC) - Non-Carcinogenic [2]						
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		
Carbon Monoxide	TBD	TBD CARB/OEHHA to establish	TBD			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
Integrity Protective Constituents (IPC) [3]						
Ammonia	0.001%	TBD [5]	TBD [5]	X	X	X
Biologicals	4×10^4 / Scf (qPCR per APB, SRB, IOB[7] group)	TBD [5]	TBD [5]	X	X	X

	and commercially free of bacteria of > 0.2 microns					
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
Carbon Monoxide	0.03 mole %	TBD see above HPC	TBD see above HPC			X

Notes:
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. Acid-producing Bacteria (APB), Sulfate-reducing Bacteria (SRB), and Iron-oxidizing Bacteria (IOB).
8. 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.

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 in which deliveries occur
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.

4. Interconnector Renewable Gas Source Certification

   a. Non-Hazardous Waste Facility

      Renewable Gas sourced from Hazardous Waste Landfills will not be knowingly purchased, accepted into or transported on the pipeline system.

      i. Interconnector must certify and provide documentation or other suitable proof that: the Renewable Gas source feedstock was not derived or collected from a Hazardous Waste Facility, as that term is defined in Section 25117.1 of the California Health and Safety Code, as may be amended from time to time, and Interconnector is in compliance with the following Health and Safety Code Sections 25421(g)(1) and (2), as they may be amended from time to time.

   b. Siloxanes

      To qualify for reduced siloxanes testing pursuant to Ordering Paragraph 3, in D.19-05-018, Interconnector must execute Utility's certification attesting that:

      i. Interconnector's Biogas is sourced only from dairy, animal manure, agricultural waste, forest residues, and/or commercial food processing waste and the Biogas does not contain siloxanes;
      ii. Products containing siloxanes are not used at Interconnector's Facilities in any way that allow siloxanes to enter the Biogas and
      iii. Interconnector shall notify Utility within 30 days of discovery, in accordance with the notice provision of the associated interconnection agreement, that the certifications set forth in the above paragraphs are no longer true.

5. Testing

   a. Source Feedstock Based Testing

      Testing shall be determined according to the source feedstock. Testing for the Health Protective Constituents shall be by the recommended methods specified in Table V-4 of CARB/OEHHA Report submitted in R.13-02-008 as approved by D.14-01-034 or an equivalent national standard test. Testing for Integrity Protective Constituents shall be by national standard test methods.

   b. Testing Responsibility

      i. Interconnector Pre-Injection and Restart Procedure Testing
      Pre-injection, Restart Procedure and periodic testing for gas quality will be performed by the Interconnector using independent certified third-party laboratories. The Utility shall be notified of the sampling in advance and have the option to observe the samples being taken.

      ii. Utility Periodic Testing
      The testing entity will be the Utility, who will collect the samples and send the samples to an independent certified laboratory for Constituent analyses. The

results will be shared with the Interconnector within two weeks of the Utility receiving the data. If it is agreed to by both parties, the Interconnector can be the periodic testing entity at the interconnection.

c. Cost Responsibility

Interconnector is responsible for Pre-Injection, Periodic Testing and Restart testing costs. If requested, any retesting for validation of results shall be done at the cost of the entity requesting the retest.

d. Utility Discretionary Testing

This Rule does not prohibit the Utility from engaging in discretionary gas or facility testing on its system at Utility's expense.

e. Pre-Injection Testing Procedure

Interconnector will conduct two successful tests for all Constituents over a two to four-week period, preferably, at least two weeks apart.

i. Health Protective Constituents

If during the pre-injection testing, any Health Protective Constituents are found at or above the Trigger Level, the collective potential cancer or non-cancer risk must be calculated. The collective potential cancer or non-cancer risk is 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 Renewable Gas cannot be accepted or transported by the Utility's pipeline system.

The Interconnector shall make necessary modifications to lower the collective potential cancer or non-cancer risk below the Lower Action Level and restart pre-injection testing.

If all the Health Protective Constituents are below the Trigger Level or the collective potential cancer risk and non-cancer risk from the Group 2 Compounds are below the Lower Action Level in both pre-injection tests, the Renewable Gas may be injected into the pipeline system subject to all other requirements set forth in this Rule.

ii. Integrity Protective Constituents

If any Integrity Protective Constituents are above the Lower Action Level, the Renewable Gas may not be injected into the Utility's system.

The Interconnector shall make necessary modifications to lower the levels of the Integrity Protective Constituents to levels below the Lower Action Level equivalent and restart pre-injection testing.

If Integrity Protective Constituents are at or below the Lower Action Level, the Renewable Gas may be injected into the Utility's system subject to all other requirements set forth in this Rule.

a) Reduced Siloxanes Testing

Pursuant to Section K.4.b Renewable Gas certified for reduced siloxanes testing will be as follows:

(i) If the pre-injection testing siloxanes levels are at or below the Trigger Level, then no periodic testing for siloxanes is required.

(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.

f. Periodic Testing

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

b) Non-Cancer Risk
The collective non-cancer risk is calculated using the ratio of the concentration of the constituent in Renewable Gas 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)

c) If the result is at or above the Lower Action Level on three occurrences in a 12-month period, the Renewable Gas shall be immediately shut-in until the levels are below the Lower Action Level, after which it will be subject to the Restart Procedures.

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 Group 2 Compounds is at or above the Lower Action Level, then testing will revert to quarterly.

f) If the collective risk from Carcinogenic or Non-carcinogenic Constituents, is at or above the Upper Action Level, the Renewable Gas shall be shut-in until the concentration is below the Lower Action Level, after which it will be subject to the Restart Procedures.

g) If Interconnector's Renewable Gas is refused in accordance with this Rule, testing for all Group 1 and Group 2 Compounds will then be performed according to the Restart Procedure.

iv. Integrity Protective Constituents

a) Constituents shall be tested once every 12-month period in which injection occurs.

b) Any Constituent with a concentration at or below the Trigger Level during two (2) consecutive annual periodic tests shall be tested once every two-year period in which injection occurs.
c) If periodic testing demonstrates that any Constituent is above the Trigger Level, then it will be tested quarterly.
d) If the Constituent is above the Trigger Level, then it will be tested quarterly until there are four (4) consecutive quarterly tests at or below the Trigger Level, then it will be reduced to once every 12-month period in which deliveries occur.
e) When any Constituent is above the Lower Action Level three times in a 12-month period, the Renewable Gas shall be immediately shut-in and subject to Restart Procedures set forth in Section K.5.g. of this Rule.

g. Restart Procedure

i. Interconnector will repeat the Pre-Injection Testing Procedure until one successful test of all Constituents is completed, when any of the following occurs:

a) There is a change in the Gas source at the facility or a change of the Gas 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.
b) A shut-in of the Renewable Gas into the pipeline because there are three exceedances of the Lower Action Level in a 12-month period of the same Constituent.
c) A shut-in of the Renewable Gas into the pipeline because a Constituent concentration or the collective cancer or non-cancer risk is above the Upper Action Level.

ii. After re-starting Renewable Gas deliveries, Periodic Testing will resume based on the results of the successful test.

h. Reporting and Record Keeping Requirements

Reporting and Record Keeping will be in compliance with D.14-01-034 and the CARB/OEHHA Report and includes the following:

i. Pre-injection testing results shall be provided by Interconnector to the Utility within five days of receiving the data.
ii. Startup test results shall be provided to Commission within 30 days of receiving the test data by the testing entity (Utility or Interconnector).
iii. Maintain records of all test results for 3 years from the date when the tests were conducted by the testing entity (Utility or Interconnector).
iv. Annual report to Commission: all test data, production rate, monitoring parameters, and shutoff events.

v. If the Utility is the testing entity, test results shall be provided by Utility to the Interconnector within two weeks of receiving the data. Test data that results in shut off shall be provided within 24 hours of receiving the data.

vi. If the Interconnector is the testing entity, the Interconnector shall provide the above information to the Utility within two weeks of receiving the data.

L. Pipeline Blending Exception Study (Blending Study)

1. Intent

In an effort to encourage interconnections of Renewable Gas to Utility pipelines as ordered in D.19-05-018, the Utility will review and consider each blending request thoroughly and make a determination regarding each request. Blending exception requests will be accepted if the Renewable Gas is interchangeable with historical or contractual Gas supplies after blending and will not cause increased risk or safety concerns to the Utility's employees, downstream customers or pipeline. The Interconnector requesting the Blending Study will be responsible for the cost for the Utility to conduct the Blending Study and provide a determination.

2. Interconnector Blending Study Request

Interconnector may request a Blending Study to determine the Utility's downstream blending capability from an Interconnection Point, or proposed Interconnection Point, and the associated Utility monitoring and equipment enhancement costs, if any to be borne by Interconnector.

Interconnector may request an exception to the Gas quality and Heating Value standards established in this rule for a Receipt Point to allow blending in the pipeline of conditioned or upgraded Raw Product Gas or Biogas that does not meet all gas specifications at the Interconnection Point to achieve pipeline gas quality specifications.

Interconnector may initiate a Blending Study request as part of the Interconnection Screening or a subsequent Preliminary or Detailed Engineering Study.

The Blending Study will evaluate feasibility of blending to determine interchangeability with historical or contractual Gas supplies and the increased risk or safety concerns to the Utility's employees, downstream customers or pipeline.

The Utility will evaluate whether it is safe to authorize blending following receipt of the request that shall include the following:

a. Desired interconnect location(s) on the Utility's system

b. Maximum and minimum flow rates, including seasonal variations, if appropriate

c. Maximum concentrations of all Constituents listed within this Rule

d. Maximum and minimum Heating Value and Wobbe Index

e. Ability of Interconnector to accept limits on flow rates

f. Reason for request

g. Information collected from Interconnection Request

3. Utility Evaluation

   If blending is requested, the Utility will evaluate requests for safely blending into the pipeline to determine whether injection of any new or modified supply source will be interchangeable with historical and contractual Gas composition and can be safely injected into the Utility's pipeline system. At a minimum, the Utility will consider the following factors when determining whether an exception can be allowed:

   a. Flow rates and directional consistency of receiving pipeline(s), including daily and seasonal variations.

   b. Historical Gas composition and contractual Gas quality specification at the Utility's receipt points and area of influence for purposes of determining interchangeability and impact on a Btu District.

   c. Current and expected future composition of Gas supplies at the Utility's Receipt Points for purpose of determining future interchangeability and the pipeline system's capability to accommodate supplies.

   d. Potential for increased internal corrosion threat at and through the Receipt Point, Receipt Point pipeline lateral and receiving pipelines due to Gas composition.

   e. Current and future customers in receiving pipeline flow rate, distance to these customers, time to first receiving customer, and anticipated downstream Gas demand growth.

   f. Maximum time and distance required for complete mixing to occur under all pipeline flow conditions.

   g. The design, operation, and overall condition of the receiving pipeline(s), including any sensitivities to Gas Constituents.

   h. Additional monitoring, control, and/or mixing equipment that may be required to verify and ensure that adequate blending has occurred in the receiving pipeline system.

   A request for gas quality exception will be undertaken as part of the Interconnection Screening or subsequent Preliminary and Detailed Engineering Studies upon receipt of all requested information. The evaluation will be completed within 30 additional business days.

4. Utility Report

   Utility shall provide the Interconnector with the acceptance or denial of blending request with the associated Interconnection Screening or subsequent Preliminary and Detailed Engineering Studies.

   The Utility will notify the Energy Division of each request for exception, and state whether the request is granted or denied along with reason for denial.

   a. Acceptance

For each granted request, the Utility shall provide a determination of the following:

i. Volumetric flow rate: Authorized volume for blending, or a specific volume that is less than requested;

ii. Length of time authorization valid: How long authorization for blending in the pipeline is valid before it must be re-evaluated; and

iii. Special conditions: Any restrictions, special conditions, and/or special equipment, as determined by the Utility, required to grant acceptance.

b. Denial

If denied, an explanation will be provided and may include, but not be limited to:

i. Historical pipeline flow profiles and proposed Interconnector flow
ii. Historical compositions or contractual gas quality value used in the analysis
iii. Customer and/or safety impact

Information is subject to a non-disclosure agreement for confidential information, if any.

5. Utility Right to Re-evaluate and Rescind Blending

The Utility shall have the continuing right at any time to re-evaluate, revise, and potentially rescind, the granted exception allowing for blending in the pipeline due to ongoing operations, changes in the way the Utility manages the operation of its system, or in accordance with the Utility's CPUC-approved tariffs.

M. Discontinuance and Termination

Discontinuance of use and/or termination will be administered pursuant to the terms of the Interconnector and Utility interconnection agreement.

N. Dispute Resolution

1. The Commission shall have initial jurisdiction to interpret, add, delete, or modify any provision of this Rule and/or tariff ("Interconnection Tariff") and to resolve disputes regarding Utility's performance of its obligations under the Interconnection Tariff pursuant to this Rule.
2. Any dispute arising between Utility and Interconnector (individually referred to as "Party" and collectively "the Parties") regarding Utility's or Interconnector's performance of its obligations under the Interconnection Tariffs shall be resolved according to the following procedures:
   a. The dispute shall be documented in a written notice by the aggrieved Party to the other Party containing the relevant known facts pertaining to the dispute, the specific dispute and the relief sought, and express written notice by the aggrieved Party that it is invoking the procedures under this Section. The written notice shall be sent to the

Party's email address and physical address set forth in any interconnection agreement between the Parties or the Interconnection Request, if there is no interconnection agreement. The receiving Party shall acknowledge the written notice within ten (10) Days of its receipt.

b. The Parties shall negotiate in good faith to resolve the dispute. If a resolution is not reached in forty-five (45) Days from the date of the written notice, either 1) a Party may request to continue negotiations for an additional forty-five (45) Days or 2) the Parties may by mutual agreement make a written request for mediation to the Alternative Dispute Resolution (ADR) Coordinator in the Commission's administrative law judge (ALJ) Division. The request may be submitted by electronic mail to adr_program@cpuc.ca.gov. The dispute and its resolution shall be governed by the Commission's ADR rules and procedures. Alternatively, both Parties by mutual agreement may request mediation from an outside third-party mediator with costs to be shared equally between the Parties.

3. If resolution is not reached pursuant to this Section N., either Party may file a formal complaint before the Commission pursuant to California PUC section 1702 and Article 4 of the Commission's Rules of Practice and Procedure. Nothing in this section shall be construed to limit the rights of any Party to exercise rights and remedies under applicable Commission decision, order, rule or regulation.
4. Pending resolution of any dispute under this Section, the Parties shall proceed diligently with the performance of their respective obligations under the Interconnection Tariffs, unless the related agreements**Error! Reference source not found.**. Disputes as to the Interconnection Request and implementation of this Section shall be subject to resolution pursuant to the procedures set forth in this Section.
5. Guidance can be provided in letter form by the Director of Energy Division
6. Notwithstanding anything to the contrary set forth in this Section N, if Utility and Interconnector are parties to one or more of the agreements relating to the interconnection to the Utility's pipeline system, and any such agreement(s) includes a dispute resolution procedure, the dispute resolution procedure set forth in such agreement(s) shall control over the dispute resolution procedure set forth in this Section N**Error! Reference source not found.**.