

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

In the Matter of the Application of)
Southern California Gas Company (U 904 G))
For Approval to Retain Its Current Rule 30) Application 11-09-XX_
Gas Delivery Specifications.)
_____)

**APPLICATION OF SOUTHERN CALIFORNIA GAS COMPANY (U 904 G) TO
RETAIN ITS CURRENT RULE 30 GAS DELIVERY SPECIFICATIONS**

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COMMONLY USED ACRONYMS

AGA	American Gas Association
ANSI	American National Standards Institute
Btu	British thermal unit
CF	Cubic foot
CO	Carbon monoxide
CO₂	Carbon dioxide
GC	Gas chromatograph
GTI	Gas Technology Institute
H₂S	Hydrogen sulfide
LPG	Liquefiable petroleum gases
N₂	Nitrogen
NGC	Natural Gas Council
NGL	Natural gas liquids
NO_x	Nitrous oxide
PPB	Parts per billion
PPM	Parts per million
PRCI	Pipeline Research Council International
SCADA	Supervisory Control and Data Acquisition
SwRI	Southwest Research Institute

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Southern California Gas Company (“SoCalGas”) hereby submits this *Application to Retain Its Current Rule 30 Gas Delivery Specifications* (“Application”).¹ SoCalGas submits this Application pursuant to Rule 2.1 of the California Public Utilities Commission’s (“Commission”) Rules of Practice and Procedure and Decision (“D.”) 10-09-001. In D.10-09-001, the Commission directed that:

SoCalGas shall file an application within one year from the effective date of this decision to determine whether any of the current non-hydrogen sulfide limits² set forth in the “Gas Delivery Specifications” in section I of SoCalGas’ Rule 30 should be changed and whether these current non-hydrogen sulfide limits are too restrictive or redundant in light of the current Rule 30 Wobbe specification and Lifting Index.³

Consistent with this Commission direction, SoCalGas conducted research and appliance testing to determine whether “any of the current non-hydrogen sulfide limits set forth in the ‘Gas Delivery Specifications’ in section I of SoCalGas’ Rule 30 should be changed and whether these current non-hydrogen sulfide limits are too restrictive or redundant in light of the current Rule 30 Wobbe

¹ This Application is supported by testimony. See Testimony of Charles Benson, Oliver Moghissi, and Hugo Mejia in Support of SoCalGas Application to Retain Its Current Rule 30 Gas Delivery Specifications.

² D.10-09-001, p. 29 at n.13, determined that the non-hydrogen sulfide constituents at issue include carbon dioxide, oxygen, total inerts, and heating value. Although technically, heating value is not a non-hydrogen sulfide constituent, or gas constituent, but rather a gas property.

³ D.10-09-001, at Ordering Paragraph (“OP”) 4.

specification and Lifting Index.” The requests proposed in this Application reflect the results of research, SoCalGas appliance testing, as well as independent appliance testing conducted by etaPartners.⁴ In the context of this Application, references to Rule 30 mean Rule 30, Section I.3.a (heating value), Section I.3.f (carbon dioxide), Section I.3.g (oxygen), Section I.3.h (total inerts), and Section I.3.m (interchangeability).

However, Historical California Production is exempt from Rule 30, per Section I.5. Section I. 5 states:

A generic deviation from the minimum gas quality specifications set forth in Paragraph I.3 is granted for ‘Historical California Production.’ Quality specifications for Historical California Production will be governed by SoCalGas Rule No. 30 in effect as of September 21, 2006, or, to the extent that production had a deviation in place at that time, pursuant to the agreement governing that deviation. ‘Historical California Production’ is defined as follows: Onshore or offshore California-produced natural gas delivered at points of interconnection existing as of January 1, 2006, up to the maximum historical deliveries or Maximum Daily Volume effective on that date as specified in any agreement permitting supply delivery at those points. If a producer moves its deliveries of Historical California Production from a point of interconnection existing as of January 1, 2006, to another existing or a new point on the system, or if one or more producers consolidate two or more existing points of interconnection existing as of January 1, 2006, to another existing or a new point on the system, the deviation granted under this provision will follow the Historical California Production provided that (a) the Utility has required or approved the change in receipt point location and (b) the continuing deviation shall not exceed the Maximum Daily Volume stated in the access agreement(s) governing deliveries at the producer’s original point of interconnection and (c) specifically, the quality of the gas should not lessen to the point that it falls outside the grandfathered Rule No. 30 specifications.

I. SUMMARY OF APPLICATION AND REQUESTS

- SoCalGas’ Rule 30 gas delivery specifications are critical to maintain the protection of SoCalGas’ customers, employees, pipeline system, and the public-at-large.
- SoCalGas presents evidence confirming the Rule 30 non-hydrogen sulfide limits should *not* be changed. The specifications limit risks associated with improper combustion, address pipeline corrosion risks, and are consistent with industry standards.
- SoCalGas presents evidence confirming the Rule 30 non-hydrogen sulfide limits are *not* too restrictive or redundant in light of the Rule 30 Wobbe specification and Lifting Index. The

⁴ etaPartners is an energy technology consulting firm.

non-hydrogen sulfide limits maintain the safe and proper operation of end-use equipment, address pipeline corrosion issues, and are consistent with industry standards.

- SoCalGas presents evidence verifying that with the “Historical California Production” exception,⁵ the Wobbe specification and Lifting Index, *alone*, are insufficient to meet customer, employee, and pipeline safety requirements and expectations.⁶
- Accordingly, this evidence supports SoCalGas’ request that the Historical California Production exception be eliminated, when contractually permitted, to protect SoCalGas’ customers, employees, pipeline system, and the public-at-large.

II. BACKGROUND

SoCalGas’ Rule 30 gas delivery specifications entail two major aspects: gas constituent limits (composition-based specifications) and gas interchangeability specifications (performance-based quality specifications).⁷ Rule 30’s gas constituent limits restrict the concentration of gas impurities, so as to protect pipeline integrity, pipeline operations and maintain safe and efficient combustion⁸ in end-user equipment. Collectively, the Rule 30 gas constituent limits and gas interchangeability specifications serve to protect SoCalGas’ customers, employees, and pipeline system.

A. Gas Constituent Limits⁹

Rule 30 gas constituent limits restrict the amount of non-hydrogen sulfides because they can cause combustion issues in customer end-use equipment, resulting in improper or potentially unsafe equipment operation. As the Commission recognized, “concentrations of [non-hydrogen sulfide]

⁵ Historical California Production natural gas existing as of January 1, 2006 is granted a generic deviation from the Rule 30 gas delivery specifications. Gas delivery specifications for California-produced gas is governed by SoCalGas Rule 30 in effect as of September 21, 2006, or, to the extent that production had a deviation in place at that time, pursuant to the agreement governing that deviation. SoCalGas Rule Sec. I.5.

⁶ D.10-09-001, at p. 13 (emphasis added).

⁷ Pursuant to D.10-09-001, SoCalGas’ Rule 30 interchangeability indices are not at issue in this Application because the Commission does not “plan in this new application to change the current Rule 30 Wobbe specification, or the current Rule 30 specifications for the Lifting Index, Flashback Index, and Yellow Tip Index.” D.10-09-001, at pp. 29-30.

⁸ Combustion takes place when fuel, most commonly a fossil fuel, reacts with the oxygen in air to produce heat. The heat created by the burning of a fossil fuel is used in the operation of equipment such as boilers, furnaces, kilns, and engines. Along with heat, carbon dioxide and water are created as byproducts of the exothermic reaction. The objective of combustion is to retrieve energy from the burning of fuels in the most efficient way possible. For a general discussion regarding combustion, *see*

http://www.bbc.co.uk/schools/gcsebitesize/science/ocr_gateway/carbon_chem/7_using_carbon_fuels1.shtml.

⁹ The discussion in this section is supported by the testimony of Hugo Mejia at p. 6.

constituents can affect the performance of the appliance, and lead to the formation of carbon monoxide.”¹⁰ In addition, SoCalGas restricts these impurities because they can create pipeline corrosion and pipeline operations issues.

Table 1 – Rule 30 Non-Hydrogen Sulfide Limits

Parameter	Rule 30	Purpose
Heating Value:	990 – 1150 Btu (gross) per standard cubic foot on a dry basis.	<ul style="list-style-type: none"> • Safe and proper end-use operation
Carbon Dioxide:	≤ 3% by volume.	<ul style="list-style-type: none"> • Pipeline integrity • Internal corrosion • Safe and proper end-use operation
Oxygen:	≤ 0.2% by volume.	<ul style="list-style-type: none"> • Pipeline integrity • Internal corrosion • Production operation
Inerts:	≤ 4% total inerts (the total combined carbon dioxide, nitrogen, oxygen and any other inert compound) by volume.	<ul style="list-style-type: none"> • Pipeline integrity • Internal corrosion • Transmission efficiency • Safe, clean and proper combustion of end-use equipment

Historical California Production is exempt from the minimum Btu content listed above.

B. Gas Interchangeability Specifications¹¹

The gas interchangeability specifications are a subset of Rule 30 gas delivery specifications that address end-use combustion issues. Gas interchangeability is important because all gas-fired equipment is designed to operate within a particular range of gas specifications. Witness Benson explains that interchangeability is “the ability to substitute one gaseous fuel for another in a combustion application without materially changing operational safety, efficiency, performance or materially increasing air pollutant emissions.”¹² Gas interchangeability depends on gas quality and is

¹⁰ D.10-09-001, at p. 5.

¹¹ The discussion in this section is supported by the testimony of Charles Benson at pp. 5-13.

¹² Testimony of Charles Benson, at p. 5 (quoting NGC+ White Paper, at p. 3).

a function of gas composition. Gas interchangeability is essentially an end-use issue that focuses on how end-use appliance combustion responds to changes in fuel gas composition.

The introduction of gas supplies with varying quality may impact the performance of certain combustion equipment. As the Commission stated in D.04-01-025, “[t]he gas quality issue is important because it can affect the safety and performance of gas-fired household appliances, manufacturing equipment, turbines, and compressed natural gas (CNG) vehicles.” For example, in appliances, varying gas composition can result in flame lifting, flashback, yellow tipping, incomplete combustion, soot formation, and elevated levels of carbon monoxide.¹³ To ensure that different gases act similarly in combustion systems, they must have similar combustion parameters, i.e, gas interchangeability index specifications.

The Rule 30 gas interchangeability index specifications delineate the appropriate range of gas interchangeability to maintain the safe and efficient operation for residential, commercial and industrial applications. Witness Benson describes SoCalGas’ use of the Wobbe Index to measure gas interchangeability.¹⁴ The Wobbe Index compares the rate of combustion energy output of different composition fuel gases in combustion equipment.¹⁵ SoCalGas also uses the American Gas Association's (“AGA”) 36 Multiple Indices to assess appliance non-optimum performance.¹⁶ The AGA 36 Multiple Indices are comprised of a Lifting Index, Flashback Index and Yellow Tipping Index. Both interchangeability standards address end-user combustion issues. Collectively, these

¹³ See Testimony of Charles Benson, at pp. 10-11, for a chart illustrating and discussing these end-use appliance issues.

¹⁴ See SoCalGas Witness Benson Testimony, at p. 6.

¹⁵ However the gas industry has recognized that the Wobbe index alone may not be sufficient to model gas interchangeability “because it cannot adequately predict flame characteristics and resulting combustion phenomena if new gas supplies are very different from historical supplies.” Halchuk-Harrington, Rosemarie; Wilson, Robert, “AGA Bulletin #36 and Weaver Interchangeability Methods: Yesterday’s Research and Today’s Challenges, at p. 2.

¹⁶ It has been noted, though, that the AGA Multiple Indices’ “application to the development of gas quality specifications may be limited because of their basis in empirical relationships.” *Id.*

interchangeability indices provide predictive correlations “between the specific measurable physical characteristics of natural gas and burner tip performance.”¹⁷

Table 2 - SoCalGas Gas Interchangeability Specifications

Parameter	Rule 30 Specifications	Purpose
Wobbe	1279-1385	<ul style="list-style-type: none"> • Efficient End- Use Operation • Address Yellow Tipping • Address Incomplete Combustion • Address Flame Lifting • Blow Out • Address Excessive Carbon Monoxide
Lifting Index	≤ 1.06	<ul style="list-style-type: none"> • Address Flame Lifting
Flashback Index	≤ 1.2	<ul style="list-style-type: none"> • Address Flash Back
Yellow Tip Index	≥ 0.8	<ul style="list-style-type: none"> • Address Yellow Tipping

Historical California Production is exempt from the Rule 30 interchangeability specifications and thus is not required to adhere to the Rule 30 Wobbe specification of 1279 to 1385. For Historical California Production, the Wobbe index limit is ± 10% or 1199-1465 (assuming 1332 is the adjustment gas).¹⁸

III. RULE 30 EQUIPMENT TESTING¹⁹

A. SoCalGas Testing Objectives

Consistent with the NGC+ White Paper recommendation,²⁰ SoCalGas conducted further end-user equipment testing to investigate the effectiveness of Rule 30 and Historical California Production gas delivery specifications. The testing was designed to assess how current residential and small commercial end-use equipment responded to changes in gas quality and to determine if

¹⁷ *Natural Gas Interchangeability*, 115 FERC ¶ 61,325 (2006) at p. 8 (“FERC Interchangeability Policy Statement”).

¹⁸ The grandfathered Wobbe specification of 1199-1465 was based on a majority of tests conducted on pre-1950 appliances and gas mixtures.

¹⁹ The discussion in this section is supported by the testimony of Charles Benson at pp. 14-24.

²⁰ NGC+ White Paper, p. 22.

“SoCalGas’ Rule 30 should be changed and whether the[] current non-hydrogen sulfide limits are too restrictive or redundant in light of the current Rule 30 Wobbe specification and Lifting Index.”

B. SoCalGas Testing Parameters

SoCalGas tested a wide range of commonly used residential, commercial, and industrial combustion equipment to evaluate the performance impacts of varying natural gas compositions. These gas compositions reflected gas deliveries that might flow and/or have flowed through SoCalGas’ pipeline system.

Table 1 - Tested Equipment

Description	Service Category	Burner Type	Rated Input as tested (BTU/hr)
Burner	Commercial	Range-Top	33,000 (per burner)
Burner	Commercial	Radiant	40,000
Broiler	Commercial	Char-broiler	15,000 (per burner)
Furnace	Industrial	Heat Treating	400,000 (per burner)

SoCalGas’ Engineering Analysis Center conducted these tests using industry-standard protocol and calibrated, laboratory-quality instrumentation. Testing assessed Rule 30 and Historical California Production carbon dioxide, total inerts, heating value, and Wobbe Index limits impacts on equipment performance. SoCalGas monitored for flame lifting, flashback, yellow tipping, excessive carbon monoxide emissions, soot build-up, unacceptable operations, and overall safety concerns.

C. Independent Appliance Testing

Expert Witness Charles Bensons’ consulting firm, etaPartners, also tested a residential water heater and a residential warm air furnace tests for performance problems as the gas Wobbe number increased and decreased.

D. Summary of Test Results

From this work, SoCalGas documented numerous examples of unacceptable appliance operations associated with Historical California Production exceeding the carbon dioxide, heating

value and total inerts limits. SoCalGas documented flame lifting, yellow tipping, and flashback potential when using gas that did not comply with Rule 30. In addition, SoCalGas also identified food safety concerns, and documented excessive carbon monoxide emissions.

IV. SOCALGAS' RULE 30 GAS NON-HYDROGEN SULFIDE LIMITS SHOULD BE RETAINED.

SoCalGas restricts the amount of non-hydrogen sulfide constituents, because these contaminants can create combustion problems in downstream end-use equipment, which affects customers' safety and economics.²¹ The Commission has acknowledged that concentrations of non-hydrogen sulfide constituents may affect safety and pipeline integrity. "The safety aspect is how these constituents can affect appliance performance and the formation of carbon monoxide. Pipeline integrity involves moisture and water content and the corrosion of the pipeline."²²

SoCalGas recommends retaining the Rule 30 non-hydrogen sulfide limits. The limits on carbon dioxide, oxygen, total inerts and heating value protect the safety of SoCalGas' customers, employees, the public-at-large, and the safety and integrity of SoCalGas' pipeline system. The limits are consistent with, and are not more restrictive than, industry standards. For these reasons and as discussed herein, SoCalGas respectfully recommends its Rule 30 non-hydrogen sulfide limits be retained.

A. Rule 30's Carbon Dioxide Limit Should Not be Changed²³

SoCalGas strongly recommends retaining the $\leq 3\%$ carbon dioxide specification because it: 1) helps limit safety and performance issues associated with improper combustion, 2) helps mitigate pipeline corrosion risks, and 3) is consistent with industry standards.

²¹ "Limiting the concentration of impurities is necessary to protect pipeline systems." Leslie Zachariah, *et al.*, *From Natural Gas to Hydrogen via the Wobbe Index the Role of Standardized Gateways In Sustainable Infrastructure Transitions*, The International Journal of Hydrogen Energy, p. 9. (Delft University of Technology).

²² D.10-09-001, at p. 15.

²³ This discussion is supported by the testimony of Oliver Moghissi at pp. 4-7.

1. SoCalGas' carbon dioxide limit helps maintain the safe and proper operation of end-use equipment.

Rule 30's carbon dioxide limit addresses the risk to customers from flame lifting and elevated carbon monoxide emissions. SoCalGas noted that when carbon dioxide levels exceeded Rule 30's limit of $\leq 3\%$, flame lifting occurred. The commercial range-top testing with 5% carbon dioxide exhibited flame lifting, *even though the AGA 36 Lifting Index calculation did not predict flame lifting*. Witness Benson warns, flame lifting "can cause delayed or failed ignition of an appliance burner. With delayed ignition, flames can temporarily flash outside of the appliance enclosure and ignite nearby flammable materials. When flames lift off of burner ports, fuel can bypass the flame front and be partially oxidized downstream. Thus, lifting can produce elevated carbon monoxide (CO) emissions."²⁴

SoCalGas also documented excessive carbon monoxide emissions associated with flame lifting when operating a commercial radiant burner using gas with 10% carbon dioxide. Carbon monoxide emissions were documented at levels of 1533 ppm, over three times the ANSI carbon monoxide limit of 400 ppm. The Washington State Department of Labor and Industries warns that "[c]arbon dioxide levels greater than 1500 ppm are considered 'immediately dangerous to life or health (IDLH).'"²⁵

2. SoCalGas' carbon dioxide limit helps mitigate pipeline corrosion risk

Recently, there has been increased focus on internal corrosion's impact on overall pipeline safety and integrity management.²⁶ Some of the reasons for this increased awareness include changes in pipeline safety laws and regulations, an increased emphasis on overall pipeline integrity

²⁴ SoCalGas Witness Benson Testimony, at p. 6.

²⁵ See <http://www.lni.wa.gov/Safety/Topics/AtoZ/CarbonMonoxide/>.

²⁶ Pipeline safety and integrity is an important issue for the Commission, which issued the *Order Instituting Rulemaking on the Commission's Own Motion to Adopt New Safety and Reliability Regulations for Natural Gas Transmission and Distribution Pipelines and Related Rate-making Mechanisms* on February 25, 2011 in Rulemaking 11-02-019.

management, significant internal corrosion failures of pipelines carrying gas specified to be dry (e.g., Carlsbad, NM),²⁷ and significant pipeline failures in the past year (regardless of failure cause).

SoCalGas is required by state²⁸ and federal²⁹ regulations to maintain pipeline integrity.

The Commission's General Order 112-E establishes minimum requirements for the design, construction, quality of materials, locations, testing, operations and maintenance of facilities used in the gathering, transmission and distribution of gas and in liquefied natural gas facilities *to safeguard life or limb, health, property and public welfare* and to provide that adequate service will be maintained by gas utilities operating under the jurisdiction of the commission.³⁰ The federal Pipeline Safety Improvement Act requires SoCalGas to perform ongoing assessment of pipeline integrity, to improve data collection, integration and analysis, to repair and remediate the pipeline as necessary and to implement preventative and mitigative actions. This federal regulation also requires SoCalGas to address water and *other contaminants* when maintaining its internal corrosion control programs.³¹

Both regulations establish most of the operating and maintenance standards that impact gas quality, particularly in regard to internal corrosion monitoring and prevention. Controlling internal corrosion is a key part of complying with these regulations. Internal corrosion failures have occurred

²⁷ "Natural Gas Pipeline Rupture and Fire near Carlsbad, New Mexico August 19, 2000," NTSB Report Number: PAR-03-01, adopted on 2/11/2003.

²⁸ See California Public Utilities Commission *Rules Governing Design, Construction, Testing, Maintenance, and Operation Of Utility Gas Gathering, Transmission, And Distribution Piping Systems*, ("General Order No. 112-E") (1996).

²⁹ The U. S. Department of Transportation maintains authority over interstate natural gas pipelines' operations and safety practices and has codified its standards in 49 CFR Part 192, commonly referred to as the Pipeline Safety Improvement Act.

³⁰ General Order 112-E, at p. 1.

³¹ 49 CFR § 192.143 in Subpart D. This Rule was added at the suggestion of the National Transportation Safety Board ("NTSB") following the NTSB's investigation of the August 19, 2000 gas transmission pipeline explosion near Carlsbad, New Mexico in which 12 people were killed. In its accident investigation report, PAR-03-01, issued February 11, 2003, the NTSB concluded that the immediate cause of the Carlsbad pipeline failure was severe internal corrosion.

in natural gas transmission pipelines despite these specifications. Even with aggressive gas quality monitoring, an upset can occur that increases the probability of pipeline damage and failure.

The Rule 30 carbon dioxide limit addresses the increasing risk of corrosion to the SoCalGas pipeline system. The presence of carbon dioxide in pipelines creates a corrosive environment when water is present.³² As attested to by Witness Moghissi, the existence of pipeline dry gas specifications is not sufficient to remove the threat of internal corrosion, and the formation and accumulation of liquid water in pipelines very difficult to prevent.³³ Moreover, and as outlined in its August 26, 2011 Pipeline Safety Enhancement Plan, SoCalGas, at the direction of the Commission, proposes to conduct pressure testing on its pipeline system. When water is used, these tests will necessarily introduce electrolytes into SoCalGas' pipeline system, which further supports SoCalGas' need to limit carbon dioxide constituent limits in delivered gas.

The most reliable way to reduce carbon dioxide corrosion in natural gas is to reduce its concentration to a level of low corrosivity. SoCalGas Witness Moghissi admonishes that even a 2% limit can result in carbon dioxide partial pressures that are well within the partial pressure range in which significant corrosion can occur.³⁴ Although, SoCalGas is not advocating reducing its carbon dioxide limit (at this time), SoCalGas stresses, at the very least, Rule 30's $\leq 3\%$ carbon dioxide limit should be maintained.

3. SoCalGas' carbon dioxide limit is consistent with industry standards.

The $\leq 3\%$ carbon dioxide limit is consistent or more generous than most pipelines' carbon dioxide limits. SoCalGas' limit is identical to Kern River Pipeline's, and is more lenient than Ruby

³² SoCalGas Witness Moghissi Testimony, at p. 1.

³³ SoCalGas Witness Moghissi Testimony, at p. 3.

³⁴ SoCalGas Witness Moghissi Testimony, at p. 6.

Pipeline's $\leq 2\%$ and PG&E's $\leq 1\%$ limits. This sampling is also consistent with the AGA Report 4A, "Natural Gas Contract Measurement and Quality Clauses."

The AGA Report 4A reported 91 occurrences of pipeline tariffs with carbon dioxide limits of 1% to 2%, while there were 63 occurrences for carbon dioxide limits of 3% to 4%. Similarly, a 2003 Southwest Research Institute gas quality survey of 64 pipeline operators found that the median allowable carbon dioxide fraction was 2% and the range was 1% to 5%.³⁵ A Gas Processing Association study also found that a carbon dioxide limit of 3% to 4% is representative of U.S. pipelines.³⁶

These data support the conclusions that the Rule 30 carbon dioxide specification is well within the normal industry requirements range, and carbon dioxide concentrations of less than or equal to 3% are reasonably achievable by gas suppliers.

B. Rule 30's Oxygen Limit Should Not Be Changed.³⁷

SoCalGas recommends retaining its $\leq 0.2\%$ limit because this limit: 1) addresses the risk of pipeline corrosion, and 2) is not more restrictive than industry standards. It should be noted that Witness Moghissi and industry research findings suggest that 0.001% oxygen limit should be adopted as soon as practicable.³⁸

1. SoCalGas' oxygen limit helps mitigate pipeline corrosion risk.

SoCalGas is proposing to retain this limit because, in very small quantities, oxygen can lead to the corrosion of steel pipelines.³⁹ When water is present, oxygen, like carbon dioxide, contributes to

³⁵ SoCalGas Witness Moghissi Testimony, at p. 7.

³⁶ "The Gas Processing Industry: Its Function and Role in Energy Supplies," Gas Processors Association.

³⁷ This discussion is supported by the testimony of Oliver Moghissi at pp. 3-7

³⁸ As Witness Moghissi testifies, evidence shows that a small amount of oxygen is a catalyst to pipeline corrosion. A PRCI study affirms that limiting oxygen concentration to no more than 0.001% may be sufficient to reduce oxygen-induced corrosion in gas transmission pipelines to acceptably low levels. See SoCalGas Witness Moghissi Testimony, at p. 3.

³⁹ Oxygen "can promote pipeline corrosion in the presence of water and sulfur." See "Guidebook to Gas Interchangeability and Gas Quality," BP and International Gas Union, at Table 3.5.

pitting corrosion, significantly reduces the effectiveness of corrosion inhibitors, and greatly accelerates corrosion caused by other corrodents (such as carbon dioxide) that are typically present in natural gas. Witness Moghissi attests that even at levels this low oxygen poses a corrosion problem, especially where free water is available.⁴⁰

2. SoCalGas' oxygen limit is more lenient than industry standards.

Rule 30's $\leq 0.2\%$ oxygen limit is identical to Centerpoint Energy, B-R Pipeline Company, and Transcolorado Gas Transmission, and more generous than Questar Pipeline ($\leq 0.01\%$), Colorado Interstate Gas Company ($\leq 0.01\%$), and Panhandle Eastern Pipeline ($\leq 0.005\%$). Rule 30's oxygen limit is also consistent with the AGA Report 4A, "Natural Gas Contract Measurement and Quality Clauses," which reported 70 occurrences of pipeline tariffs with oxygen limits of 0.11% - 0.2%. The AGA Report 4A also reported there were 11 occurrences with oxygen limits of 0.011 – 0.1%, and 35 occurrences with oxygen limits less than 0.001%.

Given this data, SoCalGas believes, at a minimum, Rule 30's $\leq 0.2\%$ oxygen limit should be retained.

C. Rule 30's Total Inerts Limit Should Not Be Changed.⁴¹

SoCalGas strongly recommends retaining its $\leq 4\%$ total inerts limit.

1. Rule 30's total inerts limit helps maintain the safe operation of end-use equipment.

SoCalGas appliance testing results demonstrate Historical California Production gases with total inerts exceeding 4% expose SoCalGas' customers to safety-related risks from flame lifting-induced carbon monoxide emissions.⁴² Despite the fact that flame lifting was not predicted, the commercial radiant burner exhibited flame lifting with 5% total inerts, demonstrating that SoCalGas

⁴⁰ See SoCalGas Witness Moghissi Testimony, at p. 7.

⁴¹ This discussion is supported by the testimony of Charles Benson, at pp. 26-27 .

⁴² SoCalGas Witness Benson Testimony, at pp. 13-14.

cannot solely rely on the Lifting Index to predict flame lifting. The commercial radiant burner also exhibited flame lifting and excessive carbon monoxide emissions of 1348 ppm, with 10% total inerts. The California Department of Industrial Relations cautions that the carbon monoxide content of the atmosphere in any enclosed space should be maintained at *not more than 50 ppm* as an 8-hour time-weighted average, and persons should be removed from any enclosed space if the carbon monoxide concentration *exceeds 100 ppm*.⁴³

2. Rule 30's total inerts limits help maintain the proper operation of end-use equipment.

Witness Benson affirms that high levels of inert gases, such as carbon dioxide and nitrogen, can result in poor appliance operation or flame outs. The Commission also recognizes that high levels of inert gases, such as carbon dioxide and nitrogen, can result in poor appliance operation or flame outs.⁴⁴ The Canadian Gas Association explains that nitrogen and carbon dioxide have no associated heating value, and as the concentration of inert components increases, the total energy per unit volume of gas decreases.⁴⁵

The NGC+ White Paper also determined that elevated inert gas reduces the heating value, increases the specific gravity of the gas, and as a consequence reduces the Wobbe number and changes other interchangeability indices. The NGC+ White Paper found that injection of one (1) percent by volume of nitrogen or air reduces the Wobbe Number of natural gas by approximately 1.3 percent.⁴⁶ Thus, total inerts increase fuel usage and reduce the energy performance of appliances.

3. Rule 30's total inerts limit is consistent with industry standards.

SoCalGas' Rule 30 \leq 4% total inerts limit is consistent with industry standards. It is identical to that specified in the NGC+ White Paper, and consistent with the Gas Processing Association's

⁴³ See California Code of Regulations, Title 8, Section 3463(a)(1).

⁴⁴ D.10-09-001, at p. 21.

⁴⁵ "Natural Gas Interchangeability Guidelines Adopted By the CGA," Canadian Gas Association Standing Committee on Operations Natural Gas Interchangeability Task Force (2009), at p. 24.

⁴⁶ NGC+ White Paper, at p. 15.

study of US pipeline study, which determined a 3% to 4% total inerts range is representative.⁴⁷ In addition, AGA Report 4A, “Natural Gas Contract Measurement and Quality Clauses” reported 38 occurrences of pipeline tariffs with 3.1% to 4% total inerts limits, and 11 with 2.1% to 3%.

D. Rule 30’s Heating Value Should Not Be Changed.

SoCalGas recommends retention of the 990 to 1150 Btu/cf heating value limits because they are consistent with industry standards. Although the NGC+ White Paper recommends a 1110 Btu/cf maximum heating value, Rule 30’s 1150 maximum is consistent, because the White Paper determined that service territories with demonstrated experience with supplies exceeding the recommended heating value may “continue to use supplies conforming to this experience as long as it does not unduly contribute to safety and utilization problems of end use equipment.”⁴⁸

Moreover, Rule 30’s heating values are consistent with the Gas Processing Association U.S. pipelines study, which found 950 to 1150 Btu/cf heating value limits representative.⁴⁹ This finding also aligns with the AGA Report 4A, “Natural Gas Contract Measurement and Quality Clauses,” which indicates 990 to 1150 Btu/cf is consistent with numerous pipelines.

V. SOCALGAS’ CURRENT NON-HYDROGEN SULFIDE LIMITS ARE NOT TOO RESTRICTIVE OR REDUNDANT IN LIGHT OF THE CURRENT RULE 30 WOBBE SPECIFICATION AND LIFTING INDEX.

Interchangeability indices are performance standards that address a range of end-use performance characteristics. However, as the Commission Staff has recognized, “[i]mpurities are not adequately accounted for through performance standards.”⁵⁰ Likewise, the University of Texas-affiliated Center for Energy Economics recommends that “more stringent controls on inert materials, carbon dioxide, oxygen and water vapor entering interstate pipelines would be appropriate and would

⁴⁷ “The Gas Processing Industry: Its Function and Role in Energy Supplies,” Gas Processors Association.

⁴⁸ NGC+ White Paper, at p. 26.

⁴⁹ “The Gas Processing Industry: Its Function and Role in Energy Supplies,” Gas Processors Association.

⁵⁰ “Summary of the Joint Workshop on Natural Gas Quality Standards,” Dockets: CPUC R.04-01-025, California Energy Commission 04-IEP-01, (2005), at p. 38.

contribute to increased operating integrity and safety and should be considered as part of an overall tariff review of gas quality provisions.”⁵¹ Accordingly, Rule 30 includes non-hydrogen sulfide limits to restrict the amount of impurities received in delivered gas.

The Rule 30 non-hydrogen sulfide limits are not too restrictive or redundant in light of the Rule 30 Wobbe Specification and Lifting Index because they are needed to: 1) support the safe and proper operation of end-use equipment, 2) meet industry requirements for pipeline safety and integrity with respect to corrosion control, and 3) are consistent with industry standards.

A. Rule 30’s Non-Hydrogen Sulfide Limits Are Needed to Maintain the Safe and Proper Operation of End-Use Equipment.

SoCalGas appliance testing confirms that Rule 30’s non-hydrogen sulfide limits are needed in conjunction with the Rule 30 interchangeability specifications to maintain customer safety and proper equipment operation. When testing appliances using levels of carbon dioxide and total inerts that exceeded the Rule 30 restrictions, SoCalGas documented flame lifting, and excessive carbon monoxide emissions. As described in Section IV.A.1 above, the commercial radiant burner exhibited flame lifting with a 5% total inerts level, even though the Rule 30 AGA lifting index limit was satisfied.⁵²

In addition, SoCalGas documented food safety issues with undercooked hamburger patties when the commercial char broiler used gas with Wobbe numbers that exceeded Rule 30 limits, but within the Historical California Production range. Hamburger patties were cooked, using the same procedures and cooking time, with a 1441 Wobbe number and a 1203 Wobbe number (exceeding

⁵¹ “Interstate Natural Gas—Quality Specifications & interchangeability”, Center for Economics (Energy Economics Research at the Bureau of Economic Geology 2004), at p. 40.

⁵² See SoCalGas Witness Benson Testimony, at p. 18.

Rule 30's 1279 to 1385) gas. The test showed food temperatures decreased as much as 10 degrees and the patties were visibly undercooked when moving from the higher to the lower Wobbe gas.⁵³

Moreover, etaPartners LLC residential water heater and warm air furnace testing supports the need for both interchangeability indices and non-hydrogen sulfide limits. Residential warm air furnace carbon monoxide emissions exceeded the ANSI certification limit of 400 ppm with 1284 Wobbe and below. Residential water heater carbon monoxide emissions exceeded the ANSI certification limit of 400 ppm with Wobbe above 1400.

These testing results demonstrate that SoCalGas' non-hydrogen sulfide limits are neither redundant nor too restrictive in light of the Rule 30 Wobbe specification and Lifting Index because these limits address safety issues not addressed solely by the Rule 30 Wobbe specification or the Lifting Index.

B. SoCalGas' Non-Hydrogen Sulfide Limits Are Needed Because the Wobbe Index Specifications and AGA 36 Multiple Indices Do Not Address Pipeline Integrity Issues.

The gas interchangeability indices are designed to predict the ability of one gas to substitute for another without impacting all end-users, but they do not address the pipeline integrity issues associated with varying gas compositions. As discussed in sections above, oxygen and carbon dioxide, when in the presence of water, contribute to pipeline corrosion. The Commission has acknowledged the vital role that non-hydrogen sulfide limits play in safeguarding pipeline integrity.⁵⁴ As mentioned, SoCalGas proposes to conduct extensive pressure testing on its pipeline system, which may introduce water into the pipeline system. This reinforces SoCalGas' need to limit oxygen and carbon dioxide constituent levels in its pipeline system.

⁵³ This testing is discussed in more detail in the testimony of Charles Benson at pp. 20-22.

⁵⁴ See D.10-09-001, at pp. 16-22.

Therefore, SoCalGas requests to retain its Rule 30 non-hydrogen sulfide limits because the Wobbe specifications and AGA Multiple Indices do not address corrosion.

C. SoCalGas' Use Of Non-Hydrogen Sulfide Limits In Conjunction With the Wobbe Index Specification and Lifting Index Specifications Is Consistent With the NGC+ White Paper and Industry Standards.

In developing its Rule 30 gas delivery specifications, SoCalGas, like the NGC+ Work Group, utilized the concept of developing an “operating regime.” SoCalGas developed its operating regime by identifying several parameters that address the specific combustion phenomena and emission characteristics caused by changing gas quality, and defining an acceptable range for those parameters.⁵⁵ Although the Rule 30 Wobbe number and AGA Lifting Index limits are generally effective in maintaining interchangeable natural gas supplies, customer and pipeline safety also requires non-hydrogen sulfides limits. Likewise, the NGC+ Working Group “recognizes that compositional limits for specific gas constituents may be needed.”⁵⁶

SoCalGas' practice is also consistent with industry standards. The Center for Energy Economics recommends that “[in addition to interchangeability indices] more stringent controls on inert materials, carbon dioxide, oxygen and water vapor entering interstate pipelines would be appropriate and would contribute to increased operating integrity and safety and should be considered as part of an overall tariff review of gas quality provisions.”⁵⁷ Many pipelines, consistent with SoCalGas' Rule 30, apply gas constituent limits in conjunction with multiple interchangeability indices to protect the safety and security of their customers and pipeline systems. For example, pipelines such as Algonquin Gas Transmission, Columbia Gas Transmission, East Tennessee Natural

⁵⁵ D.06-03-039, at p. 149.

⁵⁶ NGC+ White Paper, at p. 23.

⁵⁷ “Interstate Natural Gas—Quality Specifications & interchangeability”, Center for Economics (Energy Economics Research at the Bureau of Economic Geology 2004), at p. 40.

Gas, Florida Gas Transmission Company, Questar Transmission, and Iroquois Gas Transmission utilize both gas constituent limits and interchangeability indices.

SoCalGas' standards are not more restrictive, because they are consistent with NGC+ White Paper recommendations and pipeline industry standards.

VI. THE CALIFORNIA PRODUCER GRANDFATHERING EXEMPTION SHOULD BE ELIMINATED, WHEN CONTRACTUALLY PERMISSIBLE.⁵⁸

Historical California Production is not required to comply with the Rule 30 gas delivery specifications. Rather, it is governed either by SoCalGas Rule 30 in effect as of September 21, 2006, or, by agreement. As described herein above, the $\pm 10\%$ Wobbe number exception (1199-1465) creates an unacceptable and unnecessary flame lifting, yellow tipping, food safety, and excessive carbon monoxide emissions risks.⁵⁹

The Historical California Production exemption is incompatible with SoCalGas' pipeline safety goals and requirements. Accordingly, to maintain the protection of SoCalGas customers, employees, pipeline system, and the public-at-large, the Commission should approve SoCalGas' request that *all* Historical California Production, when contractually permissible, should meet *all* Rule 30 gas delivery specifications.

VII. STATUTORY AND PROCEDURAL REQUIREMENTS⁶⁰

A. Proposed Category, Issues to be Considered, Need for Hearings and Proposed Schedule

SoCalGas proposes that this proceeding be categorized as "ratesetting" proceeding within the meaning of Rules 1.3(e) and 7.1. Because of the limited factual issues to be addressed in this

⁵⁸ This discussion is supported by the testimony of Hugo Mejia at p. 7.

⁵⁹ Additionally, SoCalGas' 2003 testing of the industrial heat treating furnace shows carbon monoxide levels increased in excess of 20,000 ppm with 1435 Wobbe gas.

⁶⁰ Because in this Application SoCalGas does not seek to increase rates or implement changes that would result in increased rates, Rule 3.2 of the Commission's Rules of Practice and Procedure is not implicated.

proceeding, SoCalGas does not anticipate a need for hearings. In the event hearings do become necessary, SoCalGas proposes the following procedural schedule:

<u>EVENT</u>	<u>DATE</u>
SoCalGas files Application	September 2, 2011
Deadline for responses to Application	October 3, 2011
Prehearing Conference	October 19, 2011
Intervenor Comments	November 28, 2011
Reply Comments	December 18, 2011
Evidentiary Hearings (if necessary)	January 11-12, 2012
Opening Briefs	February 29, 2012
Reply Briefs	April 2, 2012
Proposed Decision	May 2012
Commission Decision	June 2012

B. Authority – Rule 2.1

This Application is made pursuant to Sections 451, 701, 702, 728, and 729 of the Public Utilities Code of the State of California, the Commission’s Rules of Practice and Procedure, and relevant decisions, orders, and resolutions of the Commission.

C. Corporate Information and Correspondence – Rule 2.1(a) and (b)

Applicant’s legal name is Southern California Gas Company. SoCalGas is a public utility organized and existing under the laws of the State of California. SoCalGas’ principal place of business and mailing address is 555 West Fifth Street, Los Angeles, California. All correspondence and communications regarding this Application should be addressed to:

Michael Franco
Regulatory Case Manager
Southern California Gas Company
555 West Fifth Street, GT14D6
Los Angeles, California 90013-1011
Phone: (213) 244-5839
Fax: (213) 244-4957
E-mail: mfranco@semprautilities.com

A copy should also be sent to:

Kim F. Hassan
Attorney
Southern California Gas Company
555 West Fifth Street, GT14E7
Los Angeles, California 90013-1011
Phone: (213) 244-3061
Fax: (213) 629-9620
E-mail: khassan@semprautilities.com

D. Articles of Incorporation – Rule 2.2

SoCalGas is incorporated under the laws of the State of California. A certified copy of the restated Articles of Incorporation, as last amended, currently in effect and certified by the California Secretary of State, was filed with the Commission on October 1, 1998 in connection with SoCalGas' Application No. 98-10-012, and is incorporated herein by reference.

VIII. RELIEF REQUESTED

SoCalGas' Rule 30 gas delivery specifications are designed to maintain the protection of SoCalGas' customers, employees, pipeline system, and the public-at-large. The Rule 30 gas delivery specifications are consistent with other pipelines and industry standards. For these reasons and those discussed herein, SoCalGas respectfully requests that the Commission remove the Historical California Production exception, when contractually permissible, but otherwise allow SoCalGas to retain its current Rule 30 gas delivery specifications.

Respectfully submitted,

SOUTHERN CALIFORNIA GAS COMPANY

By: /s/ Richard M. Morrow
Richard M. Morrow
Vice President of Engineering and Operations Staff

By: /s/ Kim F. Hassan

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September 2, 2011

VERIFICATION

I, Richard M. Morrow, am an officer of Southern California Gas Company, and I am authorized to make this verification on its behalf. The content of this Application is true, except as to matters that are stated on information and belief. As to those matters, I believe them to be true.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on September 2, 2011, at Los Angeles, California.

/s/ Richard M. Morrow

Richard M. Morrow
Vice President of Engineering and Operations Staff

ATTACHMENT A

Rule No. 30

Sheet 1

TRANSPORTATION OF CUSTOMER-OWNED GAS

The general terms and conditions applicable whenever the Utility System Operator transports customer-owned gas, including wholesale customers, the Utility Gas Procurement Department, other end-use customers, aggregators, marketers and storage customers (referred to herein as "customers) over its system are described herein.

A. General

1. Subject to the terms, limitations and conditions of this rule and any applicable CPUC authorized tariff schedule, directive, or rule, the customer will deliver or cause to be delivered to the Utility and accept on redelivery quantities of gas which shall not exceed the Utility's capability to receive or redeliver such quantities. The Utility will accept such quantities of gas from the customer or its designee and redeliver to the customer on a reasonably concurrent basis an equivalent quantity, on a term basis, to the quantity accepted.
2. The customer warrants to the Utility that the customer has the right to deliver the gas provided for in the customer's applicable service agreement or contract (hereinafter "service agreement") and that the gas is free from all liens and adverse claims of every kind. The customer will indemnify, defend and hold the Utility harmless against any costs and expenses on account of royalties, payments or other charges applicable before or upon delivery to the Utility of the gas under such service agreement.
3. The point(s) where the Utility will receive the gas into its intrastate system (point(s) of receipt, as defined in Rule No. 1) and the point(s) where the Utility will deliver the gas from its intrastate system to the customer (point(s) of delivery, as defined in Rule No. 1) will be set forth in the customer's applicable service agreement. Other points of receipt and delivery may be added by written amendment thereof by mutual agreement. The appropriate delivery pressure at the point(s) of delivery to the customer shall be that existing at such point(s) within the Utility's system or as specified in the service agreement.

B. Quantities

1. The Utility shall as nearly as practicable each day redeliver to customer and customer shall accept, a like quantity of gas as is delivered by the customer to the Utility on such day. It is the intention of both the Utility and the customer that the daily deliveries of gas by the customer for transportation hereunder shall approximately equal the quantity of gas which the customer shall receive at the point(s) of delivery. However, it is recognized that due to operating conditions either (1) in the fields of production, (2) in the delivery facilities of third parties, or (3) in the Utility's system, deliveries into and redeliveries from the Utility's system may not balance on a day-to-day basis. The Utility and the customer will use all due diligence to assure proper load balancing in a timely manner.

(Continued)

(TO BE INSERTED BY UTILITY)
ADVICE LETTER NO. 4240
DECISION NO. 11-04-032

ISSUED BY
Lee Schavrien
Senior Vice President
Regulatory Affairs

(TO BE INSERTED BY CAL. PUC)
DATE FILED May 6, 2011
EFFECTIVE Jun 5, 2011
RESOLUTION NO. _____

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Rule No. 30
TRANSPORTATION OF CUSTOMER-OWNED GAS

Sheet 2

(Continued)

B. Quantities (Continued)

2. The gas to be transported hereunder shall be delivered and redelivered as nearly as practicable at uniform hourly and daily rates of flow. The Utility may refuse to accept fluctuations in excess of ten percent (10%) of the previous day's deliveries, from day to day, if in the Utility's opinion receipt of such gas would jeopardize other operations. Customers may make arrangements acceptable to the Utility to waive this requirement.
3. The Utility does not undertake to redeliver to the customer any of the identical gas accepted by the Utility for transportation, and all redelivery of gas to the customer will be accomplished by substitution on a therm-for-therm basis.
4. Transportation customers, including the Utility Gas Procurement Department, wholesale customers, contracted marketers, and aggregators will be provided monthly balancing services in accordance with the provisions of Schedule No. G-IMB.

C. Electronic Bulletin Board

1. The Utility prefers and encourages customers, including the Utility Gas Procurement Department, to use Electronic Bulletin Board (EBB) as defined in Rule No. 1 to submit their transportation nominations to the Utility. Imbalance trades are to be submitted through EBB or by means of the Imbalance Trading Agreement Form (Form 6544). Use of EBB is not mandatory for transportation only customers.
2. Transportation nominations may be submitted manually or through EBB. For each transportation nomination submitted manually, (by means other than EBB such as facsimile transmittal), a processing charge of \$11.87 shall be assessed. No processing charge will apply to an EBB subscriber for nominations submitted by fax at a time the EBB system is unavailable for use by the subscriber.

D. Operational Requirements

1. Customer Representation

The customer must provide to the Utility the name(s) of any agents ("Agent") used by the customer for delivery of gas to the Utility for transportation service hereunder and their authority to represent customer.

A customer may choose only one of the following gas supply arrangements: 1) one Contractor, 2) one or multiple Agents, or 3) itself for purposes of nominating to its end-use account (OCC).

(Continued)

(TO BE INSERTED BY UTILITY)
ADVICE LETTER NO. 3818-A
DECISION NO. 07-12-019
2C13

ISSUED BY
Lee Schavrien
Senior Vice President
Regulatory Affairs

(TO BE INSERTED BY CAL. PUC)
DATE FILED May 12, 2008
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Rule No. 30

Sheet 3

TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

D. Operational Requirements (Continued)

2. Receipt Points

Utility accepts nominations from transportation customers or their representatives at the following Receipt Points into the SoCalGas system, as referenced in Schedule No. G-RPA*:

- El Paso Pipeline at Blythe (Southern Transmission Zone)
- North Baja Pipeline at Blythe (Southern Transmission Zone)
- Transportadora de Gas Natural de Baja California at Otay Mesa (Southern Transmission Zone)
- Kern River Pipeline and Mojave Pipeline (Wheeler Transmission Zone)
- PG&E at Kern River Station (Wheeler Transmission Zone)
- Occidental of Elk Hills at Gosford (Wheeler Transmission Zone)
- Transwestern Pipeline at North Needles (Northern Transmission Zone)
- Transwestern Pipeline at Topock (Northern Transmission Zone)
- El Paso Pipeline at Topock (Northern Transmission Zone)
- Questar Southern Trails Pipeline at North Needles (Northern Transmission Zone)
- Kern River Pipeline at Kramer Junction (Northern Transmission Zone)
- Line 85 (California Supply)
- North Coastal (California Supply)
- Other CA Producers (California Supply)
- Storage

* Additional Receipt Points will be added as they are established in the future.

3. Receipt Point Capacity

Each day, Receipt Point and Transmission Zone capacities will be set at their physical operating maximums under the operating conditions for that day. The Utility will schedule nominations for each Receipt Point and Transmission Zone to the maximum operating capacity of that individual Receipt Point or Transmission Zone. The maximum operating capacity is defined as the facility design or contractual limitation to deliver gas into the Utility's system adjusted for operational constraints (i.e. maintenance, localized restrictions, and upstream delivery pressures) as determined each day.

The NAESB elapsed pro rata rules require that the portion of the scheduled quantity that would have theoretically flowed up to the effective time of the intraday nomination be confirmed, based upon a cumulative uniform hourly quantity for each nomination period affected. As such, the scheduled quantities for each shipper are subject to change in the Intraday 1 Cycle and the Intraday 2 Cycle. However, each shipper's resulting scheduled quantity for the Gas Day will be no less than the elapsed prorated scheduled quantity for that shipper.

(Continued)

(TO BE INSERTED BY UTILITY)

ADVICE LETTER NO. 4139
DECISION NO. 09-11-006

3C15

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Lee Schavrien
Senior Vice President
Regulatory Affairs

(TO BE INSERTED BY CAL. PUC)

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Rule No. 30

Sheet 4

TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

D. Operational Requirements (Continued)

3. Receipt Point Capacity (Continued)

The Utility will use the following rules to confirm nominations to the Receipt Point and Transmission Zone maximum operating capacities.

Confirmation Order:

- Nominations using Firm Primary receipt point access rights will be first; pro-rated if over-nominated*.
- Nominations using Firm Alternate receipt point access rights within the associated transmission zone will be second ("Firm Alternate Within-the-Zone"); pro-rated if over-nominated.
- Nominations using Firm Alternate receipt point access rights outside the associated transmission zone will be third ("Firm Alternate Outside-the-Zone"); pro-rated if over-nominated.
- Nominations using Interruptible receipt point access right will be fourth, pro-rated if over-nominated.

Bumping Rules:

- Firm Primary rights can "bump" any Firm Alternate scheduled quantities through the Evening Cycle.
- Firm Alternate Within-the-Zone rights can "bump" Firm Alternate Outside-the-Zone scheduled quantities through the Evening Cycle.
- Firm Primary and any Firm Alternate can "bump" interruptible scheduled quantities through the Intraday 1 Cycle subject to the NAESB elapsed pro-rata rules.
- Bumping will not be allowed in the Intraday 2 Cycle.

* If the available firm receipt point capacity at a particular receipt point or within a particular transmission zone is less the firm capacity figures stated in Schedule No. G-RPA, scheduling of firm receipt point capacity nominations will be pro rata within each scheduling cycle. Any nominations of firm receipt point rights acquired through the addition of Displacement Receipt Point Capacity facilities will be reduced pro rata to zero at the applicable receipt point or within the applicable transmission zone prior to other firm receipt point rights nominations being reduced.

The Utility will use the following rules to confirm nominations to the system capacity limitation as defined in Section F for OFO events during the Intraday 1 cycle.

(Continued)

(TO BE INSERTED BY UTILITY)
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 DECISION NO. 09-11-006
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 Regulatory Affairs

(TO BE INSERTED BY CAL. PUC)
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Rule No. 30

Sheet 5

TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

D. Operational Requirements (Continued)

3. Receipt Point Capacity (Continued)

Intraday 1 Confirmation Order:

- NAESB elapsed pro rata quantity based on Evening Cycle scheduled nominations will be first.
- Scheduled quantities from the Evening Cycle using Firm Primary receipt point access rights will be second; pro-rated if over-nominated.
- Unscheduled or new Intraday 1 nominations using Firm Primary receipt point access rights will be third; pro-rated if over-nominated.
- Scheduled quantities from the Evening Cycle using Firm Alternate receipt point access rights within the associated transmission zone will be fourth (“Firm Alternate Within-the-Zone”); pro-rated if over-nominated.
- Unscheduled or new Intraday 1 nominations using Firm Alternate receipt point access rights within the associated transmission zone will be fifth (“Firm Alternate Within-the-Zone”); pro-rated if over-nominated.
- Scheduled quantities from the Evening Cycle using Firm Alternate receipt point access rights outside the associated transmission zone will be sixth (“Firm Alternate Outside-the-Zone”); pro-rated if over-nominated.
- Unscheduled or new Intraday 1 nominations using Firm Alternate receipt point access rights outside the associated transmission zone will be seventh (“Firm Alternate Outside-the-Zone”); pro-rated if over-nominated.
- Nominations using Interruptible receipt point access rights will be eighth, pro-rated if over-nominated.

Bumping Rules:

- Firm Primary rights can “bump” any Firm Alternate scheduled quantities through the Intraday 1 Cycle subject to the NAESB elapsed pro rata rules.
- Firm Alternate Within-the-Zone rights can “bump” Firm Alternate Outside-the-Zone scheduled quantities through the Intraday 1 Cycle subject to the NAESB elapsed pro rata rules.
- Firm Primary and any Firm Alternate can “bump” interruptible scheduled quantities through the Intraday 1 Cycle.
- Bumping will not be allowed in the Intraday 2 Cycle.

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(TO BE INSERTED BY UTILITY)
ADVICE LETTER NO. 4139
DECISION NO. 09-11-006

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Lee Schavrien
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Regulatory Affairs

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Rule No. 30
TRANSPORTATION OF CUSTOMER-OWNED GAS

Sheet 6

(Continued)

D. Operational Requirements (Continued)

4. Storage Service Capacity

Each day, storage injection and withdrawal capacities will be set at their physical operating maximums under the operating conditions for that day and posted on the Utility's EBB. The Utility will use the following rules to limit the nominations to the storage maximums.

- Nominations using Firm rights will have first priority, pro-rated to the available firm capacity.
- All other nominations using Interruptible rights will have second priority, pro-rated if over-nominated based on the daily volumetric price paid.
- Firm rights can "bump" interruptible scheduled quantities through the Intraday 3 cycle.

Notice to bumped parties will be provided via the Transactions module in EBB. Bumping is subject to the NAESB elapsed prorata rules.

5. Off-System Delivery (OSD) Service

For each flow date, the Utility will determine the quantity of capacity available for off-system deliveries. The quantity will include that available via physical redelivery from the Utility system along with displacement of forward haul flowing supplies. For each nomination cycle, the Utility customers who have contracted with the Utility for off-system delivery service may submit a nomination for such service pursuant to Schedule No. G-OSD, for deliveries to the PG&E system.

The following rules will be used in scheduling of Off-System Delivery Services:

- Nominations using Firm OSD rights will have first priority; pro-rated if over-nominated.
- Nominations using Interruptible OSD rights will have second priority; pro-rated if over-nominated.
- Firm OSD rights can "bump" interruptible OSD scheduled quantities through the Intraday 1 Cycle, subject to the NAESB elapsed pro rata rules.
- Bumping will not be allowed in the Intraday 2 Cycle.

6. Nominations

The customer shall be responsible for submitting gas service nominations to the Utility no later than the deadlines specified below.

(Continued)

(TO BE INSERTED BY UTILITY)

ADVICE LETTER NO. 4139
DECISION NO. 09-11-006

6C25

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Lee Schavrien
Senior Vice President
Regulatory Affairs

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Rule No. 30

Sheet 7

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TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

D. Operational Requirements (Continued)

6. Nominations (Continued)

Each nomination shall include all information required by the Utility's nomination procedures. Nominations received by the Utility will be subject to the conditions specified in the service agreements with the Utility. The Utility may reject any nomination not conforming to the requirements in these rules or in applicable service agreements. The customer shall be responsible for making all corresponding upstream nomination/confirmation arrangements with the interconnecting pipeline(s) and/or operator(s).

Evening and Intraday nominations may be used to request an increase or decrease to scheduled volumes or a change to receipt or delivery points.

Intraday nominations do not roll from day to day.

Nominations submitted in any cycle will automatically roll to subsequent cycles for the specified flow date and from day-to-day through the end date or until the end date is modified by the nominating entity.

Nominations may be made in the following manner:

<u>FROM</u>	<u>TO</u>
Pipeline/CA Producer	Receipt Point Access Contract
Receipt Point Access Contract	End User, Contracted Marketer, ESP
Receipt Point Access Contract	Pool Account
Receipt Point Access Contract	Storage Account
Receipt Point Access Contract	Off-System Delivery Agreement
Pool Account	End User, Contracted Marketer, ESP
Pool Account	Pool Account
Storage Account	End User, Contracted Marketer, ESP
Pool Account	Storage Account
Storage Account	Pool Account
Storage Account	Storage Account
Storage Account	Off-System Delivery Agreement
Pool Account	Off-System Delivery Agreement
Off-System Delivery Agreement	Pipeline (PG&E)

(Continued)

(TO BE INSERTED BY UTILITY)
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Rule No. 30
TRANSPORTATION OF CUSTOMER-OWNED GAS

Sheet 8

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(Continued)

D. Operational Requirements (Continued)

7. Timing

All times referred to below are in Pacific Clock Time. Requests for deadline extensions may be granted for 15 minutes only if request is made prior to the deadlines shown below.

Timely Cycle

Transportation nominations submitted via EBB for the Timely Nomination cycle must be received by the Utility by 9:30 a.m. one day prior to the flow date. Nominations submitted via fax must be received by the Utility by 8:30 a.m. one day prior to the flow date. Timely nominations will be effective at 7:00 a.m. on the flow date.

Evening Cycle

Nominations submitted via EBB for the Evening Nomination cycle must be received by the Utility by 4:00 p.m. one day prior to the flow date. Nominations submitted via fax must be received by the Utility by 3:00 p.m. one day prior to the flow date. Evening nominations will be effective at 7:00 a.m. on the flow date.

Intraday 1 Cycle

Nominations submitted via EBB for the Intraday 1 Nomination cycle must be received by the Utility by 8:00 a.m. on the flow date. Nominations submitted via fax must be received by the Utility by 7:00 a.m. on the flow date. Intraday 1 nominations will be effective at 3:00 p.m. the same day.

Intraday 2 Cycle

Nominations submitted via EBB for the Intraday 2 Nomination cycle must be received by the Utility by 3:00 p.m. on the flow date. Nominations submitted via fax must be received by the Utility by 2:00 p.m. on the flow date. Intraday 2 nominations will be effective at 7:00 p.m. the same day.

Intraday 3 Cycle

Nominations submitted via EBB for the Intraday 3 Nomination cycle must be received by the Utility by 9:00 p.m. Pacific Clock Time on the flow date. Nominations submitted via fax must be received by the Utility by 8:00 p.m. Pacific Clock Time on the flow date. Physical flow is deemed to begin at 11:00 p.m. Pacific Clock Time.

(Continued)

(TO BE INSERTED BY UTILITY)
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DECISION NO. 09-11-006
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Regulatory Affairs

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Rule No. 30
TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

D. Operational Requirements (Continued)

7. Timing (Continued)

Intraday 3 Cycle (Continued)

Intraday 3 nominations are available only for firm nominations relating to the injection of existing flowing supplies into a storage account or for firm nominations relating to the withdrawal of gas in storage to meet an identified customer's usage. A customer may make Intraday 3 nominations from a third-party storage provider that is directly connected to the Utility's system or from the Utility's storage, subject to the storage provider or the Utility being able to deliver or accept the daily quantity nominated for Intraday 3 within the remaining hours of the flow day and the Utility's having the ability to deliver or accept the required hourly equivalent flow rate during the remaining hours of the flow day. Third-party storage providers will be treated on a comparable basis with the Utility's storage facilities to the extent that it can provide the equivalent service and operations.

8. Confirmation and Ranking Process

A ranking must be received by the Utility at the time the nomination or the confirmation is submitted. The nominating party will rank its supplies and the confirming party will rank its markets. The Utility will then balance the pipeline system using the "lesser of" rule and the rankings submitted.

The ranking will automatically roll from cycle-to-cycle and day-to-day until the nomination end date, unless modified by the nominating entity.

If no ranking is submitted at the time the nomination is submitted, the Utility will assign the lowest ranking to the nomination.

The Utility will compare the nominations received for each transaction and the corresponding confirmation. If the two quantities do not agree, the "lesser of" the two quantities will be the quantity scheduled by the Utility. Subject to the Utility receiving notification of confirmed transportation from the applicable upstream pipeline(s) and/or operator(s), the Utility will provide scheduled quantities on EBB.

9. As between the customer and the Utility, the customer shall be deemed to be in control and possession of the gas to be delivered hereunder and responsible for any damage or injury caused thereby until the gas has been delivered at the point(s) of receipt. The Utility shall thereafter be deemed to be in control and possession of the gas after delivery to the Utility at the point(s) of receipt and shall be responsible for any damage or injury caused thereby until the same shall have been redelivered at the point(s) of delivery, unless the damage or injury has been caused by the quality of gas originally delivered to the Utility, for which the customer shall remain responsible.

(Continued)

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DECISION NO. 09-11-006
SC15

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Regulatory Affairs

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Rule No. 30

Sheet 10

T

TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

D. Operational Requirements (Continued)

10. Any penalties or charges incurred by the Utility under an interstate or intrastate supplier contract as a result of accommodating transportation service shall be paid by the responsible customer.
11. Customers receiving service from the Utility for the transportation of customer-owned gas shall pay any costs incurred by the Utility because of any failure by third parties to perform their obligations related to providing such service.

E. Interruption of Service

1. The customer's transportation service priority shall be established in accordance with the definitions of Core and Noncore service, as set forth in Rule No. 1, and the provisions of Rule No. 23, Continuity of Service and Interruption of Delivery. If the customer's gas use is classified in more than one service priority, it is the customer's responsibility to inform the Utility of such priorities applicable to the customer's service. Once established, such priorities cannot be changed during a curtailment period.
2. The Utility shall have the right, without liability (except for the express provisions of the Utility's Service Interruption Credit as set forth in Rule No. 23), to interrupt the acceptance or redelivery of gas whenever it becomes necessary to test, alter, modify, enlarge or repair any facility or property comprising the Utility's system or otherwise related to its operation. When doing so, the Utility will try to cause a minimum of inconvenience to the customer. Except in cases of unforeseen emergency, the Utility shall give a minimum of ten (10) days advance written notice of such activity.

F. Nominations in Excess of System Capacity

1. The Utility System Operator's protocol for declaring an Operational Flow Order (OFO) is described in Rule No. 41. Any OFO shall apply to all customers, including wholesale customers and the Utility Gas Procurement Department.
2. The OFO period shall begin on the flow date(s) indicated by the Utility Gas Control Department. Customers shall be allowed to reduce their nominations or adjust their supply ranking in response to the OFO.
3. In the event customers fail to adequately reduce their transportation nominations, the Utility shall reduce the confirmed receipt point access nominations as defined in Section D.

D,N

(Continued)

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TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

F. Nominations in Excess of System Capacity (OFO) Continued)

4. In accordance with the provisions of Schedule No. G-IMB, Buy-Back service shall be applied separately to each OFO day. Customer meters subject to maximum daily quantity limitations will use the maximum daily quantity as a proxy for daily usage. For the Utility Gas Procurement Department, the Daily Forecast Quantity will be used as a proxy for daily usage. For core aggregators, their Daily Contract Quantity will be used as a proxy for daily usage.

G. Winter Deliveries

The Utility requires that customers deliver (using a combination of flowing supply and storage withdrawal) at least 50% of burn over a five-day period from November through March. As the Utility's total storage inventory declines through the winter, the delivery requirement becomes daily and increases to 70% or 90% depending on the level of inventory relative to peak day minimums.

1. From November 1 through March 31 customers are required to deliver (flowing supply and storage withdrawal) at a minimum of 50% of burn over a 5-day period. In other words, for each 5-day period, the Utility will calculate the total burn and the total delivery. If the total delivery is less than 50% of the total burn, a daily balancing standby charge is applied. The daily balancing standby rate is 150% of the highest Southern California Border price during the five day period as published by Natural Gas Intelligence in "NGI's *Daily Gas Price Index*," including authorized franchise fees and uncollectible expenses (F&U) and brokerage fees. Authorized F&U will not be added to any daily stand-by balancing charge for the Utility Gas Procurement Department to the extent it is collected elsewhere. Imbalance trading may not be used to offset the delivery minimums.
 - a. "Burn" means usage and is defined as metered throughput or an estimated quantity such as Minimum Daily Quantity (MinDQ), as defined in Rule No. 1, for customers without automated meters, the Daily Contract Quantity for core aggregators, or the Daily Forecast Quantity for the Utility Gas Procurement Department.
 - b. Example five-day periods are: Nov. 1 through Nov. 5, Nov. 6 through Nov. 10, Nov. 11 through Nov. 15 and so on. November with 30 days has six 5-day periods. December, January and March with 31 days have a 6-day period at the end of the month. February has a shortened 3 or 4-day period at the end of the month. The current 5-day period will run its course fully before the implementation of the 70% daily requirement. In the event that inventories rise above the 70% daily trigger levels by 1 Bcf, then a new, 5-day period will be implemented on the following day.
 - c. Example calculations for determining volumes subject to the daily balancing standby rate are: if over 5 days, total burn is 500,000 therms and total deliveries (including withdrawal) are 240,000 therms, then 10,000 therms is subject to daily balancing standby rate. (50% times 500,000 minus 240,000 equals 10,000).

(Continued)

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DECISION NO. 09-11-006

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Lee Schavrien
Senior Vice President
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TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

G. Winter Deliveries (Continued)

1. (continued)

- d. Example calculations in using NGI's Daily Gas Price Index for determining the daily balancing standby rate are: If for Jan. 6 through Jan. 10 the NGI Southern California Border quoted price ranges are \$2.36- 2.39, \$2.36-2.44, \$2.38-2.47, \$2.36-2.42, and \$2.37- 2.45, respectively, then the daily balancing standby rate becomes \$3.71 (\$2.47 times 150%).
- e. With the exception of weekends and holidays, the Utility will use quotes from the NGI publication dated on the same day as the flow date. Weekend or holiday flow dates will use the first available publication date after the weekend or holiday.
2. When total inventory declines to the "peak day minimum + 20 Bcf trigger," the minimum daily delivery requirement increases to 70%. Customers are then required to be balanced (flowing supply plus storage withdrawal) at a minimum of 70% of burn on a daily basis. The 5-day period no longer applies since the system can no longer provide added flexibility. The daily balancing standby rate is 150% of the highest Southern California Border price per NGI's *Daily Gas Price Index* for the day (including authorized F&U and brokerage fees) and is applied to each day's deliveries which are less than the 70% requirement. Authorized F&U will not be added to any daily stand-by balancing charge for the Utility Gas Procurement Department to the extent it is collected elsewhere. In this regime interruptible storage withdrawal is cut in half subject to the scheduling priorities established in Section D.8. All Operational Hub Services contributing to the underdelivery situation (i.e., Operational Hub deliveries greater than Operational Hub receipts) are suspended. All of the requirements in this paragraph are waived for the days that an OFO is in effect.
- a. Peak day minimums are calculated annually before November 1 as part of normal winter operations planning. The peak day minimum is that level of total inventory that must be in storage to provide deliverability for the core 1-in-35 year peak day event, firm withdrawal commitments and noncore balancing requirement.
- b. Example calculations in this regime for determining volumes subject to the daily balancing standby rates are: If on January 6 total burn is 500,000 therms, and total deliveries (including withdrawal) are 300,000 therms then 50,000 therms is subject to the daily balancing standby charge (70% times 500,000 minus 300,000 equals 50,000).
- c. Example calculations in using NGI's Daily Gas Price Index for daily balancing standby rates in this regime are: if for January 6 and January 7, the NGI Southern California Border quoted price ranges are \$2.36-2.39 and \$2.36-2.44, then the daily balancing standby rates become \$3.59 (150% of 2.39) for January 6, and \$3.66 (150% times 2.44) for January 7, respectively.

(Continued)

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TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

G. Winter Deliveries (Continued)

3. When total inventories decline to the "peak day minimum + 5 Bcf trigger," the minimum daily delivery requirement increases to 90%. Customers are required to be balanced (flowing supply plus storage withdrawal) at a minimum of 90% of burn on a daily basis. Similar to the 70% regime the 5 day period no longer applies. The daily balancing standby rate is charged daily and is 150% of the highest Southern California Border price per NGI's *Daily Gas Price Index* for the day (including authorized F&U and brokerage fees). Authorized F&U will not be added to any daily stand-by balancing charge for the Utility Gas Procurement Department to the extent it is collected elsewhere. In this regime there are no interruptible storage withdrawals. All Operational Hub Services contributing to the underdelivery situation (i.e., Operational Hub Service deliveries greater than Operational Hub Service receipts) is suspended. All of the requirements in this paragraph are waived for the days that an OFO is in effect.
4. Information regarding the established peak day minimums, daily balancing trigger levels and total storage inventory levels will be made available to customers on a daily basis via EBB and other customer notification media.
5. If a wholesale customer so requests, the Utility will nominate firm storage withdrawal volumes on behalf of the customer to match 100% of actual usage assuming the customer has sufficient firm storage withdrawal and inventory rights to match the customer's supply and demand.
6. The Utility will accept intra-day nominations to increase deliveries.
7. In all cases, current BCAP rules for monthly balancing and monthly imbalance trading continue to apply. Volumes not in compliance with the 50%, 70% and 90% minimum delivery requirements, purchased at the daily balancing standby rate, are credited toward the monthly 90% delivery requirements. Daily balancing charges remain independent of monthly balancing charges. Noncore daily balancing and monthly balancing charges go to the Purchased Gas Account (PGA). Net revenues from core daily balancing and monthly balancing charges go to the Noncore Fixed Cost Account (NFCA). Schedule No. G-IMB provides details on monthly and daily balancing charges.

H. Accounting and Billing

1. The customer and the Utility acknowledge that on any operating day during the customer's applicable term of transportation service, the Utility may be redelivering quantities of gas to the customer pursuant to other present or future service arrangements. In such an event, the Utility and customer agree that the total quantities of gas shall be accounted for in accordance with the provisions of Rule No. 23. If there is no conflict with Rule No. 23, the quantities of gas shall be accounted for in the following order:

(Continued)

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TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

H. Accounting and Billing (Continued)

1. (Continued)

- a. First, to satisfy any minimum quantities under existing agreements.
 - b. Second, after complete satisfaction of (a), then to any supply or exchange service arrangements with the customer.
 - c. Third, after the satisfaction of (a) and (b), then to any subsequently executed service agreement.
2. The customer agrees that it shall accept and the Utility can rely upon, for purposes of accounting and billing, the allocation made by customer's shipper as to the quality and quantity of gas, expressed both in Decatherm and therms, delivered at each point of receipt during the preceding billing period for the customer's account. If the shipper does not make such an allocation, the customer agrees to accept the quality and quantity as determined by the Utility. All quality and measurement calculations are subject to subsequent adjustment as provided in the Utility's tariff schedules or applicable CPUC rules and regulations. Any other billing correction or adjustment made by the customer or third party for any prior period shall be based on the rates or costs in effect when the event occurred and accounted for in the period they are reconciled.
3. The Utility shall render to the customer an invoice for the services hereunder showing the quantities of gas, expressed in therms, delivered to the Utility for the customer's account, at each point of receipt and the quantities of gas, expressed in therms, redelivered by the Utility for the customer's account at each point of delivery during the preceding billing period. The Customer shall pay such amounts due hereunder within nineteen (19) calendar days following the date such bill is mailed.
4. Both the Utility and the customer shall have the right at all reasonable times to examine, at its expense, the books and records of the other to the extent necessary to verify the accuracy of any statement, charge, computation, or demand made under or pursuant to service hereunder. The Utility and the customer agree to keep records and books of account in accordance with generally accepted accounting principles and practices in the industry.

I. Gas Delivery Specifications

1. The natural gas stream delivered into the Utility's system shall conform to the gas quality specifications as provided in any applicable agreements and contracts currently in place between the entity delivering such natural gas and the Utility at the time of the delivery. If no such agreement is in place, the natural gas shall conform to the gas specifications as defined below.

(Continued)

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Rule No. 30

Sheet 15

T

TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

I. Gas Delivery Specifications (Continued)

2. Gas delivered into the Utility's system for the account of a customer for which there is no existing contract between the delivering pipeline and the Utility shall be at a pressure such that the gas can be integrated into the Utility's system at the point(s) of receipt.
3. Gas delivered, except as defined in I.1 above, shall conform to the following quality specifications at the time of delivery:
 - a. Heating Value: The minimum heating value is nine hundred and ninety (990) Btu (gross) per standard cubic foot on a dry basis. The maximum heating value is one thousand one hundred fifty (1150) Btu (gross) per standard cubic foot on a dry basis.
 - b. Moisture Content or Water Content: For gas delivered at or below a pressure of eight hundred (800) psig, the gas shall have a water content not in excess of seven (7) pounds per million standard cubic feet. For gas delivered at a pressure exceeding of eight hundred (800) psig, the gas shall have a water dew point not exceeding 20 degrees F at delivery pressure.
 - c. Hydrogen Sulfide: The gas shall not contain more than twenty-five hundredths (0.25) of one (1) grain of hydrogen sulfide, measured as hydrogen sulfide, per one hundred (100) standard cubic feet (4 ppm). The gas shall not contain any entrained hydrogen sulfide treatment chemical (solvent) or its by-products in the gas stream.
 - d. Mercaptan Sulfur: The gas shall not contain more than three tenths (0.3) grains of mercaptan sulfur, measured as sulfur, per hundred standard cubic feet (5 ppm).
 - e. Total Sulfur: The gas shall not contain more than seventy-five hundredths (0.75) of a grain of total sulfur compounds, measured as sulfur, per one hundred (100) standard cubic feet (12.6 ppm). This includes COS and CS₂, hydrogen sulfide, mercaptans and mono, di and poly sulfides.
 - f. Carbon Dioxide: The gas shall not have a total carbon dioxide content in excess of three percent (3%) by volume.
 - g. Oxygen: The gas shall not have an oxygen content in excess of two-tenths of one percent (0.2%) by volume, and customer will make every reasonable effort to keep the gas free of oxygen.
 - h. Inerts: The gas shall not contain in excess of four percent (4%) total inerts (the total combined carbon dioxide, nitrogen, oxygen and any other inert compound) by volume.
 - i. Hydrocarbons: For gas delivered at a pressure of 800 psig or less, the gas hydrocarbon dew point is not to exceed 45 degrees F at 400 psig or at the delivery pressure if the delivery pressure is below 400 psig. For gas delivered at a pressure higher than 800 psig, the gas hydrocarbon dew point is not to exceed 20 degrees F measured at a pressure of 400 psig.

(Continued)

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Rule No. 30
TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

I. Gas Delivery Specifications (Continued)

3. (Continued)

- j. Merchantability: The gas shall not contain dust, sand, dirt, gums, oils and other substances injurious to Utility facilities or that would cause gas to be unmarketable.
- k. Hazardous Substances: The gas must not contain hazardous substances (including but not limited to toxic and/or carcinogenic substances and/or reproductive toxins) concentrations which would prevent or restrict the normal marketing of gas, be injurious to pipeline facilities, or which would present a health and/or safety hazard to Utility employees and/or the general public.
- l. Delivery Temperature: The gas delivery temperature is not to be below 50 degrees F or above 105 degrees F.
- m. Interchangeability: The gas shall have a minimum Wobbe Number of 1279 and shall not have a maximum Wobbe Number greater than 1385. The gas shall meet American Gas Association's Lifting Index, Flashback Index and Yellow Tip Index interchangeability indices for high methane gas relative to a typical composition of gas in the Utility system serving the area.

Acceptable specification ranges are:

- * Lifting Index (IL)
IL <= 1.06
- * Flashback Index (IF)
IF <= 1.2
- * Yellow Tip Index (IY)
IY >= 0.8

- n. Liquids: The gas shall contain no liquids at or immediately downstream of the receipt point.
- o. Landfill Gas: Gas from landfills will not be accepted or transported.
- p. Biogas: Biogas refers to a gas derived from renewable organic sources. The gas is primarily a mixture of methane and carbon dioxide. Biogas must be free from bacteria, pathogens and any other substances injurious to Utility facilities or that would cause the gas to be unmarketable and it shall conform to all gas quality specifications identified in this Rule.

(Continued)

TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

I. Gas Delivery Specifications (Continued)

4. The Utility, at its option, may refuse to accept any gas tendered for transportation by the customer or on his behalf if such gas does not meet the specifications at the time of delivery as set out in I. 2 and I. 3 above, as applicable.
5. A generic deviation from the minimum gas quality specifications set forth in Paragraph I.3 is granted for "Historical California Production." Quality specifications for Historical California Production will be governed by SoCalGas Rule No. 30 in effect as of September 21, 2006, or, to the extent that production had a deviation in place at that time, pursuant to the agreement governing that deviation. "Historical California Production" is defined as follows: Onshore or offshore California-produced natural gas delivered at points of interconnection existing as of January 1, 2006, up to the maximum historical deliveries or Maximum Daily Volume effective on that date as specified in any agreement permitting supply delivery at those points. If a producer moves its deliveries of Historical California Production from a point of interconnection existing as of January 1, 2006, to another existing or a new point on the system, or if one or more producers consolidate two or more existing points of interconnection existing as of January 1, 2006, to another existing or a new point on the system, the deviation granted under this provision will follow the Historical California Production provided that (a) the Utility has required or approved the change in receipt point location and (b) the continuing deviation shall not exceed the Maximum Daily Volume stated in the access agreement(s) governing deliveries at the producer's original point of interconnection and (c) specifically, the quality of the gas should not lessen to the point that it falls outside the grandfathered Rule No. 30 specifications.
6. In addition to the generic deviation provided in paragraph 5, the Utility will grant other specific deviations to California production from the gas quality specifications defined in Paragraph I.3 above, if such gas will not have a negative impact on system operations. Any such deviation will be required to be filed through Advice Letter for approval prior to gas actually flowing in the Utility system.
7. The Utility will grant a deviation to existing interstate supplies consistent with prior gas quality specifications if requested by the interconnecting interstate pipeline for a period of not more than 12 months from the date of D.06-09-039.
8. The Utility will post on its EBB and/or general website information regarding the available real-time Wobbe Number of gas at identified operational locations on its system.

(Continued)

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Rule No. 30

Sheet 18

T

TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

J. Termination or Modification

1. If the customer breaches any terms and conditions of service of the customer's service agreement or the applicable tariff schedules and does not correct the situation within thirty (30) days of notice, the Utility shall have the right to cease service and immediately terminate the customer's applicable service agreement.
2. If the contract is terminated, either party has the right to collect any quantities of gas or money due them for transportation service provided prior to the termination.

K. Regulatory Requirements

1. Any gas transported by the Utility for the customer which was first transported outside the State of California shall have first been authorized under Federal Energy Regulatory Commission (FERC) regulations, as amended. Both parties recognize that such regulations only apply to pipelines subject to FERC jurisdiction, and do not apply to the Utility. The customer shall not take any action which would subject the Utility to the jurisdiction of the FERC, the Economic Regulatory Administration or any succeeding agency. Any such action shall be cause for immediate termination of the service arrangement between the customer and the Utility.
2. Transportation service shall not begin until both parties have received and accepted any and all regulatory authorizations necessary for such service.

L. Warranty and Indemnification

1. The customer warrants to the Utility that the customer has the right to deliver gas hereunder and that such gas is free from all liens and adverse claims of every kind. Customer will indemnify, defend and save the Utility harmless against all loss, damage, injury, liability and expense of any character where such loss, damage, injury, liability or expense arises directly or indirectly out of any demand, claim, action, cause of action or suit brought by any person, association or entity asserting ownership of or any interest in the gas tendered for transportation hereunder, or on account of royalties, payments or other charges applicable before or upon delivery of gas hereunder.
2. The customer shall indemnify, defend and save harmless the Utility, its officers, agents, and employees from and against any and all loss, costs (including reasonable attorneys' fees), damage, injury, liability, and claims for injury or death of persons (including any employee of the customer or the Utility), or for loss or damage to property (including the property of the customer or the Utility), which occurs or is based upon an act or acts which occur while the gas is deemed to be in the customer's control and possession or which results directly or indirectly from the customer's performance of its obligations arising pursuant to the provisions of its service agreement and the Utility's applicable tariff schedules, or occurs based on the customer-owned gas not meeting the specifications of Section I of this rule.

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ADVICE LETTER NO. 4139
DECISION NO. 09-11-006

18C14

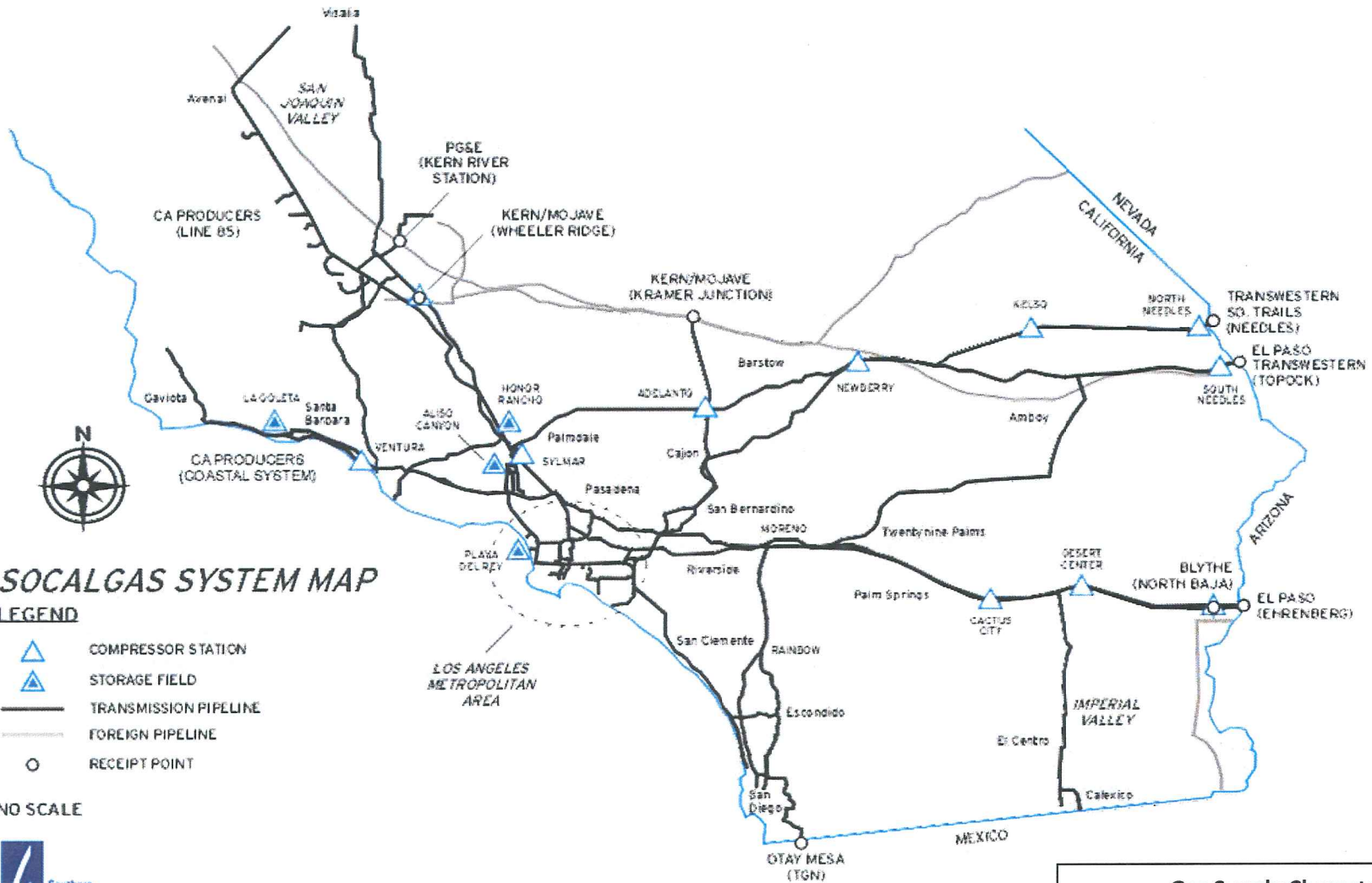
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ATTACHMENT B



SOCALGAS SYSTEM MAP

LEGEND

-  COMPRESSOR STATION
-  STORAGE FIELD
-  TRANSMISSION PIPELINE
-  FOREIGN PIPELINE
-  RECEIPT POINT

NO SCALE



Gas Supply Characteristics

- Interstate Gas Supplies:
 - 92% of total supply (2.4 Bcf/d)
 - 6 Receipt Points
 - Primarily Rockies & San Juan Basin
- California Gas Supplies:
 - 8% of total supply (0.2 Bcf/d)
 - 60 Delivery Points
 - Multiple small suppliers

ATTACHMENT C

Rule No. 30

Sheet 1

TRANSPORTATION OF CUSTOMER-OWNED GAS

The general terms and conditions applicable whenever the Utility System Operator transports customer-owned gas, including wholesale customers, the Utility Gas Procurement Department, other end-use customers, aggregators, marketers and storage customers (referred to herein as "customers) over its system are described herein.

A. General

1. Subject to the terms, limitations and conditions of this rule and any applicable CPUC authorized tariff schedule, directive, or rule, the customer will deliver or cause to be delivered to the Utility and accept on redelivery quantities of gas which shall not exceed the Utility's capability to receive or redeliver such quantities. The Utility will accept such quantities of gas from the customer or its designee and redeliver to the customer on a reasonably concurrent basis an equivalent quantity, on a term basis, to the quantity accepted.
2. The customer warrants to the Utility that the customer has the right to deliver the gas provided for in the customer's applicable service agreement or contract (hereinafter "service agreement") and that the gas is free from all liens and adverse claims of every kind. The customer will indemnify, defend and hold the Utility harmless against any costs and expenses on account of royalties, payments or other charges applicable before or upon delivery to the Utility of the gas under such service agreement.
3. The point(s) where the Utility will receive the gas into its intrastate system (point(s) of receipt, as defined in Rule No. 1) and the point(s) where the Utility will deliver the gas from its intrastate system to the customer (point(s) of delivery, as defined in Rule No. 1) will be set forth in the customer's applicable service agreement. Other points of receipt and delivery may be added by written amendment thereof by mutual agreement. The appropriate delivery pressure at the point(s) of delivery to the customer shall be that existing at such point(s) within the Utility's system or as specified in the service agreement.

B. Quantities

1. The Utility shall as nearly as practicable each day redeliver to customer and customer shall accept, a like quantity of gas as is delivered by the customer to the Utility on such day. It is the intention of both the Utility and the customer that the daily deliveries of gas by the customer for transportation hereunder shall approximately equal the quantity of gas which the customer shall receive at the point(s) of delivery. However, it is recognized that due to operating conditions either (1) in the fields of production, (2) in the delivery facilities of third parties, or (3) in the Utility's system, deliveries into and redeliveries from the Utility's system may not balance on a day-to-day basis. The Utility and the customer will use all due diligence to assure proper load balancing in a timely manner.

(Continued)

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Rule No. 30
TRANSPORTATION OF CUSTOMER-OWNED GAS

Sheet 2

(Continued)

B. Quantities (Continued)

2. The gas to be transported hereunder shall be delivered and redelivered as nearly as practicable at uniform hourly and daily rates of flow. The Utility may refuse to accept fluctuations in excess of ten percent (10%) of the previous day's deliveries, from day to day, if in the Utility's opinion receipt of such gas would jeopardize other operations. Customers may make arrangements acceptable to the Utility to waive this requirement.
3. The Utility does not undertake to redeliver to the customer any of the identical gas accepted by the Utility for transportation, and all redelivery of gas to the customer will be accomplished by substitution on a therm-for-therm basis.
4. Transportation customers, including the Utility Gas Procurement Department, wholesale customers, contracted marketers, and aggregators will be provided monthly balancing services in accordance with the provisions of Schedule No. G-IMB.

C. Electronic Bulletin Board

1. The Utility prefers and encourages customers, including the Utility Gas Procurement Department, to use Electronic Bulletin Board (EBB) as defined in Rule No. 1 to submit their transportation nominations to the Utility. Imbalance trades are to be submitted through EBB or by means of the Imbalance Trading Agreement Form (Form 6544). Use of EBB is not mandatory for transportation only customers.
2. Transportation nominations may be submitted manually or through EBB. For each transportation nomination submitted manually, (by means other than EBB such as facsimile transmittal), a processing charge of \$11.87 shall be assessed. No processing charge will apply to an EBB subscriber for nominations submitted by fax at a time the EBB system is unavailable for use by the subscriber.

D. Operational Requirements

1. Customer Representation

The customer must provide to the Utility the name(s) of any agents ("Agent") used by the customer for delivery of gas to the Utility for transportation service hereunder and their authority to represent customer.

A customer may choose only one of the following gas supply arrangements: 1) one Contractor, 2) one or multiple Agents, or 3) itself for purposes of nominating to its end-use account (OCC).

(Continued)

(TO BE INSERTED BY UTILITY)
ADVICE LETTER NO. 3818-A
DECISION NO. 07-12-019

ISSUED BY
Lee Schavrien
Senior Vice President
Regulatory Affairs

(TO BE INSERTED BY CAL. PUC)
DATE FILED May 12, 2008
EFFECTIVE Apr 1, 2009
RESOLUTION NO. _____

TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

D. Operational Requirements (Continued)

2. Receipt Points

Utility accepts nominations from transportation customers or their representatives at the following Receipt Points into the SoCalGas system, as referenced in Schedule No. G-RPA*:

- El Paso Pipeline at Blythe (Southern Transmission Zone)
- North Baja Pipeline at Blythe (Southern Transmission Zone)
- Transportadora de Gas Natural de Baja California at Otay Mesa (Southern Transmission Zone)
- Kern River Pipeline and Mojave Pipeline (Wheeler Transmission Zone)
- PG&E at Kern River Station (Wheeler Transmission Zone)
- Occidental of Elk Hills at Gosford (Wheeler Transmission Zone)
- Transwestern Pipeline at North Needles (Northern Transmission Zone)
- Transwestern Pipeline at Topock (Northern Transmission Zone)
- El Paso Pipeline at Topock (Northern Transmission Zone)
- Questar Southern Trails Pipeline at North Needles (Northern Transmission Zone)
- Kern River Pipeline at Kramer Junction (Northern Transmission Zone)
- Line 85 (California Supply)
- North Coastal (California Supply)
- Other CA Producers (California Supply)
- Storage

* Additional Receipt Points will be added as they are established in the future.

3. Receipt Point Capacity

Each day, Receipt Point and Transmission Zone capacities will be set at their physical operating maximums under the operating conditions for that day. The Utility will schedule nominations for each Receipt Point and Transmission Zone to the maximum operating capacity of that individual Receipt Point or Transmission Zone. The maximum operating capacity is defined as the facility design or contractual limitation to deliver gas into the Utility's system adjusted for operational constraints (i.e. maintenance, localized restrictions, and upstream delivery pressures) as determined each day.

The NAESB elapsed pro rata rules require that the portion of the scheduled quantity that would have theoretically flowed up to the effective time of the intraday nomination be confirmed, based upon a cumulative uniform hourly quantity for each nomination period affected. As such, the scheduled quantities for each shipper are subject to change in the Intraday 1 Cycle and the Intraday 2 Cycle. However, each shipper's resulting scheduled quantity for the Gas Day will be no less than the elapsed prorated scheduled quantity for that shipper.

(Continued)

(TO BE INSERTED BY UTILITY)
 ADVICE LETTER NO. 4139
 DECISION NO. 09-11-006

ISSUED BY
Lee Schavrien
 Senior Vice President
 Regulatory Affairs

(TO BE INSERTED BY CAL. PUC)
 DATE FILED Jul 28, 2010
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Rule No. 30

Sheet 4

TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

D. Operational Requirements (Continued)

3. Receipt Point Capacity (Continued)

The Utility will use the following rules to confirm nominations to the Receipt Point and Transmission Zone maximum operating capacities.

Confirmation Order:

- Nominations using Firm Primary receipt point access rights will be first; pro-rated if over-nominated*.
- Nominations using Firm Alternate receipt point access rights within the associated transmission zone will be second (“Firm Alternate Within-the-Zone”); pro-rated if over-nominated.
- Nominations using Firm Alternate receipt point access rights outside the associated transmission zone will be third (“Firm Alternate Outside-the-Zone”); pro-rated if over-nominated.
- Nominations using Interruptible receipt point access right will be fourth, pro-rated if over-nominated.

Bumping Rules:

- Firm Primary rights can “bump” any Firm Alternate scheduled quantities through the Evening Cycle.
- Firm Alternate Within-the-Zone rights can “bump” Firm Alternate Outside-the-Zone scheduled quantities through the Evening Cycle.
- Firm Primary and any Firm Alternate can “bump” interruptible scheduled quantities through the Intraday 1 Cycle subject to the NAESB elapsed pro-rata rules.
- Bumping will not be allowed in the Intraday 2 Cycle.

* If the available firm receipt point capacity at a particular receipt point or within a particular transmission zone is less the firm capacity figures stated in Schedule No. G-RPA, scheduling of firm receipt point capacity nominations will be pro rata within each scheduling cycle. Any nominations of firm receipt point rights acquired through the addition of Displacement Receipt Point Capacity facilities will be reduced pro rata to zero at the applicable receipt point or within the applicable transmission zone prior to other firm receipt point rights nominations being reduced.

The Utility will use the following rules to confirm nominations to the system capacity limitation as defined in Section F for OFO events during the Intraday 1 cycle.

(Continued)

(TO BE INSERTED BY UTILITY)
 ADVISE LETTER NO. 4139
 DECISION NO. 09-11-006

ISSUED BY
Lee Schavrien
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(TO BE INSERTED BY CAL. PUC)
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TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

D. Operational Requirements (Continued)

3. Receipt Point Capacity (Continued)

Intraday 1 Confirmation Order:

- NAESB elapsed pro rata quantity based on Evening Cycle scheduled nominations will be first.
- Scheduled quantities from the Evening Cycle using Firm Primary receipt point access rights will be second; pro-rated if over-nominated.
- Unscheduled or new Intraday 1 nominations using Firm Primary receipt point access rights will be third; pro-rated if over-nominated.
- Scheduled quantities from the Evening Cycle using Firm Alternate receipt point access rights within the associated transmission zone will be fourth (“Firm Alternate Within-the-Zone”); pro-rated if over-nominated.
- Unscheduled or new Intraday 1 nominations using Firm Alternate receipt point access rights within the associated transmission zone will be fifth (“Firm Alternate Within-the-Zone”); pro-rated if over-nominated.
- Scheduled quantities from the Evening Cycle using Firm Alternate receipt point access rights outside the associated transmission zone will be sixth (“Firm Alternate Outside-the-Zone”); pro-rated if over-nominated.
- Unscheduled or new Intraday 1 nominations using Firm Alternate receipt point access rights outside the associated transmission zone will be seventh (“Firm Alternate Outside-the-Zone”); pro-rated if over-nominated.
- Nominations using Interruptible receipt point access rights will be eighth, pro-rated if over-nominated.

Bumping Rules:

- Firm Primary rights can “bump” any Firm Alternate scheduled quantities through the Intraday 1 Cycle subject to the NAESB elapsed pro rata rules.
- Firm Alternate Within-the-Zone rights can “bump” Firm Alternate Outside-the-Zone scheduled quantities through the Intraday 1 Cycle subject to the NAESB elapsed pro rata rules.
- Firm Primary and any Firm Alternate can “bump” interruptible scheduled quantities through the Intraday 1 Cycle.
- Bumping will not be allowed in the Intraday 2 Cycle.

(Continued)

(TO BE INSERTED BY UTILITY)
ADVICE LETTER NO. 4139
DECISION NO. 09-11-006

ISSUED BY
Lee Schavrien
Senior Vice President
Regulatory Affairs

(TO BE INSERTED BY CAL. PUC)
DATE FILED Jul 28, 2010
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TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

D. Operational Requirements (Continued)

4. Storage Service Capacity

Each day, storage injection and withdrawal capacities will be set at their physical operating maximums under the operating conditions for that day and posted on the Utility's EBB. The Utility will use the following rules to limit the nominations to the storage maximums.

- Nominations using Firm rights will have first priority, pro-rated to the available firm capacity.
- All other nominations using Interruptible rights will have second priority, pro-rated if over-nominated based on the daily volumetric price paid.
- Firm rights can "bump" interruptible scheduled quantities through the Intraday 3 cycle.

Notice to bumped parties will be provided via the Transactions module in EBB. Bumping is subject to the NAESB elapsed prorata rules.

5. Off-System Delivery (OSD) Service

For each flow date, the Utility will determine the quantity of capacity available for off-system deliveries. The quantity will include that available via physical redelivery from the Utility system along with displacement of forward haul flowing supplies. For each nomination cycle, the Utility customers who have contracted with the Utility for off-system delivery service may submit a nomination for such service pursuant to Schedule No. G-OSD, for deliveries to the PG&E system.

The following rules will be used in scheduling of Off-System Delivery Services:

- Nominations using Firm OSD rights will have first priority; pro-rated if over-nominated.
- Nominations using Interruptible OSD rights will have second priority; pro-rated if over-nominated.
- Firm OSD rights can "bump" interruptible OSD scheduled quantities through the Intraday 1 Cycle, subject to the NAESB elapsed pro rata rules.
- Bumping will not be allowed in the Intraday 2 Cycle.

6. Nominations

The customer shall be responsible for submitting gas service nominations to the Utility no later than the deadlines specified below.

(Continued)

(TO BE INSERTED BY UTILITY)
 ADVICE LETTER NO. 4139
 DECISION NO. 09-11-006

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Lee Schavrien
 Senior Vice President
 Regulatory Affairs

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TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

D. Operational Requirements (Continued)

6. Nominations (Continued)

Each nomination shall include all information required by the Utility's nomination procedures. Nominations received by the Utility will be subject to the conditions specified in the service agreements with the Utility. The Utility may reject any nomination not conforming to the requirements in these rules or in applicable service agreements. The customer shall be responsible for making all corresponding upstream nomination/confirmation arrangements with the interconnecting pipeline(s) and/or operator(s).

Evening and Intraday nominations may be used to request an increase or decrease to scheduled volumes or a change to receipt or delivery points.

Intraday nominations do not roll from day to day.

Nominations submitted in any cycle will automatically roll to subsequent cycles for the specified flow date and from day-to-day through the end date or until the end date is modified by the nominating entity.

Nominations may be made in the following manner:

<u>FROM</u>	<u>TO</u>
Pipeline/CA Producer	Receipt Point Access Contract
Receipt Point Access Contract	End User, Contracted Marketer, ESP
Receipt Point Access Contract	Pool Account
Receipt Point Access Contract	Storage Account
Receipt Point Access Contract	Off-System Delivery Agreement
Pool Account	End User, Contracted Marketer, ESP
Pool Account	Pool Account
Storage Account	End User, Contracted Marketer, ESP
Pool Account	Storage Account
Storage Account	Pool Account
Storage Account	Storage Account
Storage Account	Off-System Delivery Agreement
Pool Account	Off-System Delivery Agreement
Off-System Delivery Agreement	Pipeline (PG&E)

(Continued)

TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

D. Operational Requirements (Continued)

7. Timing

All times referred to below are in Pacific Clock Time. Requests for deadline extensions may be granted for 15 minutes only if request is made prior to the deadlines shown below.

Timely Cycle

Transportation nominations submitted via EBB for the Timely Nomination cycle must be received by the Utility by 9:30 a.m. one day prior to the flow date. Nominations submitted via fax must be received by the Utility by 8:30 a.m. one day prior to the flow date. Timely nominations will be effective at 7:00 a.m. on the flow date.

Evening Cycle

Nominations submitted via EBB for the Evening Nomination cycle must be received by the Utility by 4:00 p.m. one day prior to the flow date. Nominations submitted via fax must be received by the Utility by 3:00 p.m. one day prior to the flow date. Evening nominations will be effective at 7:00 a.m. on the flow date.

Intraday 1 Cycle

Nominations submitted via EBB for the Intraday 1 Nomination cycle must be received by the Utility by 8:00 a.m. on the flow date. Nominations submitted via fax must be received by the Utility by 7:00 a.m. on the flow date. Intraday 1 nominations will be effective at 3:00 p.m. the same day.

Intraday 2 Cycle

Nominations submitted via EBB for the Intraday 2 Nomination cycle must be received by the Utility by 3:00 p.m. on the flow date. Nominations submitted via fax must be received by the Utility by 2:00 p.m. on the flow date. Intraday 2 nominations will be effective at 7:00 p.m. the same day.

Intraday 3 Cycle

Nominations submitted via EBB for the Intraday 3 Nomination cycle must be received by the Utility by 9:00 p.m. Pacific Clock Time on the flow date. Nominations submitted via fax must be received by the Utility by 8:00 p.m. Pacific Clock Time on the flow date. Physical flow is deemed to begin at 11:00 p.m. Pacific Clock Time.

(Continued)

(TO BE INSERTED BY UTILITY)
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800

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Lee Schavrien
Senior Vice President
Regulatory Affairs

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TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

D. Operational Requirements (Continued)

7. Timing (Continued)

Intraday 3 Cycle (Continued)

Intraday 3 nominations are available only for firm nominations relating to the injection of existing flowing supplies into a storage account or for firm nominations relating to the withdrawal of gas in storage to meet an identified customer's usage. A customer may make Intraday 3 nominations from a third-party storage provider that is directly connected to the Utility's system or from the Utility's storage, subject to the storage provider or the Utility being able to deliver or accept the daily quantity nominated for Intraday 3 within the remaining hours of the flow day and the Utility's having the ability to deliver or accept the required hourly equivalent flow rate during the remaining hours of the flow day. Third-party storage providers will be treated on a comparable basis with the Utility's storage facilities to the extent that it can provide the equivalent service and operations.

8. Confirmation and Ranking Process

A ranking must be received by the Utility at the time the nomination or the confirmation is submitted. The nominating party will rank its supplies and the confirming party will rank its markets. The Utility will then balance the pipeline system using the "lesser of" rule and the rankings submitted.

The ranking will automatically roll from cycle-to-cycle and day-to-day until the nomination end date, unless modified by the nominating entity.

If no ranking is submitted at the time the nomination is submitted, the Utility will assign the lowest ranking to the nomination.

The Utility will compare the nominations received for each transaction and the corresponding confirmation. If the two quantities do not agree, the "lesser of" the two quantities will be the quantity scheduled by the Utility. Subject to the Utility receiving notification of confirmed transportation from the applicable upstream pipeline(s) and/or operator(s), the Utility will provide scheduled quantities on EBB.

9. As between the customer and the Utility, the customer shall be deemed to be in control and possession of the gas to be delivered hereunder and responsible for any damage or injury caused thereby until the gas has been delivered at the point(s) of receipt. The Utility shall thereafter be deemed to be in control and possession of the gas after delivery to the Utility at the point(s) of receipt and shall be responsible for any damage or injury caused thereby until the same shall have been redelivered at the point(s) of delivery, unless the damage or injury has been caused by the quality of gas originally delivered to the Utility, for which the customer shall remain responsible.

(Continued)

(TO BE INSERTED BY UTILITY)
ADVICE LETTER NO. 4139
DECISION NO. 09-11-006
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TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

D. Operational Requirements (Continued)

10. Any penalties or charges incurred by the Utility under an interstate or intrastate supplier contract as a result of accommodating transportation service shall be paid by the responsible customer.
11. Customers receiving service from the Utility for the transportation of customer-owned gas shall pay any costs incurred by the Utility because of any failure by third parties to perform their obligations related to providing such service.

E. Interruption of Service

1. The customer's transportation service priority shall be established in accordance with the definitions of Core and Noncore service, as set forth in Rule No. 1, and the provisions of Rule No. 23, Continuity of Service and Interruption of Delivery. If the customer's gas use is classified in more than one service priority, it is the customer's responsibility to inform the Utility of such priorities applicable to the customer's service. Once established, such priorities cannot be changed during a curtailment period.
2. The Utility shall have the right, without liability (except for the express provisions of the Utility's Service Interruption Credit as set forth in Rule No. 23), to interrupt the acceptance or redelivery of gas whenever it becomes necessary to test, alter, modify, enlarge or repair any facility or property comprising the Utility's system or otherwise related to its operation. When doing so, the Utility will try to cause a minimum of inconvenience to the customer. Except in cases of unforeseen emergency, the Utility shall give a minimum of ten (10) days advance written notice of such activity.

F. Nominations in Excess of System Capacity

1. The Utility System Operator's protocol for declaring an Operational Flow Order (OFO) is described in Rule No. 41. Any OFO shall apply to all customers, including wholesale customers and the Utility Gas Procurement Department.
2. The OFO period shall begin on the flow date(s) indicated by the Utility Gas Control Department. Customers shall be allowed to reduce their nominations or adjust their supply ranking in response to the OFO.
3. In the event customers fail to adequately reduce their transportation nominations, the Utility shall reduce the confirmed receipt point access nominations as defined in Section D.

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(Continued)

(TO BE INSERTED BY UTILITY)
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Lee Schavrien
Senior Vice President
Regulatory Affairs

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TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

F. Nominations in Excess of System Capacity (OFO) Continued)

4. In accordance with the provisions of Schedule No. G-IMB, Buy-Back service shall be applied separately to each OFO day. Customer meters subject to maximum daily quantity limitations will use the maximum daily quantity as a proxy for daily usage. For the Utility Gas Procurement Department, the Daily Forecast Quantity will be used as a proxy for daily usage. For core aggregators, their Daily Contract Quantity will be used as a proxy for daily usage.

G. Winter Deliveries

The Utility requires that customers deliver (using a combination of flowing supply and storage withdrawal) at least 50% of burn over a five-day period from November through March. As the Utility's total storage inventory declines through the winter, the delivery requirement becomes daily and increases to 70% or 90% depending on the level of inventory relative to peak day minimums.

1. From November 1 through March 31 customers are required to deliver (flowing supply and storage withdrawal) at a minimum of 50% of burn over a 5-day period. In other words, for each 5-day period, the Utility will calculate the total burn and the total delivery. If the total delivery is less than 50% of the total burn, a daily balancing standby charge is applied. The daily balancing standby rate is 150% of the highest Southern California Border price during the five day period as published by Natural Gas Intelligence in "NGI's *Daily Gas Price Index*," including authorized franchise fees and uncollectible expenses (F&U) and brokerage fees. Authorized F&U will not be added to any daily stand-by balancing charge for the Utility Gas Procurement Department to the extent it is collected elsewhere. Imbalance trading may not be used to offset the delivery minimums.
 - a. "Burn" means usage and is defined as metered throughput or an estimated quantity such as Minimum Daily Quantity (MinDQ), as defined in Rule No. 1, for customers without automated meters, the Daily Contract Quantity for core aggregators, or the Daily Forecast Quantity for the Utility Gas Procurement Department.
 - b. Example five-day periods are: Nov. 1 through Nov. 5, Nov. 6 through Nov. 10, Nov. 11 through Nov. 15 and so on. November with 30 days has six 5-day periods. December, January and March with 31 days have a 6-day period at the end of the month. February has a shortened 3 or 4-day period at the end of the month. The current 5-day period will run its course fully before the implementation of the 70% daily requirement. In the event that inventories rise above the 70% daily trigger levels by 1 Bcf, then a new, 5-day period will be implemented on the following day.
 - c. Example calculations for determining volumes subject to the daily balancing standby rate are: if over 5 days, total burn is 500,000 therms and total deliveries (including withdrawal) are 240,000 therms, then 10,000 therms is subject to daily balancing standby rate. (50% times 500,000 minus 240,000 equals 10,000).

(Continued)

(TO BE INSERTED BY UTILITY)
ADVICE LETTER NO. 4139
DECISION NO. 09-11-006

ISSUED BY
Lee Schavrien
Senior Vice President
Regulatory Affairs

(TO BE INSERTED BY CAL. PUC)
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RESOLUTION NO. _____

TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

G. Winter Deliveries (Continued)

1. (continued)

- d. Example calculations in using NGI's Daily Gas Price Index for determining the daily balancing standby rate are: If for Jan. 6 through Jan. 10 the NGI Southern California Border quoted price ranges are \$2.36- 2.39, \$2.36-2.44, \$2.38-2.47, \$2.36-2.42, and \$2.37- 2.45, respectively, then the daily balancing standby rate becomes \$3.71 (\$2.47 times 150%).
- e. With the exception of weekends and holidays, the Utility will use quotes from the NGI publication dated on the same day as the flow date. Weekend or holiday flow dates will use the first available publication date after the weekend or holiday.

- 2. When total inventory declines to the "peak day minimum + 20 Bcf trigger," the minimum daily delivery requirement increases to 70%. Customers are then required to be balanced (flowing supply plus storage withdrawal) at a minimum of 70% of burn on a daily basis. The 5-day period no longer applies since the system can no longer provide added flexibility. The daily balancing standby rate is 150% of the highest Southern California Border price per NGI's *Daily Gas Price Index* for the day (including authorized F&U and brokerage fees) and is applied to each day's deliveries which are less than the 70% requirement. Authorized F&U will not be added to any daily stand-by balancing charge for the Utility Gas Procurement Department to the extent it is collected elsewhere. In this regime interruptible storage withdrawal is cut in half subject to the scheduling priorities established in Section D.8. All Operational Hub Services contributing to the underdelivery situation (i.e., Operational Hub deliveries greater than Operational Hub receipts) are suspended. All of the requirements in this paragraph are waived for the days that an OFO is in effect.

- a. Peak day minimums are calculated annually before November 1 as part of normal winter operations planning. The peak day minimum is that level of total inventory that must be in storage to provide deliverability for the core 1-in-35 year peak day event, firm withdrawal commitments and noncore balancing requirement.
- b. Example calculations in this regime for determining volumes subject to the daily balancing standby rates are: If on January 6 total burn is 500,000 therms, and total deliveries (including withdrawal) are 300,000 therms then 50,000 therms is subject to the daily balancing standby charge (70% times 500,000 minus 300,000 equals 50,000).
- c. Example calculations in using NGI's Daily Gas Price Index for daily balancing standby rates in this regime are: if for January 6 and January 7, the NGI Southern California Border quoted price ranges are \$2.36-2.39 and \$2.36-2.44, then the daily balancing standby rates become \$3.59 (150% of 2.39) for January 6, and \$3.66 (150% times 2.44) for January 7, respectively.

(Continued)

(TO BE INSERTED BY UTILITY)
ADVICE LETTER NO. 4139
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TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

G. Winter Deliveries (Continued)

3. When total inventories decline to the "peak day minimum + 5 Bcf trigger," the minimum daily delivery requirement increases to 90%. Customers are required to be balanced (flowing supply plus storage withdrawal) at a minimum of 90% of burn on a daily basis. Similar to the 70% regime the 5 day period no longer applies. The daily balancing standby rate is charged daily and is 150% of the highest Southern California Border price per NGI's *Daily Gas Price Index* for the day (including authorized F&U and brokerage fees). Authorized F&U will not be added to any daily stand-by balancing charge for the Utility Gas Procurement Department to the extent it is collected elsewhere. In this regime there are no interruptible storage withdrawals. All Operational Hub Services contributing to the underdelivery situation (i.e., Operational Hub Service deliveries greater than Operational Hub Service receipts) is suspended. All of the requirements in this paragraph are waived for the days that an OFO is in effect.
4. Information regarding the established peak day minimums, daily balancing trigger levels and total storage inventory levels will be made available to customers on a daily basis via EBB and other customer notification media.
5. If a wholesale customer so requests, the Utility will nominate firm storage withdrawal volumes on behalf of the customer to match 100% of actual usage assuming the customer has sufficient firm storage withdrawal and inventory rights to match the customer's supply and demand.
6. The Utility will accept intra-day nominations to increase deliveries.
7. In all cases, current BCAP rules for monthly balancing and monthly imbalance trading continue to apply. Volumes not in compliance with the 50%, 70% and 90% minimum delivery requirements, purchased at the daily balancing standby rate, are credited toward the monthly 90% delivery requirements. Daily balancing charges remain independent of monthly balancing charges. Noncore daily balancing and monthly balancing charges go to the Purchased Gas Account (PGA). Net revenues from core daily balancing and monthly balancing charges go to the Noncore Fixed Cost Account (NFCA). Schedule No. G-IMB provides details on monthly and daily balancing charges.

H. Accounting and Billing

1. The customer and the Utility acknowledge that on any operating day during the customer's applicable term of transportation service, the Utility may be redelivering quantities of gas to the customer pursuant to other present or future service arrangements. In such an event, the Utility and customer agree that the total quantities of gas shall be accounted for in accordance with the provisions of Rule No. 23. If there is no conflict with Rule No. 23, the quantities of gas shall be accounted for in the following order:

(Continued)

(TO BE INSERTED BY UTILITY)
ADVICE LETTER NO. 4139
DECISION NO. 09-11-006

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Lee Schavrien
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TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

H. Accounting and Billing (Continued)

1. (Continued)

- a. First, to satisfy any minimum quantities under existing agreements.
 - b. Second, after complete satisfaction of (a), then to any supply or exchange service arrangements with the customer.
 - c. Third, after the satisfaction of (a) and (b), then to any subsequently executed service agreement.
2. The customer agrees that it shall accept and the Utility can rely upon, for purposes of accounting and billing, the allocation made by customer's shipper as to the quality and quantity of gas, expressed both in Decatherm and therms, delivered at each point of receipt during the preceding billing period for the customer's account. If the shipper does not make such an allocation, the customer agrees to accept the quality and quantity as determined by the Utility. All quality and measurement calculations are subject to subsequent adjustment as provided in the Utility's tariff schedules or applicable CPUC rules and regulations. Any other billing correction or adjustment made by the customer or third party for any prior period shall be based on the rates or costs in effect when the event occurred and accounted for in the period they are reconciled.
3. The Utility shall render to the customer an invoice for the services hereunder showing the quantities of gas, expressed in therms, delivered to the Utility for the customer's account, at each point of receipt and the quantities of gas, expressed in therms, redelivered by the Utility for the customer's account at each point of delivery during the preceding billing period. The Customer shall pay such amounts due hereunder within nineteen (19) calendar days following the date such bill is mailed.
4. Both the Utility and the customer shall have the right at all reasonable times to examine, at its expense, the books and records of the other to the extent necessary to verify the accuracy of any statement, charge, computation, or demand made under or pursuant to service hereunder. The Utility and the customer agree to keep records and books of account in accordance with generally accepted accounting principles and practices in the industry.

I. Gas Delivery Specifications

1. The natural gas stream delivered into the Utility's system shall conform to the gas quality specifications as provided in any applicable agreements and contracts currently in place between the entity delivering such natural gas and the Utility at the time of the delivery. If no such agreement is in place, the natural gas shall conform to the gas specifications as defined below.

(Continued)

(TO BE INSERTED BY UTILITY)
ADVICE LETTER NO. 4240
DECISION NO. 11-04-032

ISSUED BY
Lee Schavrien
Senior Vice President
Regulatory Affairs

(TO BE INSERTED BY CAL. PUC)
DATE FILED May 6, 2011
EFFECTIVE Jun 5, 2011
RESOLUTION NO. _____

TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

I. Gas Delivery Specifications (Continued)

2. Gas delivered into the Utility's system for the account of a customer for which there is no existing contract between the delivering pipeline and the Utility shall be at a pressure such that the gas can be integrated into the Utility's system at the point(s) of receipt.
3. Gas delivered, except as defined in I.1 above, shall conform to the following quality specifications at the time of delivery:
 - a. Heating Value: The minimum heating value is nine hundred and ninety (990) Btu (gross) per standard cubic foot on a dry basis. The maximum heating value is one thousand one hundred fifty (1150) Btu (gross) per standard cubic foot on a dry basis.
 - b. Moisture Content or Water Content: For gas delivered at or below a pressure of eight hundred (800) psig, the gas shall have a water content not in excess of seven (7) pounds per million standard cubic feet. For gas delivered at a pressure exceeding of eight hundred (800) psig, the gas shall have a water dew point not exceeding 20 degrees F at delivery pressure.
 - c. Hydrogen Sulfide: The gas shall not contain more than twenty-five hundredths (0.25) of one (1) grain of hydrogen sulfide, measured as hydrogen sulfide, per one hundred (100) standard cubic feet (4 ppm). The gas shall not contain any entrained hydrogen sulfide treatment chemical (solvent) or its by-products in the gas stream.
 - d. Mercaptan Sulfur: The gas shall not contain more than three tenths (0.3) grains of mercaptan sulfur, measured as sulfur, per hundred standard cubic feet (5 ppm).
 - e. Total Sulfur: The gas shall not contain more than seventy-five hundredths (0.75) of a grain of total sulfur compounds, measured as sulfur, per one hundred (100) standard cubic feet (12.6 ppm). This includes COS and CS₂, hydrogen sulfide, mercaptans and mono, di and poly sulfides.
 - f. Carbon Dioxide: The gas shall not have a total carbon dioxide content in excess of three percent (3%) by volume.
 - g. Oxygen: The gas shall not have an oxygen content in excess of two-tenths of one percent (0.2%) by volume, and customer will make every reasonable effort to keep the gas free of oxygen.
 - h. Inerts: The gas shall not contain in excess of four percent (4%) total inerts (the total combined carbon dioxide, nitrogen, oxygen and any other inert compound) by volume.
 - i. Hydrocarbons: For gas delivered at a pressure of 800 psig or less, the gas hydrocarbon dew point is not to exceed 45 degrees F at 400 psig or at the delivery pressure if the delivery pressure is below 400 psig. For gas delivered at a pressure higher than 800 psig, the gas hydrocarbon dew point is not to exceed 20 degrees F measured at a pressure of 400 psig.

(Continued)

(TO BE INSERTED BY UTILITY)
ADVICE LETTER NO. 4139
DECISION NO. 09-11-006

ISSUED BY
Lee Schavrien
Senior Vice President
Regulatory Affairs

(TO BE INSERTED BY CAL. PUC)
DATE FILED Jul 28, 2010
EFFECTIVE Sep 1, 2010
RESOLUTION NO. _____

TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

I. Gas Delivery Specifications (Continued)

3. (Continued)

- j. Merchantability: The gas shall not contain dust, sand, dirt, gums, oils and other substances injurious to Utility facilities or that would cause gas to be unmarketable.
- k. Hazardous Substances: The gas must not contain hazardous substances (including but not limited to toxic and/or carcinogenic substances and/or reproductive toxins) concentrations which would prevent or restrict the normal marketing of gas, be injurious to pipeline facilities, or which would present a health and/or safety hazard to Utility employees and/or the general public.
- l. Delivery Temperature: The gas delivery temperature is not to be below 50 degrees F or above 105 degrees F.
- m. Interchangeability: The gas shall have a minimum Wobbe Number of 1279 and shall not have a maximum Wobbe Number greater than 1385. The gas shall meet American Gas Association's Lifting Index, Flashback Index and Yellow Tip Index interchangeability indices for high methane gas relative to a typical composition of gas in the Utility system serving the area.

Acceptable specification ranges are:

- * Lifting Index (IL)
IL \leq 1.06
- * Flashback Index (IF)
IF \leq 1.2
- * Yellow Tip Index (IY)
IY \geq 0.8

- n. Liquids: The gas shall contain no liquids at or immediately downstream of the receipt point.
- o. Landfill Gas: Gas from landfills will not be accepted or transported.
- p. Biogas: Biogas refers to a gas derived from renewable organic sources. The gas is primarily a mixture of methane and carbon dioxide. Biogas must be free from bacteria, pathogens and any other substances injurious to Utility facilities or that would cause the gas to be unmarketable and it shall conform to all gas quality specifications identified in this Rule.

(Continued)

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TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

I. Gas Delivery Specifications (Continued)

4. The Utility, at its option, may refuse to accept any gas tendered for transportation by the customer or on his behalf if such gas does not meet the specifications at the time of delivery as set out in I. 2 and I. 3 above, as applicable.

~~5. A generic deviation from the minimum gas quality specifications set forth in Paragraph I.3 is granted for "Historical California Production." Quality specifications for Historical California Production will be governed by SoCalGas Rule No. 30 in effect as of September 21, 2006, or, to the extent that production had a deviation in place at that time, pursuant to the agreement governing that deviation. "Historical California Production" is defined as follows: Onshore or offshore California produced natural gas delivered at points of interconnection existing as of January 1, 2006, up to the maximum historical deliveries or Maximum Daily Volume effective on that date as specified in any agreement permitting supply delivery at those points. If a producer moves its deliveries of Historical California Production from a point of interconnection existing as of January 1, 2006, to another existing or a new point on the system, or if one or more producers consolidate two or more existing points of interconnection existing as of January 1, 2006, to another existing or a new point on the system, the deviation granted under this provision will follow the Historical California Production provided that (a) the Utility has required or approved the change in receipt point location and (b) the continuing deviation shall not exceed the Maximum Daily Volume stated in the access agreement(s) governing deliveries at the producer's original point of interconnection and (c) specifically, the quality of the gas should not lessen to the point that it falls outside the grandfathered Rule No. 30 specifications.~~

6. In addition to the generic deviation provided in paragraph 5, the Utility will grant other specific deviations to California production from the gas quality specifications defined in Paragraph I.3 above, if such gas will not have a negative impact on system operations. Any such deviation will be required to be filed through Advice Letter for approval prior to gas actually flowing in the Utility system.

7. The Utility will grant a deviation to existing interstate supplies consistent with prior gas quality specifications if requested by the interconnecting interstate pipeline for a period of not more than 12 months from the date of D.06-09-039.

8. The Utility will post on its EBB and/or general website information regarding the available real-time Wobbe Number of gas at identified operational locations on its system.

(Continued)

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TRANSPORTATION OF CUSTOMER-OWNED GAS

(Continued)

J. Termination or Modification

1. If the customer breaches any terms and conditions of service of the customer's service agreement or the applicable tariff schedules and does not correct the situation within thirty (30) days of notice, the Utility shall have the right to cease service and immediately terminate the customer's applicable service agreement.
2. If the contract is terminated, either party has the right to collect any quantities of gas or money due them for transportation service provided prior to the termination.

K. Regulatory Requirements

1. Any gas transported by the Utility for the customer which was first transported outside the State of California shall have first been authorized under Federal Energy Regulatory Commission (FERC) regulations, as amended. Both parties recognize that such regulations only apply to pipelines subject to FERC jurisdiction, and do not apply to the Utility. The customer shall not take any action which would subject the Utility to the jurisdiction of the FERC, the Economic Regulatory Administration or any succeeding agency. Any such action shall be cause for immediate termination of the service arrangement between the customer and the Utility.
2. Transportation service shall not begin until both parties have received and accepted any and all regulatory authorizations necessary for such service.

L. Warranty and Indemnification

1. The customer warrants to the Utility that the customer has the right to deliver gas hereunder and that such gas is free from all liens and adverse claims of every kind. Customer will indemnify, defend and save the Utility harmless against all loss, damage, injury, liability and expense of any character where such loss, damage, injury, liability or expense arises directly or indirectly out of any demand, claim, action, cause of action or suit brought by any person, association or entity asserting ownership of or any interest in the gas tendered for transportation hereunder, or on account of royalties, payments or other charges applicable before or upon delivery of gas hereunder.
2. The customer shall indemnify, defend and save harmless the Utility, its officers, agents, and employees from and against any and all loss, costs (including reasonable attorneys' fees), damage, injury, liability, and claims for injury or death of persons (including any employee of the customer or the Utility), or for loss or damage to property (including the property of the customer or the Utility), which occurs or is based upon an act or acts which occur while the gas is deemed to be in the customer's control and possession or which results directly or indirectly from the customer's performance of its obligations arising pursuant to the provisions of its service agreement and the Utility's applicable tariff schedules, or occurs based on the customer-owned gas not meeting the specifications of Section I of this rule.

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