Exhibit No: _____
Application: A.19-02-XXX
Witness: Andrew Cheung
Chapter: 3

PREPARED DIRECT TESTIMONY OF

ANDREW CHEUNG

ON BEHALF OF SOUTHERN CALIFORNIA GAS COMPANY

AND SAN DIEGO GAS & ELECTRIC COMPANY

(RENEWABLE NATURAL GAS PROCUREMENT)

February 2019

TABLE OF CONTENTS

CHAPTER 3

PREPARED DIRECT TESTIMONY OF ANDREW CHEUNG

(RENEWABLE NATURAL GAS PROCUREMENT)

I. PURPOSE

The purpose of my prepared direct testimony on behalf of Southern California Gas Company (SoCalGas) and San Diego Gas & Electric Company (SDG&E) (collectively referred to as the Utilities) is to address Renewable Natural Gas (RNG) procurement activities related to the proposed Renewable Natural Gas Tariff (RNG Tariff). SoCalGas' Gas Acquisition Department (Gas Acquisition) plans to purchase RNG supplies for both SoCalGas and SDG&E[1] customers that voluntarily elect to take service under the Utilities' proposed RNG Tariff (see Chapter 2 (Wooden) for a description of eligible customers). Additionally, my testimony will briefly describe potential RNG supply, RNG procurement activities, and the components of the RNG Commodity Charge component of the RNG Rate.

II. RENEWABLE NATURAL GAS SUPPLY

As described in Chapter 1 (Peacock), RNG plays an important and growing role in helping California meet its environmental goals by reducing fugitive methane emissions from the agricultural and waste sectors and displacing traditional natural gas. Several estimates of current biomass resources in California and nationwide have been conducted to evaluate the availability of feedstocks that can be developed to produce RNG. For example, a UC Davis study estimated that more than 20 percent of California's current residential natural gas use can be provided by

[1] Pursuant to the California Public Utilities Commission (CPUC) Omnibus Decision (D.) 07-12-019 at 114 (Ordering Paragraph 4), the core portfolios of SoCalGas and SDG&E were consolidated into one single portfolio managed by SoCalGas' Gas Acquisition Department, effective April 1, 2008.

biogas derived from the State's existing organic waste alone (approximately 90 BCF per year, which is equivalent to the GHG emissions of over one million passenger vehicles or over a half-million homes).[2] An ICF International white paper reviewed a number of RNG studies to arrive at a figure of 104 to 208 BCF/year of total RNG supply potential in California.[3] The US Department of Energy's 2016 "Billion Ton Study" found that approximately 1,200 to 9,200 BCF per year of RNG production is available at a national level.[4]

As highlighted in Chapter 1 (Peacock), the Low Carbon Fuel Standard (LCFS) and Renewable Fuel Standard (RFS) are the two primary programs driving the production of RNG to be used as a vehicle fuel. In support of those two programs, the Utilities requested and received CPUC approval in 2018 to procure RNG for their utility-owned natural gas vehicle refueling stations.[5] Subsequently, Gas Acquisition conducted a request for offers for these stations, received several offers, and is in the process of evaluating RNG supply options. Knowledge developed by engaging with RNG suppliers and understanding the impact of the LCFS and RFS programs on RNG supply provides valuable insight into the RNG market and available supplies for this RNG Tariff.

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[2] Amy Jaffe, The Feasibility of Renewable Natural Gas as a Large-Scale, Low Carbon Substitute 53 STEPS Program, Institute of Transportation Studies, UC Davis (Updated June 2016), *available at* https://www.arb.ca.gov/research/apr/past/13-307.pdf. The 90 BCF per year figure is echoed by Nathan Parker in Renewable natural gas in California: An assessment of the technical and economic potential. 111 Energy Pol'y 235 (Dec. 2017).

[3] Dr. Philip Sheehy & Jeffrey Rosenfeld, Design Principles for a Renewable Gas Standard (Dec. 19, 2017).

[4] U.S. Department of Energy. 2016. 2016 Billion-Ton Report: Advancing Domestic Resources for a Thriving Bioeconomy, Volume 1: Economic Availability of Feedstocks. M. H. Langholtz, B. J. Stokes, and L. M. Eaton (Leads), ORNL/TM2016/160. Oak Ridge National Laboratory, Oak Ridge, TN. 448p. doi: 10.2172/1271651, https://www.energy.gov/sites/prod/files/2016/12/f34/2016_billion_ton_report_12.2.16_0.pdf.

[5] See Advice Letter 5295 for SoCalGas (available at https://www.socalgas.com/regulatory/tariffs/tm2/pdf/5295.pdf) and Advice Letter 2674-G for SDG&E (available at http://regarchive.sdge.com/tm2/pdf/2674-G.pdf).

However, since there are no programs at the State level to promote RNG use in the residential, commercial, or industrial sectors, Gas Acquisition anticipates that RNG sources for non-transportation end-uses will need to be cultivated to encourage production. Gas Acquisition has been meeting with potential suppliers, producers, and other industry participants to determine supply availability for non-transportation end-uses.

III. RENEWABLE NATURAL GAS PROCUREMENT ACTIVITIES

To meet the subscribed load for eligible customers electing to participate in the RNG Tariff, Gas Acquisition plans to contract with marketers who carry a portfolio of RNG supplies and/or directly with biogas producers and developers. In general, suppliers/producers place a premium on contracts with a credit-worthy counterparty, longer contract terms and minimum delivery requirements. As a result, Gas Acquisition expects that RNG suppliers will be more likely to accept a pricing structure that discounts the incentives available in the transportation sector in return for the advantages of contracting with an investor-owned utility. Gas Acquisition will optimize cost-effectiveness in its selection of RNG supplies for this program by balancing contract term with a diversity of RNG sources from within California and out-of-state.

Gas Acquisition's primary objectives for RNG procurement will be to minimize RNG rate volatility, manage RNG costs, and ensure supply reliability for the benefit of program participants. To achieve this, Gas Acquisition intends to utilize procurement tools already authorized by the CPUC for managing its traditional natural gas portfolio, including storage, regulatory account over / under-collection adjustments, and selling excess RNG supplies[6] in an effort to offer the most cost-effective RNG available. Additionally, RNG supplies procured for this program will be managed using assets already allocated to bundled core customers including

[6] D.97-06-061 at 9 (Conclusion of Law #12).

storage inventory capacity, injection and withdrawal rights, interstate capacity, and backbone transportation service.

SoCalGas anticipates it will be able to optimize these existing assets and apply current practices to balance the daily RNG flows delivered to the SoCalGas system. While it is expected that there will be some daily variance between RNG supply and demand, Gas Acquisition will endeavor to match purchased RNG volumes with subscribed volumes on a monthly basis. Any initial RNG supplies that are unused will be stored and available for later usage. Shortages, if any, will be made-up with surplus supply or with purchases in future months. Separate tracking and reporting tools and procedures will be utilized to account for matching customer participant load with purchased RNG and recording purchase prices and volumes. As discussed in Chapter 2 (Wooden), SoCalGas will make enhancements to its current gas management system to accommodate such activities. SoCalGas will report procurement activity periodically to the CPUC, as detailed in Chapter 2 (Wooden).

As described in Chapter 4 (Austria), RNG purchases will be tracked and accounted for in the new Renewable Natural Gas Tariff Balancing Account (RNGTBA), which will be separate from traditional gas purchases recorded and balanced in the Purchased Gas Account (PGA). As such, RNG purchases will not be included in the Gas Cost Incentive Mechanism (GCIM) calculation until such time that the CPUC allows for cost recovery for RNG purchases from the core portfolio.

IV. RATE COMPONENTS FOR PARTICIPATING CORE CUSTOMERS

As described in Chapter 2 (Wooden), the RNG Rate found on each participant's monthly bill will have two components:

1) the RNG Commodity Charge, and

2) the RNG Program Charge.

Gas Acquisition will be responsible for calculating the RNG Commodity Charge portion of the RNG Rate monthly based on RNG purchases to meet program participant demand. The monthly RNG Commodity Charge will be comprised of the Schedule G-CP "Core Procurement Service" tariff rate less the G-CP rate components for:

1) PGA over/under-collection adjustment;

2) GCIM shareholder award/penalty;

3) franchise fees and uncollectible expenses (FF&Us); and

4) authorized core brokerage fee.

After considering items 1-4, the following rate components will be included to arrive at the total RNG Commodity Charge:

5) a premium for RNG purchases, which is defined as the difference in the estimated monthly weighted average cost of RNG purchases and the estimated monthly weighted average cost of traditional natural gas purchases;

6) RGTBA RNG Commodity Cost sub-account over/under-collection adjustment;

7) less an estimated value of the amount reflecting the reduction in cap-and-trade (C&T) obligation from bringing biomethane into the SoCalGas system;

8) plus FF&Us; and

9) plus authorized core brokerage fee.

Table ASC-1 depicts the various components included in the commodity rate for traditional natural gas (SoCalGas Rate Schedule G-CP, "Core Procurement Service") and the proposed RNG Commodity Charge.

Table ASC-1
Procurement Commodity Rate Comparison
(RATES ARE FOR ILLUSTRATIVE PURPOSES ONLY)

SCHEDULE G-CP COMMODITY RATE	(¢/therm)	PROPOSED RNG COMMODITY RATE	(¢/therm)
Flowing Supplies + Storage	29.07	**TOTAL G-CP Commodity Rate**	36.20
PGA (Over) /Under Collection Adjustment	.50	Less: PGA (Over) /Under Collection Adjustment	(.50)
GCIM Shareholder Award / (Penalty)	.20	Less: GCIM Shareholder Award / Penalty	(.20)
Interstate Pipeline Demand Charges	3.00	Less: FF&Us	(.60)
Backbone Transportation Services	2.60	Less: Authorized Core Brokerage Fee	(.21)
Carrying Costs of Storage Inventory	.02	Add: RNG Premium[7]	114.00
FF&Us	.60	Add: RGTBA (Over) /Under Collection Adjustment	.12
Authorized Core Brokerage Fee	.21	Less: reduction in C&T emissions obligation	(.20)
		Add: FF&Us	2.58
		Add: Authorized Core Brokerage Fee	.21
TOTAL G-CP Commodity Rate	**36.20**	**TOTAL Proposed RNG Commodity Rate**	**151.40**

The RNG Program Charge will be comprised of 1) administration and marketing costs associated with program oversight, program marketing collateral creation, and customer outreach, and 2) RNGTBA Program Charge sub-account over/under-collection adjustment. See Schedule RGT, Renewable Green Tariff, for RNG Rate details as well as illustrative bills, which are included in Chapter 2 (Wooden).

Gas Acquisition intends to establish adjustment bands for the RNGTBA RNG Commodity Price and Program Charge sub-accounts for purposes of over/under collection adjustments analogous to the adjustment band authorized by the CPUC for SoCalGas' PGA.[8] It

[7] Based on a hypothetical price of $15/Dth for RNG.
[8] D.98-07-068 at 5 (Ordering Paragraph #3).

is also anticipated that variability in demand assumptions[9] may over time lead to over / under-collections in the RNGTBA balancing sub-accounts, especially in the more uncertain initial period of the program.

The monthly RNG Rate (RNG Commodity Charge plus RNG Program Charge) charged to RNG Tariff eligible customers will be calculated during the last week of the month and filed via a Tier 1 advice letter by the last business day of the month to be effective on the first calendar day of the following month. For additional information on cost recovery procedures and balancing accounts associated with the proposed RNG Tariff, see Chapter 4 (Austria).

This concludes my prepared direct testimony.

[9] See Chapter 2, Prepared Direct Testimony of Grant Wooden (Wooden Testimony) for program enrollment variables such as dollar amount or percentage of usage to determine RNG purchase commitment, 60-day "cooling off period," and length of initial program commitment period.

V. QUALIFICATIONS

My name is Andrew Cheung. My business address is 555 West 5th Street, Los Angeles, California 90013. I am employed by SoCalGas as the Gas Acquisition Strategy Manager. I received my Juris Doctor degree from the University of California Los Angeles School of Law and a Bachelor of Arts degree in Economics from Yale University. I joined SoCalGas in 2009 as Senior Counsel in the Legal Department and became the Cap and Trade Program Manager in 2014 and Gas Acquisition Regulatory and Compliance Manager in 2017. I have been in my current position since December 2018. I have not previously testified before the Commission.