

Application No: A-11-11-_____
Exhibit No: _____
Witness: Jeffrey Reed

In the Matter of Application of Southern
California Gas Company (U904G) to
establish a Compression Services Tariff

Application 11-11-_____
(Filed November 3, 2011)

CHAPTER I
POLICY SUPPORT
PREPARED DIRECT TESTIMONY OF
JEFFREY G. REED

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

November 3, 2011

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1 **CHAPTER I**

2 **POLICY SUPPORT**

3 **PREPARED DIRECT TESTIMONY**

4 **OF JEFFREY REED**

5 **I. INTRODUCTION**

6 **A. Summary Description of Proposal**

7 SoCalGas proposes in this Application a new tariff service (“Compression Services
8 Tariff”), the language of which is provided in Appendix A, to meet the current and future needs
9 of non-residential customers requiring natural gas compression above standard line pressure for
10 their end-use applications. Examples of customer end-use applications that can be served by the
11 proposed tariff include natural gas vehicle (“NGV”) refueling operations, Combined Heat and
12 Power (“CHP”) facilities, and peaking power plants. As discussed more fully below, the
13 proposed tariff service can be expected to promote adoption of environmentally beneficial uses
14 of natural gas supported by Commission and State policy. Under the proposed service,
15 SoCalGas will own and operate dedicated gas compressors and related equipment on the
16 customer’s site to provide gas at pressure requested by the customer and agreed to by SoCalGas
17 pursuant to an agreement (a form of which is provided in Appendix B).

18 Furthermore, the Compression Services Tariff is consistent with, and supportive of
19 existing state law and Commission policy (discussed below) which encourages utilities to
20 propose programs that increase the environmentally beneficial use of natural gas in end-use
21 applications such as NGVs and CHP. Increased adoption of environmentally beneficial CHP and
22 expanded use of natural gas as a vehicle fuel are both strongly supported in state law and

1 Commission policy and the proposed Compression Services Tariff can serve as an enabler of
2 increased adoption of these applications.

3 **B. Request and Summary of Arguments for Approval**

4 SoCalGas requests approval of the Compression Services Tariff as described more fully
5 in Chapter II and Appendix A – proposed tariff “GO-CMPR”.

6 As will be further detailed below and in Chapter II, there are several compelling reasons
7 for the Commission to approve SoCalGas’ proposed Compression Services Tariff including the
8 following: (1) the proposed service is a natural extension of existing utility service as SoCalGas
9 currently provides natural gas service at a variety of pressures and has authority to enter into
10 agreements to provide natural gas at specified pressure conditions; (2) the proposed service is in
11 the public interest because it supports increased adoption of NGVs as well as combined heat and
12 power systems, both articulated policy priorities of the Commission; (3) the proposed tariff is
13 designed not to burden non-participating ratepayers with the cost of providing the service; and
14 (4) the proposed tariff service creates expanded business opportunity for both new and existing
15 equipment and service providers.

16 **C. Organization of Testimony**

17 This testimony (Chapter I) discusses the policy foundations for the Compression Services
18 Tariff and concludes with a brief summary and conclusion. The testimony in Chapter II provides
19 details on the ratepayer and market benefits as well as other support for the proposed tariff, and
20 witness Reyes’ testimony in Chapter III provides details on accounting controls and procedures
21 that will track, record, and segregate costs associated with the proposed tariff service, ensuring
22 that ratepayers are reimbursed at full cost for utility activities funded through general rates that
23 are used in the delivery of the tariff service.

1 **II. POLICY FOUNDATIONS FOR PROPOSED SERVICE**

2 The proposed Compression Services Tariff conforms to articulated State and Commission
3 Policy regarding environmentally beneficial uses of natural gas in end-use applications such as
4 NGVs and CHP. The proposed Compression Services Tariff will enable increased adoption of
5 NGVs as well as combined heat and power systems consistent with law and policy.

6 **A. Public Utilities Code § 740.3 and § 740.8**

7 In 2005, changes in California law expanded the definition of ratepayer interest; indeed,
8 effective January 1, 2006, PUC section 740.8 was modified to require that health and
9 environmental benefits, greenhouse gas emission reductions, and increasing alternative fuel use
10 be among the interests of ratepayers to be considered by the Commission in evaluating utility
11 programs.¹ The legislature’s definition of “ratepayer interest” along with the recent issuance of
12 the LCFS (“Low Carbon Fuel Standard”) Executive Order and passage of legislation discussed
13 above makes it abundantly clear that the goal of the State is to aggressively promote the use of
14 alternative transportation fuels to achieve its environmental goals.

15 Consistent with the above, PUC section 740.3 directs the Commission to implement
16 policies designed “to promote the development of equipment and infrastructure needed to
17 facilitate the use of electric power and natural gas to fuel low-emission vehicles” and “to ensure
18 that the costs and expenses of those programs are not passed through to electric or gas ratepayers
19 unless the commission finds and determines that those programs are in the ratepayers' interest.”

¹ “As used in Section 740.3, ‘interests’ of ratepayers, short- or long-term, mean direct benefits that are specific to ratepayers in the form of safer, more reliable, or less costly gas or electrical service, consistent with Section 451, and activities that benefit ratepayers and that promote energy efficiency, reduction of health and environmental impacts from air pollution, and greenhouse gas emissions related to electricity and natural gas production and use, and increased use of alternative fuels.” California Public Utilities Code § 740.8

1 The Compression Services Tariff proposed in this application provides an increased
2 capability for SoCalGas to support equipment and service providers in expanding the low
3 emission vehicle and CHP markets, generates incremental revenue to the benefit of all
4 ratepayers, and provides environmental and health benefits, clearly consistent with § 740.3 and
5 § 740.8. In fact, ratepayers receive financial and environmental benefits from the proposed tariff
6 (discussed in detail in Chapter II, Section IV), but the associated costs are born by tariff
7 customers.

8 **B. Policy Support for Proposed Service to Support Natural Gas Transportation**
9 **1. AB 32 and the Low Carbon Fuel Standard**

10
11 In 2006, the State enacted Assembly Bill (“AB”) 32, the Global Warming Solutions Act
12 of 2006, which required the California Air Resources Board (“CARB”) “...to adopt a statewide
13 greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions levels in
14 1990 to be achieved by 2020.”² One of many greenhouse gas reduction measures CARB
15 adopted in accordance with AB 32 was the Low Carbon Fuel Standard (“LCFS”). The LCFS
16 calls for a reduction of not less than 10 percent in the carbon intensity of California's
17 transportation fuels by 2020.³ Meeting this goal will require aggressive action on the part of all
18 parties, including utilities and the Commission, to encourage, promote, and provide
19 transportation sector the means to adopt, use, and rely on alternative fuels. As such, pursuing all
20 reasonable avenues to support the adoption of low-carbon alternative fuels, including assisting
21 NGV fleet owners and retail providers of CNG natural gas in deploying NGV refueling

² Assembly Bill 32, Chapter 488, pg 89

³ “[LCFS] will reduce greenhouse gas (GHG) emissions by reducing the carbon intensity of transportation fuels used in California by an average of 10 percent by the year 2020.” ARB, LCFS, Final Statement of Reasons, December 2009, pg 5 <http://www.arb.ca.gov/regact/2009/lcfs09/lcfsfsor.pdf>

1 infrastructure pursuant to the Compression Services Tariff, is clearly in support of state policy
2 and law requiring greenhouse gas emission reductions.

3 **2. AB 1007 (Pavley)**

4
5 In 2005, Assembly Bill 1007 (Pavley) was adopted based upon legislative findings that
6 “the production, marketing, and use of petroleum fuels in California causes significant
7 degradation of public health and environmental quality due to releases of air and water
8 pollutants” and “clean alternative fuels have the potential to considerably reduce these impacts
9 and are important strategies for the state to attain its air and water quality goals.”⁴ Moreover,
10 petroleum reduction goals were described including “...20 percent nonpetroleum fuel use in the
11 year 2020 and 30 percent in the year 2030...” Based upon these findings, Assembly Bill 1007
12 directed the California Energy Commission, in partnership with the California Air Resources
13 Board, to develop and adopt a State Alternative Fuels Plan (“State Plan”). The State Plan was
14 required to:

- 15 • Recommend policies, such as standards, financial incentives, research, and
16 development programs, to stimulate the development of alternative fuel supply, new
17 vehicles and technologies, and fueling stations;
- 18 • Evaluate alternative fuels using a full fuel cycle analysis of emissions of criteria air
19 pollutants, air toxics, greenhouse gases, water pollutants, and other substances that
20 are known to damage human health; and
- 21 • Set goals to increase alternative fuels in 2012, 2017, and 2022 such that there is no
22 net material increase in air pollution, water pollution, or any other substances that are
23 known to damage human health.

24 The State Plan was adopted on December 5, 2007 and envisions a major role for natural
25 gas in meeting clean transportation goals. The State Plan forecasts that, with proper policies and
26 programs to support market growth, natural gas usage can reach 6.2% of all transportation fuel

⁴ http://www.energy.ca.gov/ab1007/documents/ab_1007_bill_20050929_chaptered.pdf

1 use by 2022,⁵ compared with less than 1% of transportation fuel currently.⁶ SoCalGas' proposed
2 Compression Services Tariff can help accelerate adoption of NGV's and bring California closer
3 to meeting its natural gas transportation policy goals.

4 In addition, the State Plan includes the following findings⁷:

5 "Biodiesel and renewable diesel, **natural gas**, propane, and electric drive
6 technologies are primary options to displace diesel fuel in markets such as
7 transit buses, school buses, delivery vans, truck refrigeration units, and port
8 vehicles." (emphasis added)

9
10 "Natural gas use in heavy-duty vehicles alone could represent about 36
11 percent of the freight and off-road vehicle fuel use by 2050."

12
13 "Private sector investment, including **investor-owned and municipal**
14 **utilities**, should be encouraged to become major new investors in the
15 development and commercialization of electric drive and natural gas
16 vehicles." (emphasis added)

17
18 "Mandates alone will not achieve the single policy goals outlined or
19 multiple goals as a group. While the Low-Carbon Fuel Standard can
20 achieve a substantial percentage of the greenhouse gas reduction needed
21 from the transportation sector, it is clear that **complementary government**
22 **actions are needed to fully achieve the state's 2020 and longer-term**
23 **reduction goals.**" (emphasis added)

24 Since the State Plan's adoption, market growth of natural gas as a vehicle fuel is not
25 keeping pace with either the conservative or moderate forecasts as presented in the State Plan.
26 The conservative and moderate forecasts call for an increase of 41 and 97 million Gasoline
27 Gallons Equivalent ("GGE") per year respectively between 2006 and 2012. Through 2010,

⁵ "...the aggressive scenario forecast predicts that CNG and LNG will displace approximately 1.9%, 6.2%, and 19% of California's petroleum-based fuel consumption in 2012, 2022, and 2050, respectively" CEC, "Natural Gas Scenario AB 1007 State Plan to Increase the Use of Alternative Fuels 5/31/07 Draft" p.18
http://www.energy.ca.gov/ab1007/documents/2007-05-31_joint_workshop/2007-05-31_NATURAL_GAS_SCENARIO.PDF

⁶ U.S. Energy Information Administration "State Energy Consumption Estimates, 1960 Through 2009" DOE/EIA-0214(2009) June 2011 p.11 Table C8: Transportation Sector Energy Consumption Estimates, 2009
http://www.eia.gov/state/seds/sep_use/notes/use_print2009.pdf

⁷ State Alternative Fuels Plan, CEC-600-2007-011-CMF, pages 6-8

1 annual NGV throughput has increased by only 18 million GGE⁸. Actual growth has been only
2 about a third of the rate required to meet the moderate forecast and about 30% below the rate
3 required to meet the conservative forecast. More aggressive action is clearly needed to meet the
4 goals set forth in the plan.

5 **3. South Coast Air Quality Management District “Fleet Rules”**

6 In 2000 and 2001, the South Coast Air Quality Management District (“SCAQMD”), the
7 air pollution control agency for all of Orange County and the urban portions of Los Angeles,
8 Riverside, and San Bernardino counties, adopted a series of “fleet rules” designed to “reduce
9 both toxic and smog-forming air pollutants” and “gradually shift public agencies to low
10 emissions and alternative fuel vehicles whenever a fleet operator with 15 or more vehicles
11 replaces or purchases new vehicles.”⁹ The “fleet rules” are a collection of seven separate
12 SCAQMD rules that require specific types of vehicle operators to purchase and use alternate fuel
13 vehicles, including CNG vehicles, as follows:

- 14 • Rule 1186.1 - Less-Polluting Sweepers
- 15 • Rule 1191 - Clean On-Road Light- and Medium-Duty Public Fleet Vehicles
- 16 • Rule 1192 - Clean On-Road Transit Buses
- 17 • Rule 1193 - Clean On-Road Residential and Commercial Refuse Collection
- 18 Vehicles
- 19 • Rule 1194 - Commercial Airport Ground Access Vehicles (Taxicabs, Shuttles, etc.)
- 20 • Rule 1195 - Clean On-Road School Buses
- 21 • Rule 1196 - Clean On-Road Heavy-Duty Public Fleet Vehicles

⁸ Calculations based on AB 1007 Natural Gas Scenarios, May 2007, per Jerry Wiens (CEC) e-mail May 15, 2007 "NG PROJECTIONS 1007 9.xls" and total NGV tariff throughput data recorded for 2006 and 2010 for SDG&E, SoCalGas, and PG&E; workpapers available upon request.

⁹ <http://www.aqmd.gov/tao/FleetRules/>

1 The existence of the “fleet rules” has created a need for additional CNG refueling
2 infrastructure to serve the alternative fuel vehicles required under these regulations. Fleet
3 operators are required to purchase alternative fuel vehicles, such as CNG, only when their diesel
4 vehicles are retired and need to be replaced and/or refueling infrastructure is available.
5 Transitioning to CNG is an expensive proposition for fleet operators as CNG vehicles are more
6 expensive than their diesel counterparts and fueling infrastructure is costly. As a consequence,
7 fleet operators have only been able to gradually upgrade their fleets over the past several years.
8 Adoption of CNG will continue to be gradual unless programs, like the proposed Compression
9 Services Tariff, are put into place. As described above, the Compression Services Tariff would
10 assist these customers in developing NGV refueling facilities sooner and in greater size than
11 would otherwise be possible, hastening the adoption of CNG vehicles.

12 **4. California Energy Commission 2009 Integrated Energy Policy Report**

13 On December 16, 2009, the California Energy Commission (“Energy Commission”)
14 adopted the 2009 Integrated Energy Policy Report (“IEPR”). The 2009 IEPR is the latest
15 biennial integrated energy policy report prepared by Energy Commission as required by Senate
16 Bill 1389 (Brown). The 2009 IEPR contains an integrated assessment of major energy trends
17 and issues within the state of California and provides policy recommendations to conserve
18 resources, protect the environment, and to ensure reliable, secure, and diverse energy supplies.

19 With respect to the need for additional refueling infrastructure for alternative
20 transportation fuels, such as natural gas, the 2009 IEPR states:

1 “State and federal policies encourage the development and use of renewable
2 and alternative fuels to reduce California’s dependence on petroleum
3 imports, promote sustainability, and reduce greenhouse gas emissions”¹⁰

4 Further, the 2009 IEPR states:

5 “California needs sufficient fuel infrastructure to ensure reliable supplies of
6 transportation fuels for its citizens. Petroleum and alternative and
7 renewable fuels face significant infrastructure issues from the wholesale and
8 distribution level to the end user. The petroleum infrastructure is strained at
9 marine ports and throughout the distribution system. In the case of
10 alternative and renewable fuels, much of the infrastructure that will soon be
11 necessary is not even in place. It is critical that the state expand upon the
12 current petroleum fuel infrastructure to ensure a continued supply of
13 transportation fuel for California and neighboring states and that it build
14 new infrastructure to ensure that California can meet its mandated
15 renewable and alternative fuel goals”¹¹

16
17 In fact, the 2009 IEPR makes several recommendations that are consistent with and
18 supportive of the proposed tariff:

19 “In addition, the Energy Commission recommends:

- 20
21 • To maintain energy security, state and local agencies need to ensure that there is
22 adequate infrastructure for the delivery of transportation fuels. The state should
23 modernize and upgrade the existing infrastructure to accommodate alternative and
24 renewable fuels and vehicle technologies as they are developed and to address
25 petroleum infrastructure needs to preserve past investments and to expand
26 throughput capacity in the state.
- 27
28 • The Energy Commission will collaborate with partner agencies and stakeholders
29 to develop policy changes to address regulatory hurdles and price uncertainty for
30 alternative fuels, particularly biofuels, in California.
- 31
32 • California should support the development of alternative and renewable fuels that
33 can provide immediate GHG emission reduction benefits and a bridge to the
34 introduction of fuels that will result in deeper GHG emission reductions in the
35 future”¹²

¹⁰ CEC 2009 Integrated Energy Policy Report, CEC-100-2009-003-CMF, pages 13

¹¹ CEC 2009 Integrated Energy Policy Report, CEC-100-2009-003-CMF, page 152

¹² CEC 2009 Integrated Energy Policy Report, CEC-100-2009-003-CMF, page 244

1 Approval of the proposed compression services tariff is in alignment with the
2 recommendations of the 2009 IEPR as it will offer additional refueling options and opportunities
3 to potential owners and operators of NGVs and help grow the market for alternative fuels in
4 California.

5 **C. Policy Support for Proposed Services to Support Combined Heat and Power**
6 **Facilities**

7 State law and Commission policy support expansion of CHP as an environmentally
8 beneficial technology and the Compression Services Tariff offers the potential to aid adoption of
9 CHP. The policy foundations supporting expanded adoption of CHP are contained in the AB 32
10 Scoping Plan and subsequent rulemaking on Combined Heat and Power initiated by the
11 Commission (Order Instituting Rulemaking 08-06-024) on the Commission's Own Motion
12 Pursuant to Assembly Bill 1613.

13 The AB 32 scoping plan states, “California has supported CHP for many years, but
14 market and other barriers continue to keep CHP from reaching its full market potential.
15 Increasing the deployment of efficient CHP will require a multi-pronged approach that includes
16 addressing significant barriers and instituting incentives or mandates where appropriate.”¹³ The
17 Scoping Plan set a target for new CHP installations totaling 4,000 MW statewide by 2020¹⁴

18 The California Legislature, under AB 1613, also expanded the California Public Utility
19 Code to support both customer and utility owned CHP.¹⁵ In the AB 1613 rulemaking
20 (R.08-06-024), the Commission recognized the benefits of increased CHP deployment and

¹³ California Air Resources Board, “Climate Change Scoping Plan” December 2008
(http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf) p.44

¹⁴ California Air Resources Board Climate Change Scoping Plan (pursuant to AB-32), December, 2008, pages 43-44

¹⁵ California Public Utility Code section 2840.6 (c): “It is the intent of the Legislature to support and facilitate both customer – and utility-owned combined heat and power systems.”

1 created a framework for expanded adoption of CHP in specific, environmentally advantageous
2 applications. Under that rulemaking, the Commission ordered the electric utilities to purchase
3 power from qualifying CHP facilities and found that additional CHP deployment would increase
4 energy efficiency and reduce GHG and NOx emissions. In D.09-12-042 under that rulemaking,
5 the Commission noted that “The legislation expresses the intent to support and facilitate both
6 consumer and utility-owned CHP systems and imposes certain requirements on the Commission,
7 the California Energy Commission, the California Air Resources Board, and electric
8 corporations” (p.2). In D.09-12-042, the Commission also found that “purchase of electricity
9 under AB 1613 would serve the public interest by encouraging additional efficient use of energy
10 and the reduction of GHG emissions” (Conclusion of Law 1) and that “all customers will receive
11 the environmental and locational benefits produced by CHP systems participating under AB
12 1613” (Finding of Fact 13).

13 SoCalGas’ Compression Services Tariff is consistent with State policy supporting utility
14 involvement in facilitating expansion of CHP in the State and provides customers with the
15 necessary gas pressure to assist them in developing and providing reliable CHP power as ordered
16 by the Commission and supported by the goals established under AB 32.

17 **III. CONCLUSION**

18 SoCalGas has developed an innovative tariff that benefits ratepayers, supports customers,
19 improves the environment, and assists the State in meeting program and policy goals and
20 mandates. Furthermore, as discussed more fully in Chapter II, ratepayers benefit from the
21 service while costs are recovered from participating tariff customers. SoCalGas’ research
22 demonstrates customer demand for the proposed service. The tariff helps to further expand the
23 NGV and CHP markets thus providing greater opportunities for third party service providers.

1 SoCalGas' accounting procedures and controls ensure proper allocation of full costs to tariff
2 customers addressing concerns over an unfair cost advantage for the utility service relative to
3 other market alternatives.

4 For all of the reasons stated above, SoCalGas encourages the Commission to act
5 expeditiously and approve the Compression Services Tariff as proposed.

6 **IV. WITNESS QUALIFICATIONS**

7 My name is Jeffrey G. Reed. My business address is 8330 Century Park Court, San
8 Diego, California. I am a shared service employee of the Southern California Gas Company and
9 San Diego Gas & Electric Company and serve as Director of Emerging Technologies. I hold a
10 bachelors degree in Mechanical and Environmental Engineering from the University of
11 California, Santa Barbara, a Masters Degree and doctorate in Mechanical Engineering from the
12 University of California, Berkeley and a master's degree in management from Stanford
13 University. At the Southern California Gas Company, I'm responsible for the Emerging
14 Technology, Research Development and Demonstration and Low-Emission Vehicle programs
15 and lead the Environmental Policy and Affairs group. In addition, I'm responsible for new
16 program development related to these areas. In a prior assignment, I was responsible for
17 strategic planning for the Southern California Gas Company and San Diego Gas & Electric.
18 Prior to joining SoCalGas and SDG&E, I worked as a consultant to the energy industry leading
19 business strategy and operational improvement initiatives. I also served as a director and officer
20 in the gas turbine and steam turbine divisions of Asea Brown Boveri ("ABB") Power Generation
21 in Switzerland with responsibilities in technology development, product design, marketing,
22 business development and strategic planning. Prior to that, I held various positions in a defense

1 research and development company. I have previously provided prepared testimony before the
2 Commission.

3 This concludes my prepared testimony.

4

5