

UG266/CEF100
Warren I. Mitchell

**PREPARED DIRECT TESTIMONY OF WARREN I. MITCHELL
ON BEHALF OF CLEAN ENERGY FUELS CORP.**

November 27, 2013

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1 **I. INTRODUCTION**

2 **Q.1. Please state your name and business address.**

3 **A.1.** My name is Warren I. Mitchell. I am Chairman of the Board of Clean Energy Fuels
4 Corp. (Clean Energy) with offices at 4675 MacArthur Court, Suite 800; Newport Beach,
5 California; 92660.

6 **Q.2. Please state your professional experience and educational background.**

7 **A.2.** Before becoming Chairman of the Board of Clean Energy Fuels and prior to my
8 retirement in 2000, I was Chairman and President of Southern California Gas Company
9 (SoCalGas) and Chairman of San Diego Gas & Electric Company. I worked for
10 SoCalGas in positions of increasing responsibility for 42 years. SoCalGas' Low
11 Emission Vehicle program was originally developed under my direction. I previously
12 was Chairman of the national Natural Gas Vehicle Coalition, an industry trade
13 organization, as well as the Pacific Coast Gas Association.

14

15 I am also Chairman of the Board of The Energy Coalition. The Energy Coalition, a
16 nonprofit corporation, seeks to develop and implement initiatives which achieve energy
17 usage savings, reduce greenhouse gas (GHG) emissions, and reduce new supply side
18 power resource needs by working in partnerships with cities, utilities, businesses,
19 schools, individuals, and environmental organizations.

20

21 I have a B.S. and a Master of Business Administration degree from Pepperdine
22 University.

1 **II. PURPOSE OF TESTIMONY**

2 **Q.3. On whose behalf are you appearing?**

3 **A.3.** I am here on behalf of Clean Energy in my position as Chairman of Clean Energy's
4 Board of Directors.

5 **Q.4. What is the purpose of your testimony?**

6 **A.4.** I will be addressing Northwest Natural Gas Company's (NW Natural) proposed Schedule
7 H, High Pressure Gas Service Rider (HPGS or the Tariff). If approved, the tariff would
8 permit NW Natural to offer non-residential customers currently on Schedules 3, 31 and
9 32 natural gas vehicle (NGV) refueling infrastructure equipment and services. Approval
10 of HPGS would allow the regulated utility to provide a competitive service, undermining
11 the development of the NGV refueling infrastructure market in Oregon. My testimony
12 will explore the factors that will contribute to this result and alternatives available to the
13 Commission to best promote the growth of Oregon's nascent NGV refueling
14 infrastructure market.

15 **III. EXECUTIVE SUMMARY**

16 **Q.5. What is Clean Energy's proposal in this proceeding?**

17 **A.5.** Clean Energy urges the Commission to reject or materially modify NW Natural's HPGS.
18 Oregon's NGV refueling market is in its infancy and allowing the utility, with its
19 attendant competitive advantages, to enter the market at this time may stunt the growth of
20 the market. The best solution would be for NW Natural to provide this service through
21 an unregulated entity. A balanced solution could also be reached, however, by limiting
22 NW Natural's participation to three key areas: (1) home refueling (2) school districts and
23 (3) certain non-proprietary, low-volume municipal fleets (excluding, for example, port,

1 airport, transit and refuse properties). This approach would allow the Commission to
2 leverage NW Natural's inherent utility advantages to develop markets that may not
3 initially be targeted by non-utility competitors, encouraging non-utility investment in the
4 private and large governmental fleet markets.

5 **Q.6. Is the HPGS, in your view, a natural extension of utility services?**

6 **A.6.** No. While the label may make the HPGS sound like "business as usual" for NW
7 Natural, it represents a foray into a new line of business. As described in its testimony,
8 NW Natural "*proposes to design, install, and maintain Company-owned compression,*
9 *storage and dispenser facilities on customers' premises.*"¹ The installed facilities will be
10 used to "*compress natural gas to high pressures...ready to be stored on-site and*
11 *dispensed to CNG vehicles.*"² NW Natural is not simply providing pressure services; it
12 intends to build NGV refueling stations. This will take its services far beyond the scope
13 of traditional utility services and have material implications for other non-regulated
14 businesses.

15 **Q.7. What are your concerns about this material expansion in the scope of services by**
16 **NW Natural?**

17 **A.7** Granting full market entry to the utility, with its inherent monopoly advantages and
18 implicit cross subsidies, will create an uneven playing field. Most troubling are the
19 utility's materially lower cost of capital and brand equity. In the face of these utility
20 advantages, competitors may well direct their capital investment dollars in other states
21 with conditions more conducive to competition.

¹ NWN/200, Summers at 11.

² *Id.*

1 **Q.8. The Oregon NGV market has not developed as a result of competitive forces to date,**
2 **so why should we wait any longer for competitors to invest?**

3 **A.8.** The market has not, until quite recently, been primed for development. Unlike
4 California, Oregon has not historically had government mandates to drive the market
5 development. Changes in regulation, including government mandates and incentives in
6 support of NGVs, should encourage increased adoption of NGVs. Equally as important,
7 the economics of NGV adoption have slowed market development. NGVs are more
8 expensive than conventional vehicles, and it is difficult to cost justify NGV fleets without
9 the needed price spreads between the price of natural gas and the price of gasoline or
10 diesel. The spread has grown in the past couple of years, as petroleum and natural gas
11 prices have diverged and natural gas prices have dropped. The timing of NW Natural's
12 interest in this market is not coincidental.

13 **Q.9. Are there any other points you wish to address?**

14 **A.9.** Yes, my testimony addresses NW Natural's testimony and the comments filed on Advice
15 13-10.

16 **IV. CLEAN ENERGY FUELS CORP.**

17 **Q.10. Please provide background information on Clean Energy.**

18 **A.10.** Clean Energy is North America's leading provider of natural gas fuel for transportation
19 serving primarily vehicle fleets including trucking, airport shuttles, taxis, refuse and
20 public transit. Clean Energy builds and operates compressed natural gas (CNG) and
21 liquefied natural gas (LNG) fueling stations; manufactures CNG and LNG equipment for
22 ourselves and others; and is developing renewable natural gas (RNG) facilities. Clean

1 Energy's customers include the Los Angeles Municipal Transit Authority and 37 major
2 airport stations as well as other fleet customers in 43 states.

3
4 Clean Energy has 17 years of experience providing NGV refueling infrastructure, owns
5 or operates more than 400 stations nationwide and has installed over 1,500 compressors
6 similar to those NW Natural would install under the HPGS. Clean Energy is in the
7 process of building a network of LNG and CNG stations across the country called the
8 American Natural Gas Highway. Clean Energy has two stations that are ready for
9 operation, but not yet open in Oregon. We hope to open up these stations in the next few
10 months.

11
12 Clean Energy is a publicly traded company with its shares traded on the NASDAQ under
13 the ticker symbol "CLNE."

14 **Q.11. What services does Clean Energy provide?**

15 **A.11.** Clean Energy offers its customers a full suite of NGV refueling infrastructure packages
16 and the flexibility to build a service package that best suits their needs. Services provided
17 by Clean Energy include:

- 18 ✓ Station design and engineering;
- 19 ✓ Procurement and/or provision of station equipment;
- 20 ✓ Procurement and/or provision of operations and maintenance (O&M) services
21 including around the clock maintenance service;
- 22 ✓ General contractor duties either procuring or providing a package of both
23 equipment and services;
- 24 ✓ Sale of Natural Gas with the NGV refueling infrastructure; and
25
26

1 ✓ Manufacture of station equipment.

2 Clean Energy can offer its customers one or all of the above services.

3 **Q.12. What financing options does Clean Energy provide?**

4 **A.12.** Clean Energy offers its customers a variety of financing options for natural gas stations
5 and vehicles, working with each customer to determine a financing plan that best suits
6 their needs. At one end of the spectrum, customers can simply purchase equipment from
7 Clean Energy outright, while at the other, Clean Energy will fully finance a complete
8 NGV refueling infrastructure upon a commitment to transition a significant portion of the
9 fleet to NGVs. As far as natural gas vehicles are concerned, Clean Energy offers
10 extremely flexible lease terms. Depending on the needs of the customer, some will lease
11 to own, while others will pay a lower rate but will not retain ownership of the equipment
12 at the end of the term. These flexible terms allow some new customers unsure of the
13 market to mitigate their risk and responsibilities, and others to dive in with larger upfront
14 investments. Clean Energy also offers its customers a variety of payment methods
15 including a flat monthly fee or a volumetric adder on the NGV fuel price.

16 **Q.13. How has Clean Energy invested in the Oregon market?**

17 **A.13.** Clean Energy has also built and owns two stations that are not presently dispensing
18 natural gas fuel. We expect these stations to be placed into service when sufficient
19 numbers of natural gas vehicles are deployed in the geographies and on the routes served
20 by such stations. Clean Energy's wholly-owned subsidiary, IMW, has provided 15
21 compressors to various locations in Oregon. Clean Energy expects to commence
22 construction of a station in the near future and is conducting due diligence with respect to
23 additional stations.

1 **V. THE NGV REFUELING INFRASTRUCTURE MARKET**

2

3 **A. DEFINING THE MARKET**

4 **Q.14. Please describe the NGV refueling infrastructure market.**

5 **A.14.** The NGV refueling infrastructure market is about much more than simply dispensing
6 CNG. Over 80 participants in the NGV refueling infrastructure market nationwide
7 provide the equipment and O&M services necessary in order to compress natural gas and
8 provide natural gas refueling. A list of companies providing NGV refueling
9 infrastructure services is attached as Attachment A.

10 **Q.15. Can you please provide background on NGV refueling station operations?**

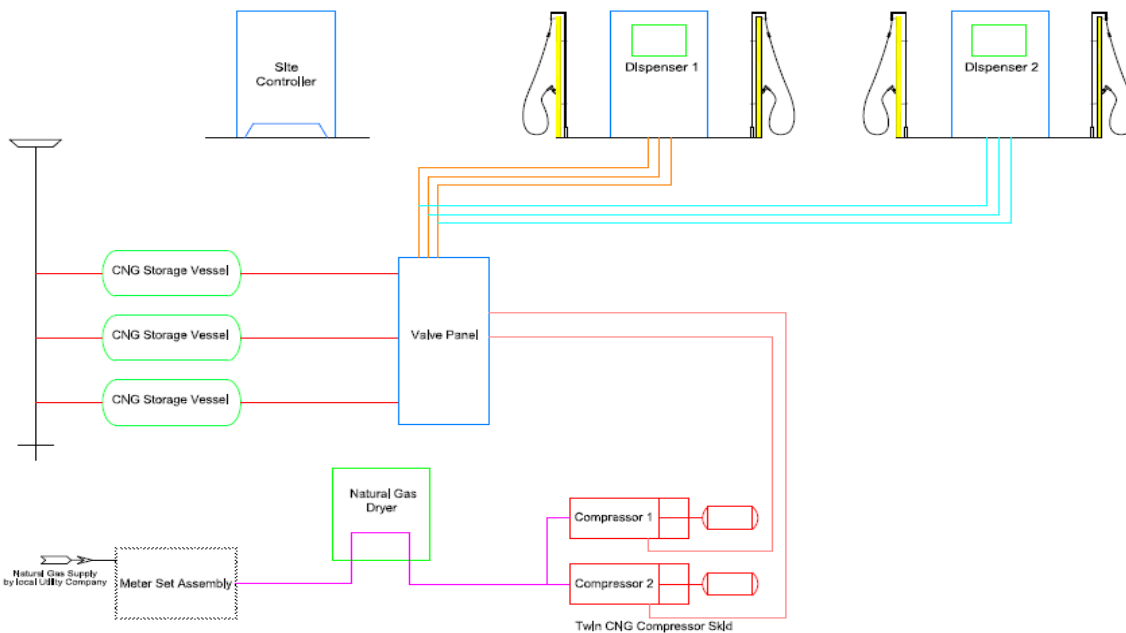
11 **A.15.** Many NGVs use CNG, and before the natural gas commodity (typically delivered by the
12 utility) can be used as a transportation fuel it must be compressed. Natural gas can be
13 dispensed into the NGV using either a “fast fill” or “time fill” process. Fast fill stations
14 will compress the natural gas and store it, and vehicles can refill in a time frame
15 comparable to conventional refueling. While this process is faster, due to the storage
16 requirements it is much more capital intensive. Time fill facilities compress the natural
17 gas during the refueling process, requiring a longer time for refueling, typically 5-6 hours
18 or overnight. While time fill fueling is more time intensive, it is less capital intensive to
19 install. Time fill facilities are particularly well suited for fleets that leave and return to a
20 central location at the end of each day.

21 **Q.16. What are the different components of an NGV refueling station?**

22 **A.16.** An NGV refueling station incorporates equipment including a natural gas dryer,
23 compressors, CNG storage facilities, connecting pipes and dispensers. Each station is
24 designed specifically to match the demand and needs of its customers. Depending on the

1 type of facility, fast or time fill, and the number of dispensers the configuration of
2 equipment will vary from station to station. Figure 1 illustrates the required equipment.

3 Figure 1: An NGV Refueling Station



4 **Q.17. What are the different potential products offered by market participants?**

5 **A.17.** Current market competitors offer their customers a broad range of products from simply
6 providing compressors or other individual pieces of equipment to complete station
7 design, construction and ongoing O&M. In A.11 and A.12 above, I outlined the services
8 and financing that Clean Energy offers its customers. Many of the unregulated
9 competitors in this market offer a similarly range of services.

10 **Q.18. Who is the target customer for NGV refueling infrastructure market competitors?**

11 **A.18.** As NW Natural points out on its website, the 400 NGVs currently on Oregon roads are
12 “*mostly commercial fleets,*” and vehicle fleets are the target customers for NGVs in

1 Oregon and nationwide.³ The characteristics of fleets make them particularly well suited
2 for NGVs. First, fleets are generally dispatched from a base station, allowing one station
3 to serve an entire fleet. Since a fleet station is a significant investment, fleet operators
4 can spread the cost of the station across a number of vehicles. Second, fleet vehicles tend
5 to drive more miles and use more fuel than private passenger cars, making fleets more
6 sensitive to fuel costs. As the price of natural gas falls and the spread between CNG and
7 conventional gas widens, CNG becomes an increasingly more attractive investment for
8 fleets.

9 **B. GROWTH OF THE NGV REFUELING INFRASTRUCTURE MARKET**

10
11 **Q.19. Historically what factors have driven adoption of NGV?**

12 **A.19.** A number of factors affect the adoption of NGVs. These include:

- 13 ✓ The price spread between gas and diesel, and natural gas prices;
14
15 ✓ Availability and affordability of attractive NGV options;
16
17 ✓ The economic environment and availability of investment capital for new fleet
18 vehicles;
19
20 ✓ The age of existing fleet vehicles and the need for additional vehicles;
21
22 ✓ Cost and development of other alternative fuel vehicles (AFVs) including
23 electric vehicles (EV); and
24
25 ✓ Government policy and incentives.

26 Markets will grow only when these market factors are aligned in a manner that makes
27 transition to NGV cost effective and timely. For example, if a fleet owner has a relatively

³ Northwest Natural, "Natural Gas Vehicles," available at:
<https://www.nwnatural.com/AboutNWNatural/EnvironmentalStewardship/AdvancedTechnologies>.

1 new conventional fleet and no need for additional vehicles, they are unlikely to invest in
2 NGV even if new NGV models become available at a lower price.

3 **Q.20. Has any one factor had a disproportionate impact on the market? Why?**

4 **A.20.** The price spread between CNG and gasoline is the most significant factor encouraging
5 adoption of NGVs. New customers will only transition to NGVs when it is economic to
6 do so, and as natural gas prices have continued to fall it has become increasingly cost
7 effective to transition to NGVs.

8
9 Converting a fleet to NGVs requires investment not only in the station but also in either
10 conversion of existing vehicles or purchase of new vehicles. While costs are coming
11 down, NGVs are still more expensive than conventional vehicles as is the cost for
12 converting a conventional vehicle to natural gas. For passenger vehicles, the difference is
13 between \$3,000 and \$5,000 and, as NW Natural Witness Summers noted in her
14 testimony, for heavy duty vehicles the price difference can exceed \$50,000.⁴

15 Additionally, depending on the required facilities, station investments can range from
16 \$10,000 to \$1 million. A fleet owner considering conversion must see that the cost of
17 making the transition will be worthwhile in terms of fuel savings over time. The report
18 accompanying Columbia Willamette Clean Cities Coalition's comments on Advice 13-10
19 illustrates how the price spread between natural gas and conventional fuels impacts the
20 decision to adopt CNG for heavy duty fleets based solely on the cost of converting the
21 vehicles and ignoring station costs otherwise.

⁴ NWN 200, Summers at 2.

Estimated Simple Payback of a Class 7&8 CNG Truck at \$35,000 Incremental Cost						
Miles Per Year	Price Differential between a DGE of CNG and a Gallon of Diesel					
	\$1.50		\$2.00		\$2.50	
	Annual Savings	Payback in Years	Annual Savings	Payback in Years	Annual Savings	Payback in Years
20,000	\$ 5,432	6.4	\$ 7,901	4.4	\$ 10,370	3.4
25,000	\$ 6,790	5.2	\$ 9,877	3.5	\$ 12,963	2.7
30,000	\$ 8,148	4.3	\$ 11,852	3.0	\$ 15,556	2.3
35,000	\$ 9,506	3.7	\$ 13,827	2.5	\$ 18,148	1.9
Miles to simple payback		128,864		88,594		67,500
GGE of CNG to simple payback		31,818		21,875		16,667

5

1 The price spread between natural gas and conventional fuels has significantly widened
2 over the last few years. A report on the state of the Oregon market for natural gas as a
3 transportation fuel published by Columbia-Willamette Clean Cities Coalition (CWCC)
4 reported that in 2012, on average, “CNG [was] 42% less expensive than a gasoline gallon
5 equivalent (GGE),” or \$1.53 less per GGE.⁶ This change is a consequence of the
6 divergence of the price of petroleum and natural gas, as noted in the initial comments of
7 CWCC:

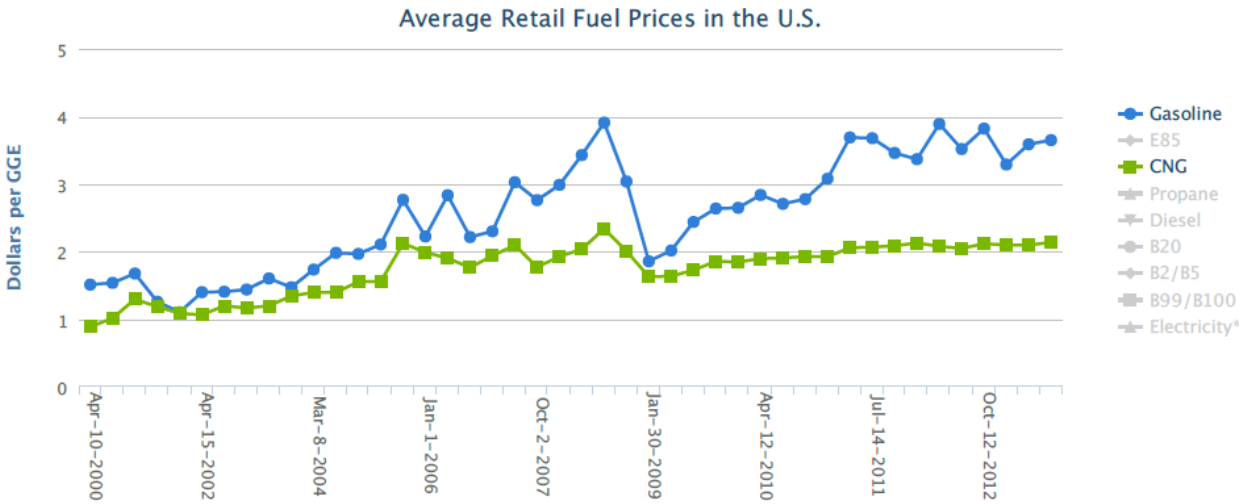
8 *Before 2005, natural gas and oil prices were traded in tandem, when oil*
9 *prices rose, gas prices did, too. As of 2012, natural gas and crude oil*
10 *prices have decoupled in the U.S. market. The result being the price ratio*
11 *of a barrel of oil to a MMBtu of natural gas has risen to more than 25:1*
12 *on a sustained basis.*⁷

⁵ Oregon Natural Gas Transportation Fuel: Information Paper, Prepared for Columbia-Willamette Clean Cities Coalition at 30 (hereinafter CWCCC Paper).

⁶ CWCCC Paper at 8.

⁷ CWCCC Paper at 14.

1 As domestic natural gas exploration and extraction expands, this gap is expected to widen
 2 with natural gas prices falling further. The widening price gap is also illustrated in price
 3 data gathered by the Department of Energy Alternative Fuels Data Center:



8

4 **C. STATE OF THE NGV REFUELING INFRASTRUCTURE MARKET**

5 **Q.21. Please describe the current state of the national NGV refueling infrastructure**
 6 **market.**

7 **A.21.** Nationally, the NGV refueling market is growing and increasingly competitive, with
 8 1,357 NGV refueling stations (CNG and LNG) currently operating nationwide.⁹ The
 9 Energy Information Administration (EIA) reports that between 1995 and 2011, the
 10 number of CNG vehicles on the road has increased 135%.¹⁰ There are over 80

⁸ U.S. Department of Energy, Alternative Fuels Data Center, Average Retail Fuel Prices in the US, available at <http://www.afdc.energy.gov/data/categories/fuel-trends>(first chart).

⁹ U.S. Department of Energy, Alternative Fuels Data Center, Alternative Fueling Station Locator, available at: http://www.afdc.energy.gov/locator/stations/results?utf8=%E2%9C%93&location=&filtered=true&fuel=CNG&private=true&owner=all&payment=all&ev_level1=true&ev_level2=true&ev_dc_fast=true&radius_miles=5

¹⁰ U.S. Department of Energy, Energy Information Administration, Alternative Fuel Vehicle Data, <http://www.eia.gov/renewable/afv/users.cfm?fs=a&ufueltype=cng/>.

1 companies offering NGV refueling infrastructure services nationwide, and this number is
2 growing every day. A current list of companies is attached as Attachment A.

3 **Q.22. Please describe the current state of the NGV refueling infrastructure market in**
4 **Oregon.**

5 **A.22.** Oregon's NGV refueling infrastructure market is still in its early stages. Currently
6 Oregon has 26 CNG stations, with only three offering public access.¹¹ Clean Energy has
7 built two stations and Blu LNG plans to build an LNG station as well. Currently, only
8 three companies actively compete in the Oregon market: Clean Energy, Trustar Energy
9 and Smokey's CLN NGV Tech.

10 **Q.23. Why has Oregon's market failed to develop?**

11 **A.23.** As I mentioned earlier, NGV adoption will occur only with the alignment of key
12 economic factors. Until recently, economic conditions, including the fuel price spreads
13 that drive adoption, have not been sufficiently favorable. While those conditions have
14 not proved to be a barrier in all states, with California being a key example, getting
15 through the economic barriers requires a degree of regulatory certainty that has not
16 always been present in Oregon. Oregon only recently adopted a statewide policy
17 encouraging the adoption of AFVs, specifically Governor Kitzhaber's 10-year Energy
18 Plan in December 2012.

19
20 Oregon should adopt policies that will encourage growth of the NGV market. Policies
21 that do not support competition are most likely to slow NGV refueling infrastructure
22 growth. As I will discuss and demonstrate further below, states that have limited utility

¹¹ NWN 200, Summers at 5-6.

1 participation in the competitive market have experienced growth in their competitive
2 NGV refueling infrastructure market.

3 **VI. THE ROLE OF COMPETITION AND REGULATION IN THE NGV**
4 **REFUELING INFRASTRUCTURE MARKET**

5
6 **Q.24. Can the NGV refueling infrastructure market be sufficiently competitive to benefit**
7 **and protect consumers?**

8 **A.24.** Yes. Provided a state maintains favorable conditions for competition, barriers to entry
9 into the market are low and allow any national competitor to offer its services to any
10 customer, anywhere, at any time.

11 **Q.25. Where has competition been most successful?**

12 **A.25.** The growth of the NGV refueling infrastructure in California demonstrates the benefits of
13 healthy competition. Today there are over 35 active competitors in California with the
14 potential for any of the other national competitors to enter the market.

15 **Q.26. Why has the NGV market developed in California?**

16 **A.26.** For over 20 years, California has made a policy commitment to AFV generally and NGV
17 specifically. In 1990, the California legislature adopted Public Utilities Code §740.3
18 which directed the California Public Utilities Commission (CPUC) and other
19 policymakers to adopt policies to promote the development of EV and NGV markets. In
20 1995, the CPUC voted to restrict the utilities from owning NGV refueling stations,
21 ordering SoCalGas to divest the stations it owned.¹² The CPUC's policy was driven by
22 concerns that non-participating ratepayers were subsidizing the stations and that a pilot
23 project allowing utility participation had not adequately encouraged NGV adoption.¹³

¹² *Re. Utility Involvement in the Market for Low-emission Vehicles*, D.95-11-035, 62 CPUC. 2d 395, 165 P.U.R.4th 503, 1995 WL 768974 (Cal.P.U.C. 1995).

¹³ D.95-11-035, at *55, Finding of Fact 58; *56, Finding of Fact 101 (1995).

1 Perhaps most importantly, the adoption of fleet vehicle rules by the South Coast Air
2 Quality Management District (SCAQMD) which mandated the adoption of AFV by fleets
3 using heavy-duty diesel vehicles helped to jump start the NGV market in Southern
4 California. As a result of the requirement, new competitors were encouraged to enter the
5 California market.

6
7 California offers significant monetary incentives for NGV through regulatory agencies
8 including the California Air Resources Board, California Energy Commission,
9 SCAQMD, San Joaquin Valley Air Pollution District, and the Bay Area Air Quality
10 Management District. Additionally, California allows dedicated NGVs to access high-
11 occupancy vehicle lanes.

12 **Q.27. Did SoCalGas's participation in the California market jumpstart the adoption of**
13 **NGVs in that state?**

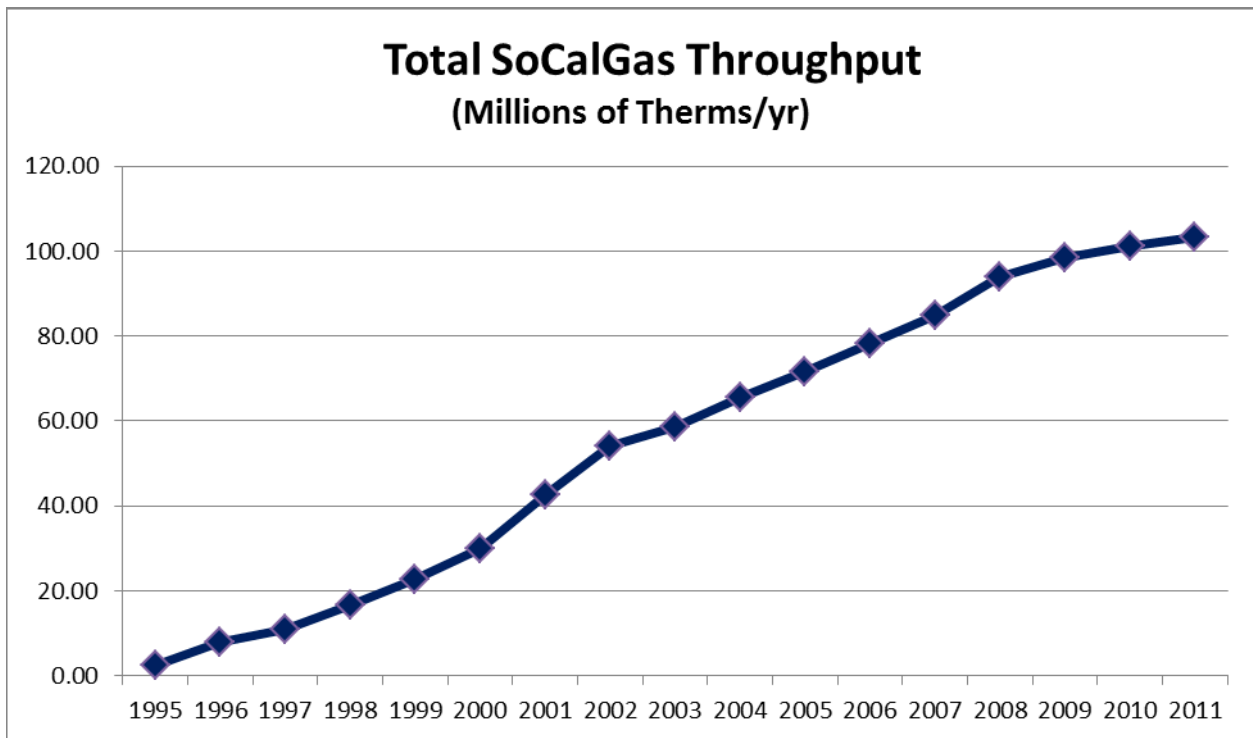
14 **A.27.** No, adoption of NGVs did not take off in California until after 1995 when the CPUC
15 prohibited the utility from participating in the NGV refueling infrastructure market.

16
17 The discussion of the pilot programs allowing the utilities to offer NGV refueling stations
18 in California in CPUC Decision (D.) 95-11-035 highlights the fact that NGV adoption
19 under the program was disappointing:

20 *The pilot programs already undertaken by the utilities stand for the proposition*
21 *that throughput projections may be overly optimistic. The utilities have already*
22 *been allowed to spend over \$60 million on natural gas vehicle pilot programs. A*
23 *study by DRA demonstrates that while the number of natural gas vehicles in use*
24 *meets the utilities' estimates, they are purchasing less natural gas than*
25 *expected.*¹⁴

¹⁴ D.95-11-035 at *34.

1 Further, as the chart below demonstrates, in 1995 throughput of natural gas in the
2 SoCalGas territory was only 2.44 million therms. This number steadily increased as
3 unregulated competitors began to enter the market.



4 **Q.28. What lessons can Oregon learn from the experience in California?**

5 **A.28.** The easiest way to discourage competition and growth of the NGV refueling
6 infrastructure is to allow utility participation in the market. The best policy for protecting
7 competition is to restrict utility participation in the market, instead adopting incentives
8 and policies that encourage NGV adoption. California's steady growth and healthy
9 competition show that utility participation is not necessary to drive adoption of NGVs.

10 **VII. NW NATURAL'S PROPOSED HPGS**

11 **Q.29. Please describe NW Natural's proposed service.**

12 **A.29.** Northwest Natural has labeled its proposal "High Pressure Gas Service," but a closer look

1 reveals that under the tariff in addition to CNG, NW Natural will provide all of the
2 equipment and O&M required to operate a CNG refueling station. Current customers of
3 NW Natural Schedules 3, 31 and 32 are eligible for the service that, as opposed to Clean
4 Energy's more flexible products, requires customers to contract with NW Natural for all
5 required equipment in addition to ongoing O&M.¹⁵ The equipment provided by the
6 utility includes all of the equipment reflected in Figure 1 above. Customers of the
7 proposed tariff will pay for the service via a monthly charge as well as charges for
8 scheduled and unscheduled maintenance.¹⁶

9 **Q.30. What market is NW Natural seeking to enter?**

10 **A.30.** Despite calling its product "High Pressure Gas Service," the scope of NW Natural's
11 proposed tariff including both equipment and service demonstrates an intention to
12 compete in the NGV refueling infrastructure market.

13 **Q.31. Who are the potential customers of the proposed tariff?**

14 **A.31.** NW Natural seeks to serve fleet customers. NW Natural estimates that there are
15 approximately 27 customers for the HPGS, and plans to target "*fleets with approximately*
16 *40 or more return-to-base fleet vehicles.*"¹⁷ Witness Summers states that these include
17 "*waste haulers, local delivery services, and public bus systems.*"¹⁸ As discussed in A.18
18 above, the characteristics of vehicle fleets make them ideally suited for NGV adoption.
19 Clean Energy and other competitors already serve fleets in other markets, and would be
20 most interested in serving Oregon's fleet customers. The impact of NW Natural's

¹⁵ Advice 13-10, Supplemental Filing, Rate Schedule H, at H-1-3.

¹⁶ Advice 13-10 at 2-3.

¹⁷ NWN 200, Summers at 11-12.

¹⁸ *Id.* at 11.

1 participation will be to simply displace those competitors that would otherwise serve
2 these customers.

3 **Q.32. Can other market participants, in Oregon or otherwise, offer the same or similar**
4 **services as NW Natural proposes in its tariff filing?**

5 **A.32.** NW Natural’s proposal is not unique. NW Natural states that it will provide “*non-*
6 *residential customer[s] with a turn-key solution not otherwise available for providing the*
7 *gas pressure required for vehicle fueling, without a significant upfront capital investment*
8 *into compression facilities.*”¹⁹ As indicated in A.12 above, Clean Energy can also offer
9 Oregon fleets a turn-key solution without a significant upfront capital investment. Other
10 market participants also offer all of the same equipment, services and financing options
11 that NW Natural proposes.

12 **VIII. THE HPGS WILL HARM COMPETITION**

13 **Q.33. Witness Summers has indicated that a question central to this case is whether NW**
14 **Natural “unfairly gained any advantage as a result of its status as a regulated**
15 **utility.” Is that a fair characterization of the question?**

16 **A.33.** No, the appropriate question is whether advantages gained by NW Natural as a monopoly
17 provider – regardless of how they were gained –are unfair advantages and discourage
18 competition.

19 **Q.34. Does NW Natural hold unfair advantages due to its monopoly utility position that**
20 **will impact the development of the NGV refueling infrastructure market in Oregon?**

21 **A.34.** Yes. If the Commission approves the HPGS, NW Natural will be able to rely on indirect
22 cross subsidies as a result of its utility status allowing it to offer service at a price lower

¹⁹ Advice 13-10 at 2.

1 than the competitive market can otherwise offer. By indirect cross subsidy, I mean any
2 cost of service that is lower for NW Natural by virtue of its utility status.

3 As a result of these subsidies, and all other things being equal, NW Natural will be
4 positioned to win every bid that it seeks, displacing competitors from serving new fleet
5 opportunities in Oregon.

6 **Q.35. What do you mean by indirect cross-subsidies?**

7 **A.35.** As a result of its utility status, in establishing and marketing its HPGS, NW Natural can
8 rely on certain advantages that it has obtained over time through its operation as a
9 regulated monopoly.

- 10 ✓ NW Natural's 9.5% authorized return on equity reflects the utility's relatively
11 regular returns and moderate risk profile. Non-utility competitors, in contrast, are
12 viewed as much riskier by the capital markets and thus, have a much higher cost
13 of capital, usually somewhere around 15%. A lower cost of capital means a lower
14 station cost, all other things being equal.
- 15
- 16 ✓ NW Natural has built enormous brand equity over the years; the brand equity was
17 derived in large part from its exposure to the public as a monopoly service
18 provider. There is no level of marketing investment that competitors can do to
19 build the brand awareness and public trust that comes as a result of utility status
20 and years of utility service. NW Natural's brand equity is not quantifiable.
- 21
- 22 ✓ NW Natural has access to its customer base in its role as the utility provider of
23 natural gas service. This established customer base gives NW Natural access to
24 information on potential customers of the proposed tariff including historical
25 usage data and distribution design. Again, no competitor has comparable data
26 access.
- 27
- 28 ✓ Since NW Natural provides distribution services to all customers in its service
29 territory, it has sole access to pressure and site information that its competitors
30 need to obtain in order to bid on new projects. When a customer accesses this
31 information to negotiate with a non-utility competitor, NW Natural will have
32 immediate notice of the opportunity. No other competitor will have full
33 knowledge of the market leads of all of its competitors.

1 **Q.36. What is the impact of NW Natural's indirect cross-subsidies?**

2 **A.36.** Each of NW Natural's indirect cross subsidies represents either a cost of doing business
3 that NW Natural avoids or an advantage exclusive to NW Natural as a result of its utility
4 status. The result is that NW Natural has an inherent market advantage over its
5 competitors.

6
7 The simplest example to quantify is the cost of capital impact. On a station that will cost
8 \$1 million to construct, the cost of capital savings the utility can provide will be as much
9 as \$55,000. The investment required to convert a fleet is significant, and this simple cost
10 advantage may be enough for many customers to contract with the utility even though
11 another company offers more flexible terms.

12 **Q.37. Is it accurate to say that NW Natural's cost of capital is related to the company's**
13 **size and credit-worthiness and not necessarily its monopoly status?**

14 **A.37.** No, the more accurate statement is that monopoly status is a direct driver of a company's
15 creditworthiness and cost of capital. Cost of capital, as noted above, is related to the risk
16 profile of an investment. Riskier investments, where the return is less certain, have
17 higher costs of capital, and less risky investments, where returns are more certain, have
18 lower costs of capital. Traditional rate of return regulation for utilities is typically viewed
19 as less risky, since the regulator generally sets rates to provide an opportunity for the
20 utility to earn an authorized rate of return. This regulated status also directly informs its
21 creditworthiness.

22 **Q.38. Do you agree with the statement that NW Natural did not earn its brand reputation**
23 **because of its status of a monopoly?**

1 **A.38.** No. As with its lower cost of capital, NW Natural's monopoly status has given the
2 company the unique ability to build its brand equity. NW Natural has held a franchise to
3 distribute gas since 1859.²⁰ Over the last 154 years, NW Natural has served customers in
4 Oregon, and over the course of those years built its reputation providing utility service for
5 the benefit of ratepayers, who in return have funded NW Natural's service.

6
7 NW Natural's testimony demonstrates the value of NW Natural's brand equity. NW
8 Natural Witness Thompson states that NW Natural's potential clients would:

9 *[A]ppreciate the opportunity to work with NW Natural not only because the*
10 *Company is a known and trusted partner, but also because they desire the benefits*
11 *of transparency, stability and accountability to regulators that come with utility*
12 *service.*²¹

13
14 Fuelpoint and the Northwest Gas Association (NWGA) comments on Advice 13-10 also
15 demonstrate NW Natural's brand equity, stating that the provision of the service by the
16 utility gives customers the confidence to invest in NGV.²² The commenters argue that
17 this is due to, in Fuelpoint's words, "*the trust and stability of dealing with [NW Natural],*
18 *a regulated utility.*"²³ Fuelpoint and NW Natural's statement suggests that an
19 unregulated company could never successfully compete against the utility for these
20 customers' business.

21 **Q.39. What is the impact of NW Natural's ability to undercut the prices of other market**
22 **competitors?**

23 **A.39.** NW Natural argues that it "*hopes it will contribute to the development of a market in*

²⁰ See <https://www.nwnatural.com/AboutNWNatural/TheCompany/Overview>.

²¹ NWN 100, Thompson at 5.

²² Fuelpoint Comments on Advice 13-10, Northwest Gas Association Comments on Advice 13-10.

²³ Fuelpoint, Comments on Advice 13-10.

1 *Oregon for gas as a transportation fuel.*²⁴ If, however, NW Natural is always able to
2 undercut the prices of its competitors, development of the market for NGVs will likely
3 stall. Capital is not unlimited for any organization. Competitors that are unlikely to win
4 new business in a state due to an uneven playing field are unlikely to make the
5 investment required to establish a presence in that state. Ultimately, ratepayers will be
6 left with fewer choices and less innovation.

7 **IX. THE RECORD REQUIRES CLARIFICATION ON THE HPGS**

8 **Q.40. Do you have any concerns about information provided by other parties in comments**
9 **or in testimony related to Advice 13-10?**

10 **A.40.** Yes. I specifically would like to address a few statements that have been made.

11 **Q.41. Have parties correctly characterized the recent proceedings in California?**

12 **A.41.** The Columbia-Willamette Clean Cities Coalition (CWCCC) submitted a report that
13 appears to misunderstand what has occurred in California. In reference to the recent
14 decision of the California Public Utilities Commission to allow utilities to offer
15 compression services, the report states that SoCalGas “[a]s a part of anti-competition and
16 *fair market protections...will focus on service to natural gas vehicles operators like*
17 *municipalities, school districts and private fleets, who might otherwise not be able to*
18 *afford it.*”²⁵ While Clean Energy’s position in the ongoing proceeding is that
19 SoCalGas’s participation should be limited to uneconomic markets, the CPUC’s
20 December 2012 decision did not qualify the utility’s participation.²⁶

²⁴ Advice 13-10 at 3.

²⁵ CWCCC Report at 36.

²⁶ While Decision 12-12-037 approved the SoCalGas Compression Services Tariff, the CPUC has not yet approved an Advice Letter implementing the service. Additionally, Clean Energy has filed a Petition for Modification of D.12-12-037 as well as an appeal of the decision and a motion for stay in the California State Court of Appeal. The Commission has also indicated in its November 22, 2013 Order Instituting Rulemaking to Consider

1 **Q.42. Why did the 1995 CPUC Decision not address competitiveness issues?**

2 **A.42.** NW Natural states that “*the CPUC decision did not address competitiveness issues.*”²⁷

3 Because the Commission did not approve utility participation in the market, it had no
4 reason to address competitiveness directly. It did, however, as discussed in A.27 above,
5 offer observations regarding its expectations for a utility with an interest in market
6 participation.

7 **Q.43. Will the proposed service increase the number of public NGV refueling stations?**

8 **A.43.** Comments filed on Advice 13-10 by Con-Way Freight, Oregon Trucking Association,
9 Lynden, DSU Peterbilt and CWCCC suggest that allowing NW Natural to offer NGV
10 refueling infrastructure will increase the number of public access NGV stations in
11 Oregon.²⁸ Approval of HPGS will have no direct impact on the availability of public
12 refueling stations. NW Natural Witness Summers’s testimony states that NW Natural
13 will not provide CNG to the general public.²⁹ It is the decision of the fleet station
14 customer if public access at the station will be allowed. Private station owners are
15 generally discouraged from offering public access due to concerns about damage to
16 station equipment and keeping the station fully available to its fleet vehicles. Further, it
17 must be highlighted that only those stations with fast fill CNG infrastructure will be
18 feasible for use as a public station. Fleet stations may be more likely to only have time-
19 fill refueling since vehicles generally return to the station at night making the less
20 expensive time fill infrastructure a practical and cost effective solution.

Alternative-Fueled Vehicle Programs, Tariffs, and Policies (R.13-11-007) that it will be examining NGV market issues more generically.

²⁷ NWN 200, Summers at 25.

²⁸ Con-Way Freight Comments on Advice 13-10, Oregon Trucking Association Comments on Advice 13-10, Lynden Comments, DSU Peterbilt Comments on Advice 13-10.

²⁹ NWN 200, Summers at 12.

1 **Q.44. Will the price of NW Natural’s service be transparent?**

2 **A.44.** Fuelpoint CNG Innovations (Fuelpoint) suggests that the “*rate design is simple and*
3 *understandable to fleet operators/owners.*”³⁰ Pricing of NW Natural’s HPGS is neither
4 transparent nor is it simple and understandable. Under the HPGS, NW Natural will not
5 file the exact rates to be paid by customers under the tariff. Instead, prices “*will vary for*
6 *each installation and will be laid out in the customer’s HPGS Service Agreement.*”³¹

7 **Q.45. Should the Commission rely on its decision in the EV proceeding?**

8 **A.45.** NW Natural suggests that the Commission should rely on its EV Decision which allowed
9 utilities to offer EV recharging as a utility service.³² The Commission should not rely on
10 the EV policy adopted in Order 12-013 for direction in addressing the HPGS. First,
11 while the OPUC may have determined that utility participation in the EV market is
12 necessary, it should not automatically follow that the same is true for NGVs. Second, it
13 is unclear that the Commission deeply explored the impact of utility participation in the
14 competitive market for EVs as it is doing in this case.

15
16 EVs and NGVs have each carved out their own market: EVs serve as private, passenger
17 vehicles while NGVs serve larger vehicles and fleets. EVs best fit customers requiring
18 passenger vehicles that only drive a set number of miles between charges, while NGVs
19 are a better choice for customers driving heavy duty vehicles many miles on a single
20 tank. Additionally, EV charging stations are much less capital intensive to install and
21 home refueling is practical. Home refueling for NGVs, on the other hand, is still
22 generally cost prohibitive. The policy choices that may best encourage the EV market

³⁰ Fuelpoint, Comments on Advice 13-10.

³¹ Advice 13-10 at 2.

³² NWN 100, Thompson at 4.

1 may not encourage the NGV market.

2 In the EV Order, over the objections of multiple intervenors, the Commission allowed the
3 utility to offer EV charging, while providing no discussion of what evidence it relied on
4 in support of its conclusion.³³ The Commission should take this opportunity to more
5 fully explore the impact on the market of utility entry into a competitive market.

6 **X. THE COMMISSION SHOULD REJECT THE PROPOSED TARIFF CHANGES,
7 OR AT A MINIMUM LIMIT THE HPGS TO UNDERSERVED MARKETS**

8
9 **A. THE COMMISSION SHOULD REJECT NW NATURAL'S
10 APPLICATION**

11
12 **Q.46. What is the best solution to encourage competition in Oregon's NGV refueling
13 infrastructure market?**

14 **A.46.** The cleanest and most comprehensive solution would be to reject NW Natural's
15 application and direct the utility to offer the service through an unregulated entity.

16
17 Oregon's NGV refueling infrastructure market is at a key crossroads. For the first time,
18 factors have aligned in a manner that encourages increased NGV adoption. The
19 Commission should restrict utility participation, protecting the market by allowing it time
20 to develop and encouraging competition. Alternatively, the Commission can approve
21 HPGS and leave Oregon NGV customers with a market that is less flexible and less
22 innovative. The Commission should take this opportunity to reject the application and
23 encourage competition.

24

³³ *Re. Investigation into Matters Related to Electric Vehicle Charging*, Docket UM 1461, Order 12-013(January 19, 2012) at 6.

1 Clean Energy welcomes additional competition in Oregon, but believes that it is in the
2 best interest of customers and the NGV refueling infrastructure market that competition
3 occur on a level playing field. Offering the service through an unregulated entity would
4 prevent NW Natural from relying on indirect cross-subsidies provided by NW Natural's
5 monopoly utility ratepayers. While the service would still benefit from some efficiencies
6 as a result of NW Natural's experience in the Oregon market, it would prevent reliance
7 on the utilities' advantages resulting from its monopoly status.

8 **B. THE COMMISSION SHOULD AT A MINIMUM LIMIT THE HPGS TO**
9 **UNDERSERVED MARKETS**

10
11 **Q.47. Is there an alternative to the use of an unregulated entity?**

12 **A.47.** Yes. The Commission could carefully structure the utility's scope of market
13 participation.

14 **Q.48. Are there certain markets that could be appropriate for utility participation?**

15 **A.48.** Yes, NW Natural's negative impact on the NGV refueling infrastructure development can
16 be mitigated by limiting utility participation to just those markets that have proven to be
17 uneconomic in states with more mature markets. An uneconomic market is a market
18 where potential profits are not sufficient to cover the cost of service. If a competitor is
19 unlikely to make a profit from investing in a new market, it is unlikely to serve that
20 market, stalling development. While the utility's ability to undercut the price of its
21 competitors will harm competitive and growing markets, this same ability makes NW
22 Natural uniquely suited to make underserved markets economic.

23
24 As demonstrated above, the fleet market has proven profitable for NGV refueling
25 infrastructure providers, as is evidenced by the over 80 companies serving this market

1 nationwide. Other market opportunities that are underserved because of an unprofitable
2 margin for unregulated competitors may actually be profitable for the utility precisely
3 because of the potential for the utility to rely on its lower cost of capital. Certain markets
4 may be profitable to the utility even if they are not attractive to the market at large.

5
6 Intervenor argue that the HPGS will jump start competition and encourage NGV
7 adoption. As illustrated by the experiences in California, competitive markets are more
8 likely to develop without the presence of the utility. The intervenor arguments do apply
9 however, to uneconomic markets. By helping to build the original infrastructure and
10 encouraging customers that would otherwise be ignored to make the investment in
11 NGVs, the utility can contribute to incremental adoption of NGV refueling infrastructure.

12
13 Even if HPGS is limited to underserved markets, the Commission should adopt
14 procedures to monitor NW Natural's activities and protect ratepayers. The Commission
15 should adopt accounting measures to track costs of providing the HPGS to ensure that
16 customers of the service still pay the full cost of service. The Commission should also
17 periodically review the HPGS to determine if the currently underserved markets still
18 require participation of the utility to encourage growth or if competition has fully
19 developed.

20 **Q.49. What market sectors would you describe as underserved?**

21 **A.49.** As a starting point, Clean Energy would suggest that NGV home refueling, school district
22 bus fleets and non-proprietary, low volume municipal fleets (excluding, for example,
23 port, airport, transit and refuse properties) are underserved.

1 **Q.50. Are there other policies that Oregon should adopt that would encourage NGV**
2 **market growth?**

3 **A.50.** Yes, as the California experiences reflect, the best way to encourage adoption of NGVs is
4 to make a commitment to potential competitors and customers that the Commission will
5 support and protect a healthy competitive market. If competitors remain concerned that
6 the utility will be allowed to serve this market with its cross-subsidies and advantages,
7 they will decide the Oregon market is not worth the investment. On the other hand, if
8 competitors see that the Commission and Legislature are encouraging NGVs by making it
9 an even more worthwhile investment, they will see ample market opportunities and
10 competition will grow.

11 **Q.51. Does this conclude your testimony?**

12 **A.51.** Yes it does.

Providers of NGV Refueling

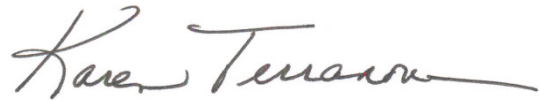
"O"Ring CNG Fuel Systems, L.P.
ACF Compressed Natural Gas
AGL
Air & Gas Technologies
AllSup Corporation
Alternative Vehicle Service Group
American Fueling Systems
American Natural Gas Solutions
AMP - Americas
AMTEK Construction
ANGI (Automotive Natural Gas, Inc.)
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CERTIFICATE OF SERVICE

I hereby certify that I served a true and correct copy of the foregoing document in Docket UG 266 on the following attached list of named person(s) on the date indicated below by email addressed to said person(s) at his or her last known address(es) listed below.

Dated November 27, 2013 at San Francisco, California.

A handwritten signature in black ink that reads "Karen Terranova". The signature is fluid and cursive, with a long horizontal stroke at the end.

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Summary Report

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