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August 5, 2011

Mr. Floyd Vergara
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

Re: Southern California Gas Company and San Diego Gas and Electric Comments on Staff LCFS Regulatory Amendments presented at July 22, 2011 Workshop

Dear Mr. Vergara:

San Diego Gas & Electric Company (SDG&E) and the Southern California Gas Company (SoCalGas) would like to thank the California Air Resources Board (CARB) for the opportunity to offer comments on proposed amendments to the CARB Low Carbon Fuel Standard (LCFS) regulations discussed during the July 22, 2011 workshop.

SoCalGas and SDG&E are hopeful the regulatory amendments under development will promote the use of compressed natural gas (CNG) as a economic alternative fuel that can reduce petroleum dependency, improve regional air quality, and reduce greenhouse gas emissions. To that end, SoCalGas and SDG&E offer the following comments and recommendations to amend the CARB LCFS regulations:

A. Definition of Compressed Natural Gas (CNG)

The current CARB LCFS regulations defines CNG as follows

"*…natural gas that has been compressed to a pressure greater than ambient pressure and meets the requirements of title 13, CCR, section 2292.5.…*"

Title 13, CCR, Section 2292.5 ("CARB CNG Specifications") include a set of twelve (12) prescriptive specifications that set minimum and maximum values for components of CNG used as a motor vehicle fuel and were originally designed to prevent CNG engine and storage system damage.[1]

[1] Components include methane, ethane, C3+, C6+, hydrogen, carbon monoxide, oxygen, inert gases (carbon dioxide and nitrogen), water, particulate matter, odorant, and sulfur.

The October 28, 1991 CARB staff report, "Proposed Specifications for Alternative Fuels for Motor Vehicles", states

"*High ethane and propane content in natural gas can cause lower knock limited compression ratios, and even engine damage. Therefore, the staff has limited the concentration of these components in the proposed specification for natural gas. The staff has also limited the concentrations of higher hydrocarbons due to their tendency to increase reactivity, and due to concerns about hydrocarbon dewpoint. There is a possibility of higher hydrocarbons condensing out of the compressed gas at the point where the high pressure gas leaves the regulator and the temperature of the gas decreases abruptly. If this occurs, there may be some loss in fuel metering control…The inert gas specifications have been added due to the effects on combustion and vehicle performance. The water specification wasset at a level that should help avoid corrosion of steel storage tanks…The particulate matter specification is intended to avoid engine damage…*"

Since the CARB CNG Specifications were adopted in 1992, CNG engine technology and associated manufacturer fuel specifications have advanced considerably. Table 1 shows how successive CNG engine makes and models from Cummins-Westport have evolved over time.

Table 1 – Cummins-Westport Engines and Fuel Requirements

Engine Model	**Production Years**	**Manufacturer Fuel Specification**
L10 Phase 1	1990 - 1994	Prescriptive – Equivalent to minimum Methane Number 83.8
L10 Phase 2	1994 - 1996	Prescriptive - Equivalent to minimum Methane Number 83.8
L10 Phase 3	1996 - 1999	Performance– minimum Methane Number 80
B Gas	1995 - 2002	Performance - minimum Methane Number 80
C Gas	1996 - 2001	Performance - minimum Methane Number 80
B Gas Plus	2002 - 2009	Performance - minimum Methane Number 65
C Gas Plus	2001 - 2007	Performance - minimum Methane Number 65
L Gas Plus	2004 - 2007	Performance - minimum Methane Number 65
ISL-G	2007 - Present	Performance - minimum Methane Number 75

As illustrated in Table 1, Cummins-Westport and other CNG engine manufacturers have, since the early 1990s, moved from prescriptive specifications that specify minimum and maximum values for components of CNG to performance specifications that specify a single Methane Number (MN)

similar to a motor octane number.[2] Further, the performance specifications have grown broader over time demonstrating the capability of modern engines to operate on an increasingly wider range of CNG composition.

The CARB CNG Specifications have been and continue to be inconsistent with the gas quality required by the California Public Utilities Commission (CPUC) for gas supplies delivered to Southern California. The October 28, 1991 CARB staff report, "Proposed Specifications for Alternative Fuels for Motor Vehicles", shows in Table 9 that several maximum and minimum values established in the CARB CNG Specifications are not consistent with SoCalGas gas supplies. For example, the CARB CNG Specificationsrequire a minimum of 88% methane in CNG, yet California Producers show a methane range of 84.23% to 97.05%. This issue was discussed more recently in CPUC Decision 06-09-039, that states

"…According to the Producers testimony, only five percent of California production could meet the current CARB CNG specifications. The specific constituent requirements could also limit LNG supplies. The impact on supplies would likely raise costs for all the state's gas consumers. The public benefits that would accompany these costs appear to be quite small. Natural gas vehicles consume only a small fraction of the total volume of gas consumed in the state. Furthermore, the current CARB CNG specifications are only necessary for a small subset of vehicles within the current natural gas vehicle fleet. Therefore, we do not adopt the CARB CNG specifications as part of the SDG&E/SoCalGas tariff…"

In 2010, it was discovered that up to 40% of interstate gas supplies delivered to Southern California do not consistently meet the CARB Regulations minimum value of 1.5% for inerts. Although these gas supplies are only obligated to meet the CPUC gas quality requirements, which sets no minimum inerts limit, it demonstrates the gap that is widening between the gas quality of existing and future natural gas supplies and the CARB CNG Specifications.

In the event that CNG used as a motor vehicle fuel is not expected to meet the CARB CNG Specifications, Title 13, CCR, Section 2259 states

"*The executive officer shall consider and grant test program exemptions from the Requirements…*"

As a result of the difference between the gas quality of current gas supplies entering Southern California and the CARB CNG Specifications, system-wide exemptions for <u>all</u> CNG stations operating in the service territory of both SoCalGas and SDG&E were requested and granted by CARB on October 12, 2010.

Since the current CARB LCFS regulations do not define CNG as gas that also meets Title 13, CCR, Section 2259, approximately 95% of all CNG that would otherwise be covered under the CARB LCFS Pathway "California NG via pipeline; compressed in CA"and up to 40% of all CNG that would otherwise be covered under the CARB LCFS Pathway "North America NG delivered via pipeline; compressed in CA" would not qualify as CNG under the CARB LCFS regulations and therefore cannot be used to generate LCFS credits. There is no rationale, with respect to carbon

[2] The Methane Number (MN) is related to the motor octane number (MON) through the following formula: MN = 1.624 * (MON) - 119.1

intensity, to exclude CNG created from these pathways based on the CARB CNG Specifications. Furthermore, since we are unaware of any existing CNG station with gas quality monitoring equipment capable of determining if CNG created does or does not meet the existing CARB CNG Specifications, it is impossible for anyone to prove that any CNG LCFS credits generated under the existing CARB LCFS regulations are valid. Consequently, the definition of CNG under the CARB LCFS regulations must be amended.

B. Unrealized Compressed Natural Gas (CNG) LCFS Credits

Since the current CARB LCFS regulations are voluntary for CNG, there is the possibility that some CNG providers may decline to opt-in and become regulated parties. The gas utilities within the state of California directly meter the use of natural gas delivered to these regulated parties for the express purpose of creating CNG and are in a unique position to identify LCFS credits that would otherwise not be generated. It may be very beneficial to allow natural gas fueling equipment owners that would otherwise not be inclined to participate in the LCFS regulations to assign their designation of "regulated party" to the local gas utility so that additional LCFS credits could be made available to the LCFS market.

C. Onerous Recordkeeping and Penalty Provisions

Subsection 95484(d)(1) of the proposed amended LCFS regulation requires regulated parties to retain records for at least three years and to provide these records within 20 days of a written request from CARB, including copies of all data and reports previously submitted to the Executive Officer, as well as records used for calculating credits. In addition, subsection 95484(e)(3) states that a violation of any provision of the LCFS regulation *"shall be deemed to result in an emission of an air contaminant . . ."* What this means is if a regulated party made a typographical or mathematical error in a report previously submitted to CARB, or if that party could not produce a complete set of credit calculation records for credits it had generated and then sold to a third party almost three years earlier, then that party is automatically subject to a penalty whose maximum limit is either $10,000 or $25,000 per day per violation, depending on the degree of "negligence" attributed by CARB to that alleged violator.

Clearly, these recordkeeping and penalty provisions collectively act as a disincentive for a non-regulated party that is deciding whether or not to opt-in and voluntarily become a regulated party. Moreover, these provisions collectively become extremely onerous and punitive, even for regulated parties that have no choice about being in the LCFS program, let alone those that are opting in in order to provide valuable credits. Indeed, during the July 22, 2011 public workshop on the proposed amended LCFS regulation, CARB admitted that it had not thoroughly thought through these recordkeeping provisions, in light of the unlimited number of trades LCFS credits can undergo. Furthermore, during the July 25, 2011 public meeting to discuss the progress of the LCFS advisory panel, CARB also acknowledged that in their analysis of any hurdles or barriers to the LCFS credit market, they had not considered the recordkeeping or the penalty provisions at all, or the barrier to entry that they collectively generated.

D. Recommendations For Amending Existing CARB LCFS Regulations

In order to address issues identified with the existing CARB LCFS Regulations, SoCalGas and SDG&E have developed changes to the regulatory language that we believe are needed to ensure

CNG is not hindered as a viable, economic, alternate, low carbon vehicle fuel. The regulatory changes are summarized below:

1. **Replace the existing, narrow definition of CNG with a definition that allows <u>all</u> CNG created under existing and future pathways to generate LCFS credits.**

   Replace Section 95481 (a) (12) which currently states

   "Compressed Natural Gas (CNG)" means natural gas that has been compressed to a pressure greater than ambient pressure and meets the requirements of title 13, CCR, section 2292.5

   with the following text:

   "Compressed Natural Gas (CNG)" means natural gas that has been compressed to a pressure suitable for fueling motor vehicles and meets the gas quality requirements of the California Public Utilities Commission.

2. **Allow utilities to generate LCFS credits that would otherwise not be generated.**

   Add Section 95484 (a) (5) (A) (3) that includes the following text:

   Where regulated party decides to assign regulated party designation to local gas utility. The regulated party is the local gas utility that is assigned this designation by the person that owns the natural gas fueling equipment at the facility at which the fossil CNG is dispensed to motor vehicles for their transportation use.

3. Add to the end of Subsection 95484(d)(1) the following sentence:

   "The three-year record retention requirement shall revert to a one-year record retention requirement for those regulated parties that have opted in solely for the purpose of selling credits, and that otherwise have no other compliance obligation under the LCFS regulation."

4. Add to the end of Subsection 95484(e) the following new subsection:

   "(4) These penalty provisions shall not apply to those regulated parties that have opted in solely for the purpose of selling credits, and that otherwise have no other compliance obligation under the LCFS regulation."

SoCalGas and SDG&E hope that these comments will help to improve the revisions to the CARB LCFS regulations currently under consideration.

Sincerely,

Tamara Rasly