

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

Order Instituting Rulemaking to Establish)
Policies and Rules to Ensure Reliable,)
Long-Term Supplies of Natural Gas to) R. 04-01-025
California)

**PRE-WORKSHOP COMMENTS OF SEMPRA LNG
ON NATURAL GAS QUALITY ISSUES**

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February 11, 2005

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Pursuant to the California Public Utilities Commission's ("CPUC") Rules of Practice and Procedure and the Presiding Administrative Law Judges' ("ALJs") December 23, 2004 ruling, Sempra LNG respectfully submits these pre-workshop comments on natural gas quality issues.¹ Sempra LNG supports the development of liquefied natural gas ("LNG") infrastructure in North America to bridge the gap between supply and demand. Sempra LNG applauds the steps taken to initiate the gas quality workshop and looks forward to a healthy dialogue regarding the important issue of gas interchangeability. The development of gas interchangeability standards should support access to a broad base of supply sources while providing the maximum possible benefits to consumers.

As set forth in more detail below, Sempra LNG urges the State to:

- Adopt the Wobbe Number as the primary measure of gas interchangeability;
- Adopt gas quality standards that are consistent with Federal standards; and to
- Recognize that compressed natural gas ("CNG") used for transportation represents less than 1% of statewide consumption. As such, the California Air Resources Board's

¹ Appendix A of the ALJs' December 23, 2004 ruling (at p. 4) directs parties to file their comments at both the CPUC and the CEC (in the IEPR Docket – 04-IEP-1), which Sempra LNG has done.

("CARB") CNG fuel specifications should not prevent the rest of the State from realizing the benefits afforded by increased supply opportunities, e.g., from LNG.

I. GAS QUALITY MEASURES

Gas quality issues related to the hydrocarbon content of natural gas can be classified as liquid fall-out or gas interchangeability. The potential for liquid fall-out from natural gas is addressed by the hydrocarbon dew point and is primarily a function of the hexanes and heavier (hexanes+) content. Delivered LNG contains no hexanes+ and has a very low hydrocarbon dew point. This means LNG will have no liquid fall-out issues and may help to dilute any richer gas in the pipeline.

Gas interchangeability is generally the ability to substitute one gaseous fuel for another in a combustion application without materially decreasing operational safety, efficiency, performance or materially increasing air pollutant emissions. There are various measures of gas interchangeability such as chemical composition limits, heating value, Wobbe Number and Methane Number.

Although heating value has been extensively utilized as a gas interchangeability parameter, it is now recognized that it is not the best measure. Wobbe Number generally represents the most robust and widely accepted parameter for assessing the interchangeability of two gases. Establishment of appropriate Wobbe Number limits is the optimum solution, as selection of a proper Wobbe Number range would address the following issues:

- Incomplete combustion, yellow tipping, flame lifting and blowout (appliances);
- Carbon monoxide (CO) emissions (appliances);
- Nitrogen oxides (NOx) emissions (appliances, engines, turbines and furnaces);
- Unburned hydrocarbons (appliances).

Operability issues for gas engines (knock) and gas turbines (auto-ignition), however, will require the use of a second parameter such as a butanes and heavier (butanes+) or Methane Number limit.

II. CALIFORNIA'S CURRENT NATURAL GAS QUALITY STANDARDS AND FUTURE NATURAL GAS SUPPLIES

A. Federal Interchangeability Standards

Currently there is a patchwork of gas quality standards that exist in California. In order to eliminate unnecessary obstacles to the national and state public policy goals of obtaining access to new diversified sources of natural gas, California should adopt natural gas interchangeability standards that are consistent with Federal interchangeability standards. This would provide necessary regulatory certainty for those considering the substantial investments required in the natural gas value chain.

We believe that consistent gas interchangeability standards should apply at the point of delivery to an interstate pipeline, and should also be maintained on a consistent basis in local distribution company ("LDC") gas transportation tariffs.

B. CPUC Tariff Rules on Natural Gas Quality

There should be a single set of gas quality standards for gas transported through California utility pipelines that is consistent with Federal standards. Consistent standards for gas quality should be clear and included in each utility's tariff to avoid multiple and conflicting standards. A key objective of these standards should be to maximize available gas supply and to provide gas consumers with access to multiple cost-efficient supply sources.

PG&E's CPUC Tariff Rule 21 is ambiguous, and does not provide a supplier with the regulatory certainty required for infrastructure investment. While it does provide flexibility for in-state producers and accommodates supplies in certain areas, a level of flexibility should be established which provides ample certainty for investors.

C. California Air Resources Board (CARB) Motor Vehicle Fuel Standards for Natural Gas Vehicles

CARB can, and should, be actively involved in proceedings seeking adoption of consistent gas quality/interchangeability standards, but CARB CNG fuel specifications should not create impediments to the interstate and intrastate transportation of LNG. Policy makers should be mindful that CNG used for transportation represents less than 1% of statewide consumption; it would not make sense for all natural gas consumers to pay costs that were incurred only to meet these limited needs. A small fraction of consumers should not prevent the rest of the state from realizing the benefits afforded by increased supply opportunities. Indeed, if the State applies the CARB fuel specifications to LNG, LNG developers may well elect to move their gas to other jurisdictions. Such an outcome would be inconsistent with the State's goal, as set forth in the Energy Action Plan (at p. 2), to "[e]nsure a reliable supply of reasonably priced natural gas."

The CARB CNG fuel standards should not serve as the basis for establishing state or federal gas quality standards for natural gas in the pipeline. This approach would avoid the need to impose on all natural gas consumers, directly or indirectly, the costs associated with conditioning all natural gas in (and entering) California merely to meet requirements of end-use consumption that total less than 1% of the State's natural gas demand. NGV manufacturers instead should provide newer technology engines with advanced controls that can operate

properly with a wide range of natural gas fuel quality. CARB should work with manufacturers to address issues related to legacy vehicles requiring special grades of natural gas fuel.

D. Potential Increased NOx Emissions Will Not be Material

Concerns have been expressed to the effect that higher heating values (and Wobbe) may increase NOx emissions related to residential appliances and power generation stations.

However, this impact, if it exists, has not been quantified and to the extent that there is any impact, it appears to be immaterial. In that regard, residential gas fired appliances account for only approximately 1.9% of California NOx emissions (CARB database). Similarly, natural gas fired turbines account for only 0.5% of California NOx emissions. Over 80% of the natural gas fired turbines at California power stations are equipped with exhaust Selective Catalytic Reduction (“SCR”) units, which typically reduce NOx emissions to less than 10 ppm. The presence of these control devices should avoid any material increase in NOx emissions associated with increased gas heating value.

The most economically efficient means of addressing any NOx concerns related to the approximately 1.9% of California NOx emissions related to residential gas-fired appliances and the 0.5% of California NOx emissions related to natural gas-fired turbines is through new equipment performance criteria or aftermarket controls.

**III.
CONCLUSION**

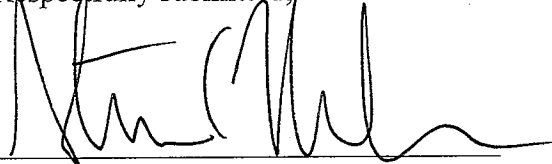
In conclusion, Sempra LNG urges the State to:

- Adopt the Wobbe Number as the primary measure of gas interchangeability;
- Adopt gas quality standards that are consistent with Federal standards; and to

- Recognize that CNG used for transportation represents less than 1% of statewide consumption. As such, CARB's CNG fuel specifications should not prevent the rest of the State from realizing the benefits afforded by increased supply opportunities, e.g., from LNG.

Sempra LNG appreciates having the opportunity to submit these comments and looks forward to actively participating in the upcoming workshops.

Respectfully submitted,



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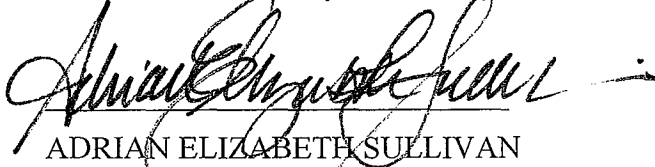
February 11, 2005

CERTIFICATE OF SERVICE

I hereby certify that a copy of **PRE-WORKSHOP COMMENTS OF SEMPRA LNG ON NATURAL GAS QUALITY WORKSHOP** has been electronically mailed to each party of record on the service list in R.04-01-025. Any party on the service list who has not provided an electronic mail address was served by placing copies in properly addressed and sealed envelopes and depositing such envelopes in the United States Mail with first-class postage prepaid.

Copies were also sent via Federal Express to the Assigned Administrative Law Judges and Commissioners.

Executed this 11th day of February, 2005 at San Diego, California.


ADRIAN ELIZABETH SULLIVAN