

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

In the matter of:)	
Informational Proceeding and Preparation of the)	Energy Commission Docket No.
California Energy Commission 2005 Integrated)	
Energy Policy Report and California Public)	04-IEP-01
Utilities Commission Order Instituting)	
Rulemaking to Establish Policies and Rules to)	CPUC Docket No.
Ensure reliable, Long-Term Supplies of Natural)	
Gas to California)	R.04-01-025
_____)	

**COMMENTS OF SOUTHERN CALIFORNIA EDISON COMPANY (U338E) ON
CEC/CPUC GAS QUALITY WORKSHOP REPORT**

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Dated: April 25, 2005

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE
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In the matter of:)	
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COMMENTS OF SOUTHERN CALIFORNIA EDISON COMPANY (U338E) ON CEC/CPUC
GAS QUALITY WORKSHOP REPORT

On April 4, 2005, the California Energy Commission (“CEC”) and the CPUC (jointly “CEC/CPUC”) distributed a gas quality workshop report (“Report”) that summarized the workshop discussions held on February 17 - 18, 2005. At the workshop, the CEC/CPUC heard from a variety of stakeholders, including Southern California Edison Company (“SCE”). SCE’s comments focused on the dependence of the electric system on gas-fired generation located within Southern California. The workshop also included presentations from San Diego Gas and Electric (“SDG&E”) and Southern California Gas Company (“SoCalGas”) (collectively “Sempra Energy Utilities” or “SEU”) regarding the results of testing gas-fired equipment (excluding large gas turbines) as well as presentations by regulators and Liquefied Natural Gas (“LNG”) developers.

Since the workshop, stakeholder gas quality discussions have continued, progressing in large part due to the efforts of SEU. SEU distributed a “straw man” proposal to revise its current quality standards¹ and also organized stakeholder groups to look at issues surrounding various

¹ Document titled “SDG&E/SoCalGas Proposed Changes to SoCalGas Rule 30” included on e-mail sent April 8, 2005.

classes of end-use equipment. SCE participated in the group that discussed power plant issues. In addition, SEU hosted an all-party meeting during which parties agreed to comment not only on the Report but also to comment on SEU's straw man proposal and a gas quality interchangeability standard proposed by Calpine².

Summary Of SCE's Position

LNG developers have pushed for an expedited decision on gas quality standards and in response SEU has proposed modifications to its gas quality rules. SCE understands the importance of LNG supplies to the United States gas market. At this time, SCE does not support changes to current gas quality specifications, due to its impacts on potential retrofit expense for industrial gas and power plant owners and the potential increase in emissions in California. Should the CEC/CPUC determine that a change to current gas quality specifications is in the public interest, SCE supports Calpine's proposal (as modified by SCE) until the impact of gas quality variations on the electric industry is fully vetted.³

SCE remains hopeful that the establishment of gas quality standards can be settled by all stakeholders rather than resorting to hearings. However, SCE will advocate hearings if warranted by gas turbine issues. Given that much more equipment testing information will be available to stakeholders by mid-summer 2005, SCE recommends that the CEC/CPUC not adopt any standards prior to properly reviewing the results of the on-going analysis in Florida. A

² "Comments of Calpine Corporation on Gas Quality Specifications" filed in docket No. 04-IEP-01 and docket No. R. 04-01-025

³ The NGC report titled "White Paper on Natural Gas Interchangeability and Non-Combustion End Use" dated February 28, 2005 and referenced by SEU did acknowledge the deficiency in knowledge on the impact of gas quality variation on gas turbines and that more research was needed until final conclusion could be reached. SCE participated in the development of the Edison Electric Institute (EEI) comments on NGC's report which included concerns similar to those raised by Calpine and SCE in this proceeding.

Various gas quality turbine testing efforts are underway in other venues. GE informed the gas turbine working group that a major confidential testing effort was underway in Florida in connection with some litigation. GE expects to gain insight on the impact that variations in gas quality have on gas turbines by July of 2005. GE seems confident that software and equipment investment could resolve issues arising from gas quality variations at yet to be determined costs. EEI has also recently published a study performed by the effect that gas composition has on gas turbines ("Effect of Fuel Composition on Gas Turbine Operability and Emissions" dated September 3, 2004 and prepared for EEI by Combustion Science & Engineering, Inc.)

second workshop may be warranted in mid to late summer (depending on timing and nature of test results) to discuss all the relevant issues associated with gas quality.

SCE Comments On The CEC/CPUC Workshop Report

SCE commends the CEC/CPUC staff for organizing the comments and adeptly summarizing in the Report the key gas quality issues facing California. The major stakeholders identified in the Report are the LNG developers, electric generators, LDCs, pipelines, regulators (including air quality agencies such as the California Air Resources Board (CARB) and the South Coast Air Quality Management District (SCAQMD)) and other equipment owners. The Report makes clear that there are many unanswered questions regarding the effect variations in gas quality will have on air quality and on end-use equipment, especially large gas turbines operated to generate electricity.

Gas quality issues are arising not only in California but nationally as well because of the likelihood of a significant amount of LNG imports into the United States. The Report highlights the importance of gas quality as it relates to electric production. Local gas generation is vital to meeting electrical load and maintaining grid reliability in Southern California. SCE summarized in its workshop presentation the new technology power plants being built and planned in Southern California.

The most striking development in the workshop was the assertion by LNG developers BHP Billiton and Sound Energy Solutions that they are prepared to meet any gas quality standards adopted by California regulators. SCE believes that the historical composition of gas supplies delivered to the California market can be maintained and still allow the importation of LNG. These LNG developers have not advocated a change in current gas quality specifications, merely requested certainty on the gas quality standards and clear regulatory jurisdiction, preferably by the CPUC. Although the introduction of LNG supplies into the Southern California market has the potential to change the gas composition from that experienced historically on the SEU system, appropriate regasification processing by LNG developers prior to delivery into SEU's system would minimize such changes.

All sources of natural gas, whether they are liquefied or transported directly to market, have variances in quality, depending on their geographical origin. Domestic supplies of gas must be processed to ensure that the heat content (generally measured in British Thermal Units in the U.S.) does not fall below or above specified levels. Historical SEU throughput has been comprised of domestic supplies which tended to have high methane content. CARB requirements for gas used in CNG (Compressed Natural Gas) vehicles also contributed to the historical composition of gas in California.

The heat content of a particular gas can be lowered by the removal of molecules that have a higher presence of carbon (usually ethane) during processing. The fact that LNG supplies at the source may be “hotter” (higher BTU content and Wobbe number) than domestic supplies is not an insurmountable obstacle to the safe integration of LNG similar in composition to gas delivered today into the California marketplace. LNG supplies may require suitable processing to be “cooled”⁴ to levels seen historically. Some LDC developers and SEU have proposed modifying CARB standards from a compositional basis to a performance basis using the Wobbe number as a measure of gas quality. The Report correctly highlights the concerns the CARB and SCAQMD have in moving to a performance based only metric. The air regulators remain skeptical of any divergence from recent historical composition of U.S. gas supplies. SCE agrees with the Report’s assessment that criteria such as composition and methane number are as important performance metrics such as the Wobbe number.

SCE Comments on the SDG&E/SoCalGas Straw Man Proposal

SCE does not support SEU’s proposal to change gas quality specifications at this time. More data is required to determine the impact on gas turbines due to variations in gas composition. Although SEU proposal tightens current gas quality regulations, SEU’s proposed standards permits gas composition to be quite different from historical supplies. SEU’s current and proposed Rule 30 versions do not include criteria on the content of non-heavy hydrocarbons

⁴ To the extent a particular gas exceeds the upper heat content range, molecules with a higher presence of carbon (usually ethane) can be removed during processing.

(e.g., methane and ethane). The composition of historical gas supplies on the SEU system have been well within the range of the specifications required by turbine manufacturers to guarantee performance (availability, emissions and heat rate). SCE is convinced detailed gas composition metrics are needed to assure continued clean, efficient and safe operation of gas turbines.

SEU proposes relying on the Wobbe Index as a measure of gas interchangeability. SEU is proposing adding a Wobbe range criteria and lowering the allowable maximum heat content from 1150 BTU/c to 1110 BTU/cf. SEU also establishes a maximum allowable C4 Plus Hydrocarbon content. SEU highlighted that its proposed standards are similar to those being proposed by the National Gas Council (NGC)⁵ in a white paper covering gas interchangeability filed with FERC. However, NGC acknowledges the lack of information on gas turbines and that further data is needed on the effect LNG imports will have on gas turbines.

SCE Comments On The Calpine Proposal

Calpine recommended criteria to set gas quality standards for interchangeability. Calpine summarized its proposal in Table 1 of its workshop comments and is duplicated below⁶.

⁵ The NGC report titled “White Paper on Natural Gas Interchangeability and Non-Combustion End Use” dated February 28, 2005

⁶ “Comments of Calpine Corporation on Gas Quality Specifications” filed in docket No. 04-IEP-01 and docket No. R. 04-01-025

Table 1.

	Minimum	Maximum
Wobbe Index	1153	1391
Btu/scf	900	1200
Ethane, vol%	0	15
Propane, vol%	0	2.5
Butane (C4+), vol%	0	1
Inert gas (N2), vol %	0	15
Wobbe Variation, +/-%	0	2
Wobbe Rate of Change, %/min	0	2

Note: Wobbe Index based on real gas properties, high heating value, specific gravity at 60 degrees Fahrenheit and 14.73 PSIA

Calpine’s proposed criteria include both performance and composition components. This gas quality standard is similar to ones seen by SCE in its experience, though standards seen by SCE include a minimum methane volume content of 85% and other quality criteria, including limitations on the presence of sulfur, nitrogen, carbon dioxide and water (dew point)⁷. In the event the CEC/CPUC chooses to adopt new gas quality specifications, SCE believes that Calpine’s proposal, when revised to include minimum methane content and other suitable criteria, is preferable to SEU’s proposal.

Respectfully submitted,

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⁷ Volume percentages represent fraction of the total amount of reactant gases and exclude inert gases.

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April 25, 2005

Docket Clerk
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, California 94102

RE: R. 04-01-025

Dear Docket Clerk:

Enclosed for filing with the Commission are the original and eight copies of the **COMMENTS OF SOUTHERN CALIFORNIA EDISON COMPANY (U338E) ON CEC/CPUC GAS QUALITY WORKSHOP REPORT** in the above-referenced proceeding.

We request that a copy of this document be file-stamped and returned for our records. A self-addressed, stamped envelope is enclosed for your convenience.

Your courtesy in this matter is appreciated.

Very truly yours,

Gloria M. Ing

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Enclosures

cc: All Parties of Record
(U 338-E)

CERTIFICATE OF SERVICE

I hereby certify that, pursuant to the Commission's Rules of Practice and Procedure, I have this day served a true copy of COMMENTS OF SOUTHERN CALIFORNIA EDISON COMPANY (U338E) ON CEC/CPUC GAS QUALITY WORKSHOP REPORT on all parties identified on the attached service list(s). Service was effected by one or more means indicated below:

- Transmitting the copies via e-mail to all parties who have provided an e-mail address. First class mail will be used if electronic service cannot be effectuated.
- Placing the copies in sealed envelopes and causing such envelopes to be delivered by hand or by overnight courier to the offices of the Commission or other addressee(s).
- Placing copies in properly addressed sealed envelopes and depositing such copies in the United States mail with first-class postage prepaid to all parties.
- Directing Prographics to place the copies in properly addressed sealed envelopes and to deposit such envelopes in the United States mail with first-class postage prepaid to all parties.

Executed this **25th day of April, 2005**, at Rosemead, California.

Nicole M Broadwater

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Project Analyst

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