

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA



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Application of Southern California Gas
Company (U-904-G) for Approval of
Advanced Metering Infrastructure.

Application 08-09-023
(Filed September 29, 2008)

**OPENING COMMENTS OF THE DIVISION OF RATEPAYER ADVOCATES
IN SUPPORT OF PROPOSED DECISION AND IN OPPOSITION TO
ALTERNATE PROPOSED DECISION**

ROBERT LEVIN
Division of Ratepayer Advocates
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102
Phone: (415) 703-1862
Email: rl4@cpuc.ca.gov

MARION PELEO
Legal Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102
Phone: (415) 703-2130
Fax: (415) 703-2262
E-mail: map@cpuc.ca.gov

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In accordance with Rule 14.3 of the Commission's Rules of Practice and Procedure, and the Administrative Law Judge's (ALJ) February 26, 2010 e-mail ruling increasing the page limit for opening comments to 25 pages, the Division of Ratepayer Advocates (DRA) submits these Opening Comments on the Alternate Proposed Decision (AD) of the Assigned Commissioner and the Proposed Decision (PD) of ALJ Hecht in the above-captioned proceeding, the application of Southern California Gas Company (SoCalGas) for approval of its gas-only Advanced Metering Infrastructure (AMI) project.¹

I. INTRODUCTION

While DRA supports the State's and Commission's policy goal of energy efficiency and conservation, DRA finds too much uncertainty in the SoCalGas AMI conservation estimates to justify approval of the project's \$1.01 billion price tag, and believes that these goals could be better served, at lower cost, via increased spending on gas energy efficiency programs. Moreover, DRA remains skeptical of applying the Commission's electric and combined-gas-and-electric AMI decisions to a gas-only AMI proposal. DRA, therefore, supports the PD and opposes the AD because it relies on

¹ These Comments do not address every issue DRA contested, and silence on any provision in the PD should not be interpreted as agreement or disagreement with the proposed outcome.

SoCalGas' speculation, illustrative examples, and questionable assumptions regarding conservation and other project benefits.

The AD finds that “the business case presented in favor of the SoCalGas AMI proposal provides reasonable assurance that the project can be cost-effective given adequate safeguards.”² This AD finding relies heavily on SoCalGas' assumptions regarding customer response to gas usage information, speculation on the outcome of labor agreements, and speculation on the life cycle of AMI technology. DRA supports the PD because it properly finds that SoCalGas has not met its burden of showing the cost-effectiveness of its proposal and rejects the application.

The SoCalGas AMI business case relies on three categories of benefits, operational benefits, conservation benefits, and “terminal value” benefits, for over 99% of the total claimed AMI project benefit. All three of these benefit categories rely largely on speculation. The key differences between the AD and the PD relate to the credibility of SoCalGas' business case assumptions, particularly those relating to conservation.

If the Commission is willing to postpone SoCalGas' billion dollar AMI project, the key assumptions regarding gas conservation in response to “information feedback” can be tested in the very near future, as data from PG&E's and SDG&E's gas AMI customers become available.

Rather than spend \$1.01 billion of ratepayer money on a project for which it is highly uncertain whether benefits will cover the cost, DRA recommends that the Commission reject the SoCalGas AMI proposal without prejudice, and direct the Energy Division's Natural Gas Section to analyze at least two years of PG&E and/or SDG&E gas AMI customer usage data to determine whether a statistically significant conservation effect can be gleaned from such data independent of energy efficiency programs. If such an effect can be established, the Commission should entertain a refiled SoCalGas AMI application.

² Proposed Alternate Decision (AD) of Commr. Grueneich, p.2.

The AD errs, not only by reliance on unfounded assumptions and speculation, but also by ignoring potentially superior alternatives such as gas energy efficiency combined with less costly upgrades to meter reading technology. The AD also errs by accepting economic analysis which omits \$40 million of costs incurred by customers, in violation of State and Commission policy as reflected in the California Standard Practice Manual. DRA urges the Commission not to adopt this AD, but, instead, to adopt the PD substantially as issued, with the addition of DRA’s proposed finding of fact and conclusion of law as discussed below.

II. THE AD ERRS IN NOT RECOGNIZING THE INAPPLICABILITY OF ELECTRIC AMI BENEFITS TO A GAS-ONLY UTILITY

A. California Energy Policy Does Not Justify SoCalGas’ AMI Project

The AD states: “Commission policies in favor of demand-side management, especially conservation and energy efficiency, are as relevant to natural gas usage as to electric usage.”³ While this statement is generally true, DRA has noted that demand response, which is a major component of the broader term “demand-side management,” applies to electricity only. This distinction is implicitly recognized in the California Energy Action Plan (EAP) II, and explained in extensive DRA testimony on differences between natural gas and electricity.⁴ Significantly, SoCalGas disclaims any demand response benefits from its natural gas only AMI application.⁵

SoCalGas’ concession that there are no demand response benefits from its AMI proposal calls into question the primary reasons why SoCalGas is even proposing AMI. From a policy perspective, there is no nexus between AMI and energy efficiency or conservation, and SoCalGas’ AMI proposal does not fulfill State or Commission energy efficiency or conservation goals. There is no support for gas AMI in the EAP II. In the

³ AD, p.24.

⁴ See DRA Report on the Application of Southern California Gas Company on Advanced Metering Infrastructure, Exhibit (Ex.) 116, Chapter 2. This testimony was not rebutted or controverted on the record.

⁵ See SoCalGas Reply Brief, pp. 47-48; Ex. 22, p.21.

EAP II's discussion of demand response, AMI is addressed only in the context of electricity; nowhere is gas mentioned. Similarly, in the EAP's discussion of natural gas supply, demand and infrastructure, nowhere is AMI mentioned.⁶

The fundamental differences in the pricing and infrastructure framework of natural gas as compared to electricity cannot be overstated. First, unlike electricity, natural gas can be effectively stored. SoCalGas has 131 billion cubic feet (Bcf) per year of gas storage capacity, of which 79 Bcf is dedicated to meet its core customers' needs. Also, "linepack" capacity helps balance natural gas loads.⁷ Second, pricing in natural gas works differently from electricity. Electricity is moving towards real-time and hourly market time-of-use or dynamic pricing. SoCalGas, on the other hand, purchases its gas commodity for core customers in a monthly market with some supplemental purchases in a daily market. SoCalGas can purchase natural gas when it is less expensive and store it for the winter when usage and price tend to increase.⁸ Third, there is the common sense aspect of adjusting behavior related to gas usage. For example, if customers wish to reduce their winter gas usage, they can turn down the thermostat; the customers do not need actual usage data to know this.

Indeed, in this regard, DRA believes that even the PD gives too much credit to SoCalGas' alleged claims of benefit. While the PD reaches the correct result in rejecting SoCalGas' AMI proposal because it is not cost-effective, DRA believes the PD should make an explicit finding that the differences between natural gas and electricity defeat much of the reasoning for gas AMI.

B. State Energy Policy Requires Conservation Programs To Be Cost-Effective

The AD states: "[A] gas-only AMI system is consistent with Commission energy policy objectives of increasing energy conservation and demand-side management,

⁶ See Energy Action Plan (EAP) II, Oct. 2005, pp. 6-7, 12-13. See also Ex. 116, pp. 2-1 to 2-4, DRA OB, p.3-7.

⁷ Ex. 116, pp.2-4 to 2-6, DRA OB, pp. 8-9.

⁸ Ex. 116, pp.2-7 to 2-9, DRA OB, pp. 9-12.

reducing greenhouse gas emissions, and providing customers with information and tools that allow them to manage and make educated decisions about their energy use.”

However, the AD omits a very crucial condition or caveat to California energy policy support of energy conservation: **State energy policy supports only those conservation programs that are cost-effective.** This is clear from language in the EAP II referring to “cost-effective [energy] efficiency”² and the following:

Our overarching goal is for California’s energy to be adequate, affordable, technologically advanced, and environmentally-sound ... **Our actions must be taken with clear recognition of cost considerations and trade-offs to ensure reasonably priced energy for all Californians.**¹⁰

This direction from State energy policy means that AMI cannot be justified on policy considerations alone, without a clear showing of cost effectiveness.

III. THE AD ERRS IN FINDING THAT SOCALGAS’ AMI PROJECT IS COST-EFFECTIVE

The AD correctly states: “Parties to this proceeding agree that approval of an AMI system should be contingent on its being found cost effective; the SoCalGas policy witness acknowledged this requirement during hearings.”¹¹

As the PD states, “SoCalGas bears the burden of proof that its project is cost effective.”¹² There are two components to meeting this burden: (1) SoCalGas must offer convincing evidence that project benefits exceed project costs; and (2) SoCalGas must demonstrate that it has considered a reasonable range of alternative investments and that its proposal is the most cost-effective among the alternatives considered. As discussed below, SoCalGas’ cost-effectiveness showing fails on both counts, and the AD errs by relying on speculation and by ignoring record evidence.

² EAP II, p.2; *see also* Ex. 116, p.2-3.

¹⁰ EAP II, p.2, emphasis added.

¹¹ AD, p.25; *see also* PD, p.26..

¹² PD, p.38; *see also* AD, p.8 (“SoCalGas bears the burden of proof in this proceeding.”).

As the AD correctly acknowledges, the project's operational benefits are not sufficient to justify the project, and the project lacks the demand response elements that were crucial to the cost-effectiveness of electric AMI. The \$148 million (present value) conservation benefit claimed by SoCalGas is therefore key to the justification of the SoCalGas AMI proposal. SoCalGas' claims regarding the gas conservation effects of AMI are not supported by the record.

A. SoCalGas' Conservation Estimates Are Not Credible

The AD errs by accepting SoCalGas' conservation estimates that are based on speculative findings from the results of foreign, out-of-state, and electric conservation studies that are not directly applicable to California gas consumers. The AD states:

With regard to conservation rates of participating customers, SoCalGas has assumed between 5% and 10%, depending on the mode of feedback. These numbers are drawn from the mid-points of ranges of conservation estimates from 13 studies of conservation response in the face of information feedback....

It is true that few of the data cited in SoCalGas' supporting testimony come from California ... It is not therefore the case, however, that the chosen sample of studies is irrelevant to California. To the contrary: the sample is relevant because in spite of differing climatic conditions, housing types and cultural practices across the sample, these studies observed effects that illustrate a common finding: that when a largely invisible process (gas or electricity use) is made more visible, people respond.¹³

However, at issue here is *not* whether people respond to information feedback; the issue is the *magnitude* of that response. It is the magnitude of the response that is key to the cost-effectiveness of AMI. The AD errs by dismissing DRA's and other parties' concerns about the applicability of foreign, out-of-state, and electric-only studies to determining *how much* conservation can be reasonably expected from California gas consumers based on information feedback.

¹³ AD, p.35.

As correctly noted in the PD:

[T]he studies relied upon by SoCalGas relate largely to electricity (not gas) usage...

SoCalGas has not provided sufficient evidence to establish that the existing data on changes to customer consumption in response to electric usage information provides a valid basis for calculating gas conservation benefits...

SoCalGas primarily bases its estimates of the percentage of customers that will respond to information feedback by reducing usage and the percent reduction in usage by those customers on these electric studies, and to the extent that that is the case, the final conservation estimates are called into question.¹⁴

Therefore, the 5% and 10% conservation effects posited by SoCalGas based on these studies must be considered speculative, as applied to gas use in California.

Of note, only two of the nine selected direct feedback studies were gas only, both were conducted in the Netherlands, one in 1989 and the other in 2004.¹⁵ Both studies have features other than location, climate and culture that limit their relevance to the SoCalGas AMI proposal. SoCalGas' witness, Dr. Sarah Darby, stated in her comments that the 1989 study "[s]upports the view that commitment plus feedback leads to greater savings than external feedback alone."¹⁶ This strongly suggests that more than just information feedback is at work in the 12% savings; the subjects of this experiment were motivated enough to make a "commitment" to reduce usage. The sample size is listed as 50. There is no evidence that this experiment would scale up to the 400,000 households envisioned by SoCalGas, nor has SoCalGas stated how it would obtain commitment from 400,000 customers to reduce gas usage.

Similarly, Dr. Darby's comment on the 2004 Netherlands all-gas study is revealing: "Social factors and commitment [are] a key element in the Eco-teams. A detailed analysis of one behavior, means of transportation, suggests that change can be

¹⁴ PD, pp.37-38.

¹⁵ Ex. 5, p.V-5

¹⁶ Ex. 5, Attach. SD-2.

predicted from the interplay between behavioral intention and habitual performance before participation, and the degree of social influence experienced in the Eco-TEAM during participation.”¹⁷ Again, Dr. Darby’s description of this study alludes to “commitment” and “Eco-Teams” which met monthly to discuss ways to change behavior. The sample size is stated as 150. Again, it is not at all clear how these results would translate to 400,000 SoCalGas customers. The record contains no mention of “Eco-Teams” or any analogous concept. Thus, the relevance of Dr. Darby’s studies is highly questionable, even if one were to discount climatic and cultural factors.

Compounding this reliance on speculation, the AD errs by accepting SoCalGas’ conservation estimates when the record does not provide a clear distinction between devices and data providing the 5% effect of indirect feedback and the 10% effect of direct feedback, as discussed in the next section.

B. SoCalGas’ Changing Definitions of Direct and Indirect Feedback Are Not Credible

The AD errs by not addressing parties’ concerns with the shifting explanations provided by SoCalGas over which devices are capable of eliciting a 10% conservation response. As noted in the PD:

With reference to the definitions of direct and indirect feedback, DRA notes that the definitions of each used by SoCalGas changed over the course of the proceeding, and argues that there is really no clear difference between direct and indirect feedback that justifies attributing a larger conservation effect to direct feedback than to indirect. Specifically, DRA asserts that: 1) neither type of feedback as described by SoCalGas provides customers with usage information in near real time; 2) there is no evidence that the conservation effect would be larger for information received at a lag of 6-12 hours as opposed to 24 hours; 3) the same devices are claimed to provide both types of feedback; and 4) means of communicating data to an in-home display are not yet clear.

¹⁷ Ex. 5, Attach. SD-2.

Most critical is item 3) in the passage quoted above: **There is no consistent and clear demarcation between direct feedback eliciting a 10% conservation response and indirect feedback eliciting a 5% response.** SoCalGas itself has acknowledged that its estimate of the conservation effect resulting from AMI-enabled information feedback is uncertain.¹⁸ The uncertainty is sufficiently large that SoCalGas' conservation witness herself characterizes SoCalGas' claimed 5% and 10% conservation effects as **"illustrative."**¹⁹

The definitions and proposed implementations of direct and indirect feedback are key to the reasonableness of SoCalGas's claimed conservation benefit. However, merely "illustrative" information does not equate to probative evidence. This Commission itself has found that an example from another state can be illustrative, but without a showing of its pertinence, it cannot be evidence supporting a position before the Commission:

While the reasoning articulated therein might be interesting in an illustrative context, the results reached in that order are not dispositive of this proceeding. Without a further detailed inquiry into the specific facts underlying the nature of the interconnection arrangements and network elements in the Virginia case, we cannot assume that the facts underlying that order would necessarily apply in the same fashion to the instant proceeding, or dictate a similar result.²⁰

The AD fails to address the major inconsistencies in the record regarding the 5% and 10% conservation effects alleged by SoCalGas. In contrast to the 5% conservation effect attributed to indirect feedback (IF), SoCalGas attributes a 10% conservation effect to direct feedback (DF).²¹ The record does not provide a clear definition of direct versus indirect feedback, nor has SoCalGas sufficiently supported its position that DF will result

¹⁸ See Ex. 5, p.V-2, ll. 13-14; Ex. 25, p.2, ll. 20-26; DRA OB, pp.16-17.

¹⁹ SoCalGas/Darby, 1 RT 34:1-5, 48:1-6, emphasis added.

²⁰ *Re Pacific Bell*, Decision (D.) 03-08-018, *mimeo.* at 11, 1999 Cal. PUC LEXIS 953. See also *Re Southern California Edison Company*, D.02-12-082, 2002 Cal. PUC LEXIS 930, at *26-*27; *Re Pacific Gas and Electric Company*, D.03-04-032, 2003 Cal. PUC LEXIS 234, at *41-*42.

²¹ See Ex. 5, pp. V-9, V-14.

in double the conservation as IF. Further, SoCalGas changed its characterization of devices that provide DF during the course of the proceeding:

- In “version 1” (initial testimony and early discovery), SoCalGas represented that DF is provided by “dedicated in-home displays” at a cost of \$100, to be borne voluntarily by participating customers, at a total cost of \$40 million (as discussed below).
- In “version 2” (rebuttal testimony, later discovery, and hearings), SoCalGas stated that DF is provided by “multi-function devices such as iPhones, BlackBerry’s, PDAs, game consoles, or TVs”, at zero incremental cost to customers (since they already own such devices).²²

Since, according to SoCalGas’ testimony, the same devices that provide IF can provide DF, it is unclear why DF yields a 10% effect while IF yields only 5%. The AD errs by accepting SoCalGas’ conservation estimates based on a record containing such glaring inconsistencies. Further, as the PD notes:

It seems likely that relatively timely information ... provided to customers will have a similar effect on behavior and usage, regardless of the method by which that information is received. ... Even if we accepted all SoCalGas estimates other than the increased conservation response (10% vs. 5%) attributed to direct feedback mechanisms over indirect mechanisms, use of a 5% benefit for all feedback mechanisms along with the SoCalGas estimate of responding customers would reduce the SoCalGas conservation benefit by approximately one-third.²³

The AD states: “In general, there is uncertainty vested in any projection of conservation impacts, particularly from a novel source. Furthermore, in the face of uncertainty, it often serves to make conservative assumptions.”²⁴ However, the AD strays from this principle by its uncritical acceptance of SoCalGas’ conservation

²² See DRA OB, pp. 17-25. Table 3 on page 24 of DRA’s OB summarizes these inconsistencies as SoCalGas’ testimony “evolved.”

²³ PD, pp.37-39.

²⁴ AD, p.36.

estimates based on a shaky record. SoCalGas' conservation estimates are anything but conservative, especially when compared with conservation estimates prepared by, or for, other California utilities in connection with their AMI proceedings.²⁵

C. SoCalGas Has Not Shown How Usage Data Will Reach Customers

The AD errs by failing to address parties' concerns regarding how gas usage information will be transmitted to in-home displays, and how gas usage data will be displayed on home area network (HAN) enabled displays being installed as part of Southern California Edison's AMI program. SoCalGas has identified the internet as a means of communicating with customer-owned display devices, and has classified data received via internet as indirect feedback with a 5% conservation effect.²⁶ SoCalGas has not specified how data would be transmitted to devices in a manner that would elicit a 10% conservation effect. As stated in DRA's testimony:

SoCalGas has chosen to communicate feedback information to the display devices through its AMI network using its selected AMI vendor's wireless communications network (once one is chosen), which may be proprietary...

SoCalGas has not provided any information on what licensing fees would be charged to PCT or HAN manufacturers to use or to build the protocol use by a specific AMI system into their displays. If the expectation is that the manufacturer would merely provide a slot for a communications chip, SoCalGas provides no discussion of the manufacturing source for this chip or how much it would cost.

Because of these issues associated with using a proprietary protocol the ZigBee approach was developed by an electric industry group of which SCE was an active participant....

Finally, SoCalGas' testimony notes that about two-thirds of its customers are also SCE customers. Many of these SCE customers will have HANs, some will have in-home displays. **At present, no communications link has been proposed to enable gas usage information from SoCalGas' AMI**

²⁵ See DRA OB, pp. 25-26, DRA Reply Brief, p.4.

²⁶ Ex. 5, p. V-10.

network to be displayed on an SCE customer's Zigbee-enabled HAN display. This raises the possibility of a joint SCE-SoCalGas customer having to buy two displays; one for electric usage, and one for gas, which would be needlessly inefficient.²⁷

The assumption of a 10% conservation effect cannot be considered credible when SoCalGas has not shown how the gas usage data will reach the customer to enable that effect. The AD errs by ignoring these important concerns.

D. Cost of In-Home Display Devices Should Be Included

As mentioned above, SoCalGas' initial testimony stated that its 10% conservation effect provided by direct feedback relies on customers obtaining a "dedicated in-home display" device.²⁸ SoCalGas estimated that the cost of such a device to be \$100 per display,²⁹ and assumed that customers would be responsible for acquiring such devices, voluntarily and at their own expense.³⁰ With SoCalGas's stated 6.5% participation rate for "display-based feedback," about 400,000 customers would be expected to buy "dedicated in-home displays" at a total undiscounted cost of \$40 million.³¹

Yet SoCalGas testified that its AMI cost showing excludes any costs such as costs of "dedicated in-home displays" borne by customers outside of utility rates.³² Because such devices are required to achieve SoCalGas's claimed 10% conservation effect, a major issue in this proceeding is whether the costs of such displays should have been included in SoCalGas's cost-benefit analysis.

²⁷ Ex. 116, pp. 5-19 to 5-22, emphasis added.

²⁸ See Ex. 5, p. V-1.

²⁹ See DRA OB, p.32; Ex.116, p.5-18. SoCalGas's \$100 figure is generally consistent with DRA's research into display costs, although it is toward the low end of the range of display costs found by DRA. No party has disputed the estimate of \$100 as a reasonable estimate for the cost of "dedicated in-home or in-premise devices."

³⁰ See DRA Opening Brief, p. 32.

³¹ 400,000 = 6.5% of SoCalGas' approximately 6.1 million customers; \$40 million = 400,000 customers times the estimated cost of \$100 per display. See DRA OB, pp. 32, 34.

³² Ex. 26, p.6; SoCalGas/Fong 2 RT 187:3-7.

The AD correctly characterizes arguments that DRA made with respect to inclusion of these costs:

DRA also argues that the cost of a dedicated in-home display or other display device should be included in the cost effectiveness analysis. In addition, parties [e.g., DRA] suggest that the SoCalGas cost effectiveness analysis should have been conducted using the traditional cost effectiveness tests mandated for Commission-authorized energy efficiency programs in California, including the Participant Test, Ratepayer Impact Measure Test, the Total Resource Cost Test, and the Program Administrator Cost Test. These tests would include a wider variety of costs than those included in the SoCalGas analysis.³³

But the AD errs by not addressing these issues and including the cost of in-home displays in its analysis.³⁴ To summarize, the following points have been established on the record:

- First, SoCalGas alleges that its AMI project is a proposed investment in conservation.
- Second, as a conservation investment, analysis of the cost-effectiveness of SoCalGas's AMI project comes under the purview of the California Standard Practice Manual (SPM).
- Third, no party has disputed the applicability of the SPM's Total Resource Cost (TRC) test to SoCalGas's AMI project.
- Fourth, the TRC clearly directs that participant costs (e.g., the costs of "dedicated in-home displays") must be included in a valid cost-effectiveness analysis of SoCalGas's AMI project.

³³ AD, p.32. See DRA OB, pp.33-34. The PD also mentions these arguments, but declines to address them in detail on the reasonable grounds that they are mooted by the PD's proposed larger reductions in SoCalGas' three major benefit elements. This reasoning would not apply to the AD's disregarding these arguments.

³⁴ DRA OB, pp. 41-43

DRA and SoCalGas disagreed on whether there would, in fact, be participant costs under SoCalGas' AMI proposal; as discussed above, DRA argued that there would be participant costs of \$40 million, while SoCalGas claimed there would be no participant costs.³⁵ The AD simply ignores this issue.

This issue is not moot, given the thin \$27 million margin of benefit stated by SoCalGas for its \$1.04 billion AMI project. Inclusion of the \$40 million cost of in-home displays would more than offset SoCalGas' claimed \$27 million project benefit.³⁶ and thus would be sufficient to sink the AMI project, even if one were to accept all of SoCalGas' remaining cost and benefit estimates. In short, the AD's finding of cost-effectiveness requires that in-home display costs be ignored.

It is error to ignore these costs which, according to SoCalGas, must be borne by customers in order to achieve the conservation effects claimed for this AMI project. Appearing to recognize this fatal flaw in its showing, SoCalGas responded by changing its DF device story line from "dedicated in-home display"³⁷ to "multifunction devices which the customer already has."³⁸ With the latter formulation, SoCalGas claimed that there would be no "incremental" cost to participants for DF.³⁹ This pivot begs the question of how the same device (e.g., an iPhone or Blackberry) can provide both IF with a 5% conservation effect, and DF with a 10% conservation effect, and further calls into question the credibility of SoCalGas' conservation claims.

³⁵ See SoCalGas/Fong 2 RT 188:7-24.

³⁶ DRA estimated a present value of \$34.6 million (Ex. 116, p.3-7) corresponding to the undiscounted \$40 million cost of displays. Comparing this \$34.6 million of omitted cost with the claimed net present value benefit of \$27.4 million, inclusion of display costs would render the AMI project not cost-effective, even accepting all other SoCalGas cost and benefit estimates.

³⁷ Ex. 5, p. V-1.

³⁸ Ex. 26, p.6.

³⁹ SoCalGas/Fong, 2 RT 188:3-6.

E. Loss of Customer Value Should Be Considered

The AD errs by failing to address the customer cost and possible adverse health effects of colder homes in winter, as well as the temporary nature of behavior-dependent conservation.

DRA stated in its testimony that, unlike energy efficiency (EE), conservation often entails a loss of value to the consumer.⁴⁰ That is, the AMI conservation effect is predicated on the consumer's acceptance of a colder home environment in winter months. In contrast, a consumer who buys a more efficient gas furnace with the aid of an EE rebate program may reduce gas consumption similarly but experience no loss of comfort. Indeed, the loss of value to the consumer in accepting an uncomfortably cold house may extend to an actual health risk, especially for households with young children or elderly adults.⁴¹

In addition to the loss of consumer value associated with conservation as compared with EE, conservation, dependent on customer behavior, is often temporary. DRA noted in testimony that conservation "may also be inferior to EE in the duration of its energy-saving effects. For example, the energy-saving effect of a more efficient gas furnace lasts as long as the furnace remains in service. In contrast, the effect of a consumer's decision to turn down the thermostat may end (at least temporarily) with the arrival of visitors or a child becoming sick."⁴² Reinforcing this concern, SoCalGas witness Darby's description of the 1989 Netherlands all-gas study notes that "1 year after end of experiment, differences between [experimental and control] groups ceased to be significant."⁴³

The AD errs by failing to address this loss of customer value and the temporary nature of behavior-dependent conservation.

⁴⁰ See Ex. 116, ch. 7. Economists call such a loss of value a reduction in "consumer surplus."

⁴¹ See Ex. 116, p. 1-11.

⁴² Ex. 116, pp. 1-11 to 1-12.

⁴³ Ex 5, Attachment SD-2.

IV. THE AD ERRS BY ADOPTING SOCALGAS' FLAWED ESTIMATES OF OPERATIONAL AND TERMINAL VALUE BENEFITS

In addition to the conservation benefit SoCalGas claims for its AMI project, two other elements of SoCalGas' AMI benefits rely significantly on speculative assumptions: SoCalGas' "operational benefits" and its "terminal value benefit." The former should be adjusted downward, and the latter should be disregarded entirely.

A. SoCalGas' Operational Benefits Are Overstated

The AD errs by accepting SoCalGas' speculations concerning the outcome of future labor negotiations. At issue here is the correctness of SoCalGas' estimate of \$888.6 million of operational benefits.⁴⁴ The single largest component of this benefit is the savings derived from eliminating the positions of SoCalGas' nearly 1,000 mostly part-time meter readers. SoCalGas predicated its operational benefit on the hypothesis that "the [meter reading] workforce would be staffed, in the absence of AMI project approval, by full-time employees."⁴⁵

DRA and The Utility Reform Network (TURN) both disputed the reasonableness of this assumption, and argued that SoCalGas' operational benefit estimate should be reduced by \$48.5 million to reflect a more conservative estimate of avoided labor costs under an assumption that the current labor force composition will be maintained.

The AD states:

There is ample evidence that the company's labor costs in this category [meter reading] are set to increase, and approach current market rates. In light of the company's recent labor negotiations and market trends evidenced on record, it is highly unlikely that SoCalGas will be able to maintain its low labor costs into the future.⁴⁶

DRA disagrees with this reasoning inasmuch as the outcome of future labor negotiations simply cannot be predicted today with a high degree of certainty. The AD

⁴⁴ Present value, Exh. 2, p. II-4, Table II-3.

⁴⁵ Exh. 3, p.III-29.

⁴⁶ AD, p.29.

cites the outcome of “recent labor negotiations”; however, it is clearly speculative to extrapolate this outcome to the possible “two additional labor agreements prior to 2016” mentioned in the AD. The outcome of labor negotiations held in 2009 was determined by the balance of labor and management interests in 2009, and the outcome in, say, 2012 or 2014 could be very different.

In a different context, the AD states: “Furthermore, in the face of uncertainty, it often serves to make conservative assumptions.”⁴⁷ Here, faced with uncertainty in the outcome of future labor negotiations, the more conservative assumption would be to simply assume a continuation of the status quo of largely part-time meter reader labor force that has served SoCalGas’ ratepayers well since 1998. As TURN and DRA recommend, this would reduce SoCalGas’ estimate of operational benefits by \$48.4 million, a reduction of about 5%.

The PD provides an additional reason to reject this argument: The SoCalGas AMI Application was filed in 2008. To update the cost-benefit analysis based on 2009 labor negotiation outcomes, without updating for all other relevant input changes that may have occurred in 2009, would constitute an improper selective updating that could bias the outcome of the cost-benefit analysis. The PD states:

As in most areas of this proceeding, the estimates used in the business case are (in the nature of all long-term estimates) not precise and are subject to change; some are likely to turn out to be higher than assumed in the business case, and others lower, with varying effects on the calculations used here to evaluate the project. . . . It is not clear whether this newer labor cost information is reflected in other calculations within the cost effectiveness analysis, and if it were, what effect (if any) this would have on other cost and benefit categories within the analysis or on the analysis as a whole. There may be many areas in which conditions or assumptions may have changed since this case was filed, or in which estimates were used that have since been superseded. We must use the best information available in the record for our analysis, and for labor costs, **it is not reasonable to utilize the new**

⁴⁷ AD, p.36.

information in this one area that may not be consistent with costs and assumptions used elsewhere in the analysis.⁴⁸

DRA concurs with this reasoning; it is error to use updated labor costs without fully updating all inputs in a consistent manner.

B. SoCalGas' Projected Terminal Value Benefit Should Be Disregarded Entirely

SoCalGas' estimate of "terminal value" benefits is based on speculative assumptions regarding the life cycle of AMI technology, and should be disregarded.

According to the AD:

One of several benefits included in the SoCalGas analysis that is questioned by the parties is the estimated terminal value of \$26.4 million. SoCalGas defines the terminal value as "the stream of annual benefits per gas meter module discounted back to 2034 dollars." SoCalGas suggests that, because the gas modules have a useful life of 20 years, the AMI meter modules deployed for growth and meter failure in years 2016 through 2034 (the end of the business case analysis) will have remaining value beyond the end of the AMI project in the years 2034 through 2053.

...

While the methodology SoCalGas presents to calculate its terminal value is novel, in concept including a terminal value benefit is consistent with what the Commission has done in the past.⁴⁹

DRA finds SoCalGas' concept of a terminal value baseless. As the PD points out, two distinct methodologies for computing terminal value were considered in the SDG&E AMI proceeding A.05-03-015.⁵⁰ Beyond this, the record appears to contain no citation to

⁴⁸ PD, p.30, emphasis added.

⁴⁹ AD, p.27.

⁵⁰ See PD, pp.27-28.

“what the Commission has done in the past” with respect to terminal value, other than the SDG&E AMI decision D.07-04-043 discussed by TURN in its testimony.⁵¹

DRA disagrees that SoCalGas’ proposed terminal value methodology is “novel,” and agrees with the PD that essentially the same terminal value methodology at issue here was proposed by SDG&E in A.05-03-015 and rejected by the Commission in D.07-04-043 (and hence is not “novel”). As the PD states:

[T]he Commission declined to include a **similarly defined** terminal value benefit in its evaluation of the SDG&E AMI activity and budget application. The decision in that proceeding, D.07-0[4]-043, finds that the appropriate definition of the terminal or residual value of a project after the project’s scheduled end is “‘scrap value’ or ‘resale value’ or ‘remaining book value.’” That decision notes that the definition of terminal value suggested by SDG&E in that case **(the same definition used by SoCalGas in this case)** is more relevant to the valuation of a company, in which it could be called “going concern value.”⁵²

The AD errs in ignoring clear, recent, and relevant Commission precedent. SoCalGas projected terminal value benefit is based on speculation. The key issue here is whether the AMI system installed prior to 2034 will continue to have value from 2035-2054, and whether that value is appropriately reflected in SoCalGas’ \$26 million “terminal value.” In accepting SoCalGas’ estimate, the AD states:

We cannot forecast the exact nature of the replacement technology that will be available in 2034. It is **likely**, however, that the gas modules installed in later years of the analysis period for normal failure replacement and customer growth will represent a continuum of technological change, and be upwardly compatible with the next generation of AMI systems.⁵³

⁵¹ See Ex. 201, pp. 18-19.

⁵² PD, pp.27-28, emphasis added.

⁵³ AD, p. 27, emphasis added.

This key assumption must be considered highly speculative. It is just as likely, and perhaps more so, that technology would be radically different by 2034, and earlier generation AMI equipment may have no value beyond scrap. The hearing transcripts in this proceeding contain a number of references to evolving technologies (e.g., computers, cell phones) raising the likelihood that AMI modules and network equipment installed before 2020 will be functionally obsolescent by 2040.⁵⁴

Finally, in quantifying “terminal value,” the AD chose the least conservative option from a menu consisting of zero value, scrap value, and “going concern value” as defined in D.07-04-043 and discussed in TURN’s testimony.⁵⁵ This is contrary to the AD’s own statement that uncertainty calls for conservative assumptions.⁵⁶

Thus, the AD errs in accepting SoCalGas’ terminal value benefit because (1) it contravenes recent, relevant Commission precedent without substantial justification; (2) it inappropriately relies on speculation on the usefulness of technology up to forty-three years into the future; and (3) it chooses the least conservative among three available options for valuing this benefit, without clear justification. The most conservative, and justifiable valuation for the terminal value is zero. If SoCalGas’ AMI project relies on benefits occurring after 2034 to justify \$1 billion of cost to be incurred prior to 2016, this does not argue well for the cost-effectiveness of this project.

V. THE AD ERRS IN DISREGARDING EVIDENCE OF MORE COST-EFFECTIVE ALTERNATIVES

In finding the SoCalGas AMI to be cost effective, the AD states:

The initial business case presented by SoCalGas estimates the total costs of this project as \$1,039.6 million, with total benefits of \$1,066.9 million over the analysis period, leaving a margin of net benefits of \$27.3 million. Based on our

⁵⁴ See, e.g., SoCalGas/Mueller, RT 136:10-16; SoCalGas/Darby, 1 RT 33:1-24.

⁵⁵ See Ex. 201, pp.18-19.

⁵⁶ See AD, p.36.

analysis, we find that SoCalGas' benefit assumptions are, individually and in the aggregate, sound and reasonable.⁵⁷

DRA respectfully disagrees, finding, as stated above in Sections III and IV of these Opening Comments, that the three major elements of SoCalGas' AMI benefits are all based to varying degrees on speculation and unfounded assumptions, and are overestimated by a total of at least \$174 million⁵⁸ in SoCalGas' showing. Any of the adjustments to the three major benefit elements discussed above, as well as the cost of display devices, could more than offset the thin \$27 million net benefit claimed by SoCalGas. Thus, the AD errs in its finding of cost-effectiveness.

Furthermore, the AD's finding of cost-effectiveness has an additional major defect; it ignores the existence of alternatives to AMI which could potentially offer a similar suite of benefits at lower cost. As stated in DRA's Opening Brief, the record shows that SoCalGas's claimed AMI operational benefits could be achieved via other means such as remote access meter reading ("RAMR") (see Ex. 212, pp. 8-10), and its claimed conservation benefits could be achieved via increased spending on gas energy efficiency programs (see Ex. 202, p.13; SoCalGas/Darby, 1 RT 94:27-95:17). There is no evidence on the record to show that SoCalGas's AMI proposal is the least-cost means of achieving operational and conservation benefits (Ex.116, p.1-11), again demonstrating SoCalGas's failure to meet its burden of proof.

VI. CONCLUSION

The AD errs in approving SoCalGas' AMI project. SoCalGas has not met its burden of proof to show that its proposed AMI project is cost-effective; approval of a non-cost-effective project would, by definition, raise rates for years to come, without fully offsetting ratepayer benefits.

⁵⁷ AD, p.40.

⁵⁸ While DRA originally recommended a reduction of \$208 million in SoCalGas' AMI benefit estimates (Exhibit 116, p. 3-18), DRA agrees with at least a \$174 million reduction as stated on page 2 of the PD. The \$174 million benefit reduction consists of \$99 million for conservation, \$48.5 million in operational benefits, and \$26.4 million in "terminal value" benefits.

Rather than rely on evidence that is of questionable relevance to California gas consumers, the Commission could, and should, direct its Energy Division's Natural Gas Section to analyze data approximately two years after SDG&E and PG&E have deployed their gas AMI, to see if a gas conservation effect can be statistically validated separately from their energy efficiency programs. No party has alleged the likelihood of a near-term gas shortage, or that there is any urgent need for this project, and reliable information on conservation benefits that could be obtained with a two- or three-year project delay would undeniably be useful. Increased investment in gas energy efficiency could mitigate any potential harm from a delay, by providing an alternative, potentially more cost-effective, means of reducing gas usage.

For the reasons discussed above, and in DRA's testimony and briefs, DRA recommends that the Commission adopt the PD denying the SoCalGas AMI application, and direct SoCalGas to submit evidence of a conservation benefit that is both statistically valid and unquestionably relevant to California ratepayers, based on data soon to be available from SDG&E and PG&E, if it wishes to proceed with stand-alone gas AMI.

Respectfully submitted,

/s/ Marion Peleo

Marion Peleo
Staff Counsel

Attorney for the Division of
Ratepayer Advocates

California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102
Phone: (415) 703-2130
Fax: (415) 703-2262
E-mail: map@cpuc.ca.gov

March 1, 2010

**Proposed Finding of Fact and Conclusion of Law for
Proposed Decision of ALJ Hecht**

Proposed Finding of Fact

The benefits of electric AMI do not apply to gas AMI.

Proposed Conclusion of Law

The Energy Division's Natural Gas Section should conduct an analysis of the AMI systems of SDG&E and PG&E approximately two years after those utilities have deployed AMI in their territories, to determine whether a gas conservation effect can be statistically validated separately from those utilities' energy efficiency programs.

CERTIFICATE OF SERVICE

I hereby certify that I have this day *servd* a copy of **OPENING COMMENTS OF THE DIVISION OF RATEPAYER ADVOCATES IN SUPPORT OF PROPOSED DECISION AND IN OPPOSITION TO ALTERNATE PROPOSED DECISION** to the official service list in **A.08-09-023** by using the following service:

E-Mail Service: sending the entire document as an attachment to all known parties of record who provided electronic mail addresses.

U.S. Mail Service: mailing by first-class mail with postage prepaid to all known parties of record who did not provide electronic mail addresses.

Executed on **March 1, 2010** at San Francisco, California.

/s/ CHARLENE D. LUNDY

Charlene D. Lundy

SERVICE LIST A.08-09-023

spatrick@sempra.com
carl.wood@verizon.net
map@cpuc.ca.gov
nsuetake@turn.org
rothenergy@sbcglobal.net
arudnitsky@bbandtcm.com
john.quealy@canaccordadams.com
mark.sigal@canaccordadams.com
barbalex@ctel.net
george.uram@sensus.com
apetersen@rhoads-sinon.com
miino@rhoads-sinon.com
sdebroyff@rhoads-sinon.com
rmason@rwbaird.com
bboyd@aclaratech.com
wharrison@rwbaird.com
jerry.utecht@itron.com
jrohrbach@rienergy.com
kirby.bosley@jpmorgan.com
paul.gendron@JPMorgan.com
robert.pettinato@ladwp.com
ghealy@semprautilities.com
rprince@semprautilities.com
rcavalleri@semprautilities.com
asteinberg@semprautilities.com
npedersen@hanmor.com
sendo@cityofpasadena.net
eklinkner@cityofpasadena.net
slins@ci.glendale.ca.us
bjeider@ci.burbank.ca.us
rmorillo@ci.burbank.ca.us
case.admin@sce.com
jleslie@luce.com
cadowney@cadowneylaw.com
sjkeene@iid.com
cguss@anaheim.net
ssciortino@anaheim.net
pk@utilitycostmanagement.com
bheeshm.chaudhary@db.com
carter.b.shoop@db.com
cem@newsdata.com
ceyap@earthlink.net
mrw@mrwassoc.com
jeff@jbsenergy.com
bschuman@pacific-crest.com
dean.bethmann@itron.com
loe@cpuc.ca.gov
ctd@cpuc.ca.gov

cjb@cpuc.ca.gov
jbf@cpuc.ca.gov
jhe@cpuc.ca.gov
kmc@cpuc.ca.gov
lmi@cpuc.ca.gov
rl4@cpuc.ca.gov
tar@cpuc.ca.gov