BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Integrate and Refine Procurement Policies Underlying Long-Term Procurement Plans.

Rulemaking 08-02-007
(Filed February 14, 2008)

RESPONSES OF SAN DIEGO GAS & ELECTRIC (U-902-E) TO DATA REQUESTS REGARDING PLANNING SCENARIOS AND METRICS

August 22, 2008

John A. Pacheco
San Diego Gas & Electric Company
101 Ash Street HQ-12
San Diego, CA 92101
Telephone: (619) 699-5130
Facsimile: (619) 699-5027
E-mail: jpacheco@sempra.com
Attorney for
San Diego Gas & Electric Company

#221297
RESPONSES OF SAN DIEGO GAS & ELECTRIC (U-902-E) TO DATA REQUESTS REGARDING PLANNING SCENARIOS AND METRICS

San Diego Gas & Electric Company (SDG&E) is pleased to provide the following answers to the August 13, 2008 data request (issued by the California Public Utilities’ Energy Division) regarding planning scenarios and metrics.

QUESTIONS ON SCENARIOS

Question 1.  Do parties disagree with the proposed guiding principals for scenario development? If so, what would be an appropriate definition of the guiding principals for scenario development?

SDG&E Answer:

Subject to the following comments, SDG&E is in general agreement with the description of the guiding principles for scenario development.

- Development of internally consistent scenarios is a difficult process; as such, the Commission should limit the number examined in this process as proposed in principle 3.

- Principle 1 should be clarified to reflect that alternate futures should result in different statewide preferred portfolios. To the extent the Commission is looking at the scenario analysis to help guide overall policy direction, an analysis of each
scenario looking at the impacts on the state-wide portfolio would be beneficial.

SDG&E sees no value in each IOU conducting their own analyses to determine appropriate scenarios. In fact, such an analysis could lead to conflicting results as to whether an alternative future results in a change in the preferred portfolio. It is SDG&E’s understanding that the analysis of 33% renewables would be done in this manner: a single state-wide study of the implications of such a strategy that could then guide the individual IOU filings.

• In addition to determining the scenarios which are deemed “reasonably likely to occur” in principle 1, it is also essential to determine the likelihood of occurrence of the scenario that can later be used in the evaluation metric to determine how the IOUs should move forward with procurement.

**Question 2.** Using the information template provided in this data request, please provide as much definition as you can for each of the Scenarios that you propose the LTPPs be required to consider.

• Is there a useful distinction to be made between “Scenario Analysis” and “Sensitivity Analysis”, or are these essentially the same thing?

• If there is a useful distinction, are Staff’s proposed definitions of Scenario Analysis and Sensitivity Analysis valid and useful?

• Which types of sensitivities are best handled with Sensitivity Analysis as opposed to Scenario Analysis?

**SDG&E Answer:**

SDG&E is not suggesting any specific scenarios at this time. It does appear clear that the largest policy issues facing the Commission are 33% renewable power mandates and the structure of AB 32 green house gas regulation and once-through cooling. For this round, it may be best to concentrate on scenarios that highlight alternate assumptions on
these issues and their impact on preferred procurement portfolios in the current time frame. Other issues that might be considered in developing scenarios are constraints on the development of transmission and the amount of direct access/community choice aggregation load.

SDG&E generally agrees with the distinction made in the data request between sensitivities and scenarios. Changes in gas prices, projected loads, or the cost of different resource options are sensitivities, but can be bundled into different scenarios. Each IOU’s procurement plan may be sensitive to other uncertainties, which each IOU should be free to address in its own filing as sensitivities.

Question 3. Given the need to balance robust analysis against information overload and resource constraints, how many Scenarios is a reasonable number for the LTPPs to consider?

SDG&E Answer:

SDG&E would recommend that the Commission limit the number of state-wide scenarios to no more than 3 or 4 (including the base case scenario). The Commission should use this year’s process to fully develop the methodology and test the process to see to what extent it adds value to the planning process. It is better to do a few scenarios well, than do many scenarios in an incomplete manner.

Question 4. Should the Commission require the IOUs to conduct a given number of identical scenarios? If so, which ones should be required for all LTPPs?

SDG&E Answer:

Once again, it is important that early in this process it should be determined that the goal of the scenario analysis is to examine the state-wide implications of different scenarios. Once decided, the IOUs should use the developed state-wide scenarios. A
decision as to what sensitivities the IOUs should include in their plans and whether that constitutes a separate scenario should not be made at this time. Such decisions can be made prior to an IOU’s filing, but after the state-wide process works through the issues.

**Question 5. Should the IOUs be allowed or encouraged to develop additional scenarios for their LTPPs to consider?**

**SDG&E Answer:**

Each IOU should be allowed to highlight any unique circumstance that may be impacting its service area. This most likely will not require a different scenario; it may be done simply as sensitivities. But in any case, the process should allow each IOU in their individual filing to highlight the specific procurement issues it is facing.
QUESTIONS ON METRICS

Question 1. Are there any additional categories of metrics that would provide useful information for evaluating the portfolios besides the four that Staff has posited?

SDG&E Answer:

The establishment of the metrics that should be used to assess the IOUs’ LTPPs is an important first step, since it is not possible to “optimize” the plans unless the standards that plan will be judged against have been determined in advance. In general, SDG&E is in agreement with the major categories listed below and provide comments on each. However, SDG&E should note that the metrics suggested by the ED staff tend to be very numeric, or an attempt to convert a given measure into a single number. SDG&E suggests that additional metrics, which might be more qualitative, may also be required. As described below, reliability, environmental and optionality metrics would be of this type.

Question 2. Please comment on the relative usefulness of the Cost metrics that Staff has posited.

- Is it important to focus on a Cost metric that focuses on total bills or utility revenue requirement rather than rates as a way of leveling the playing field for conservation heavy portfolios?

SDG&E Answer:

SDG&E believes a cost to customers is one of the most important metrics that should be used in assessing the plans. However, each cost metric has an upside and downside, and none of them are perfect.

The use of NPV of costs has been used by SDG&E in past LTPPs. The advantage of this measure is that it can include the entire cost of meeting a given energy requirement. However, the Commission needs to decide if just the utility’s cost (or
revenue requirement, as the paper suggested) or the total cost should be included. As an 
example, if one scenario has more roof-top PV than another, then the NPV of just the 
IOU’s revenue requirement might produce a different result than a case that added the 
costs the homeowner paid for the system added to the IOU’s revenue requirement.

NPV do have two drawbacks. First the NPV of serving all of the IOU’s energy 
needs will be a very large number, given the amount of total costs that are already 
embedded into the cost structure. This large sunk cost base often overwhelms the 
differences between scenarios. In other words, the difference between scenarios might be 
hundred of millions of dollars; however this might be on a NPV base of billions. This 
can often lead to the conclusion that the scenarios are not really all that different. In 
SDG&E’s view, a plan that can save hundreds of millions is very different.

Also, the use of an NPV measure requires the treatment of end effects. Although 
parties agree that end effects need to be addressed, there is little agreement on the best 
method. Thus, the development of any NPV measure needs to deal with end effects and 
the possibility that the method for doing this could impact the decision.

SDG&E believes an average rate is a good measure and should be used. Both the 
yearly and a levelized rate could be calculated.

SDG&E also believes the working group should explore the use of a levelized 
annual bill. SDG&E can see some value in this measure, particularly given California’s 
emphasis on minimizing customers’ total cost, as opposed to minimizing rates. However, 
SDG&E is concerned that the number of assumptions that will need to be made to do this 
calculation and the potential distortion that AB 1X has created will reduce the usefulness
of such a measure. Thus, SDG&E is reserving final judgment on this measure until more discussion occurs at the workshop.

**Question 3. Please comment on the relative usefulness of statistical risk metrics.**

- **Is it worthwhile to consider annual volatility in the utility revenue requirements?**
- **Would considering this metric be likely to result in different preferred portfolios?**
- **Are there alternative metrics for measuring exposure to annual market prices?**
- **Which risk is likely to be more important: the risk associated with exposure to natural gas prices, or the risk associated with exposure to CO2 allowance prices?**

**SDG&E Answer:**

SDG&E assumes that each IOU’s procurement plan will continue to present, and the Commission will adopt, a hedging strategy. Hedging strategies be done as part of each IOU’s risk management plan and not as part of the LTPP. If volatility is compared between scenarios, then the potential cost of actions to reduce the volatility, such as various gas cost hedges, should also be included in the plans.

Since market prices tend to move with gas, any gas sensitivity should also highlight most of the market price sensitivity. SDG&E believes this can be handled as a sensitivity.

It is not known, and won’t be known during the LTPP process, if the risk of exposure to gas or CO2 prices will be more important. Based on the Draft Implementation Plan presented by CARB, which relies on command and control measures and not markets, it is not clear to what extent markets will actually impact the IOU’s activities.
Either as part of the risk or reliability assessment, each plan should qualitatively examine the amount of new construction of both transmission and generation that is required under the different portfolios and the implication of these being delayed or cancelled. Those that require significant new construction are inherently riskier (i.e., NIMBYism, permit issues, site availability, interconnection queue, ERC availability, developer failure, etc.) than those that require less. Also, new construction (or retirements) must be added on a realistic timeframe, taking into account the very long development process and the uncertainty of online dates. Each scenario that requires significant new infrastructure should look at what would happen if some percentage is not built or significantly delayed and strategies for implementing a “Plan B.”

A second qualitative metric could evaluate the optionality of the new investments. To what extent do the new investments lock the IOU into one alternate future for the next decade or decades beyond 2020? Investments that provide flexibility (that would be part of an alternate scenario if it were to materialize) should have more value than ones that lock into a single scenario. For example, compare an IOU investment in a CCGT versus a large CHP facility to provide baseload power. If a high mandated renewables scenario were to emerge, the CCGT could still be part of the scenario, needed to provide regulation for the increase in intermittent power. On the other hand, the CHP baseload power may not show up in this alternate scenario. The larger the proportion of resources that show up in alternate scenarios, the less risky the portfolio.

Lastly, the risk of exposure to natural gas prices should not be overstated. Few portfolio managers want to be 100% hedged. Some index for natural gas exposure is appropriate. The risk inherent in exposure to natural gas can be mitigated (hedged) very
quickly in the deep and liquid futures and derivatives markets in which gas trades. This hedging can be accomplished more quickly and cost effectively through financial transactions then through, for example, addition of renewable resources to accomplish this goal.

**Question 4. Are there any additional environmental metrics that would provide useful information at the portfolio level?**

- Keep in mind that environmental aspects of individual resources or resource zones are likely to already have been considered in evaluating individual resources for inclusion in portfolios.
- Is it sufficient to evaluate these aspects at the resource level, or does it provide useful information to consider non-quantitative environmental indicators when considering alternative portfolios?

**SDG&E Answer:**

SDG&E recommends that for the 2008 LTPP process only CO2 be tracked quantitatively. Since the California is currently in the process of developing goals and regulations to aggressively reduce GHG emissions, it is important that the Commission understand how the LTPPs are performing. The environmental metric should also calculate mitigation costs in dollars/ton of CO2 reduction to determine the relative cost of reductions. It is important for the Commission to understand the GHG mitigation costs of each scenario so that the most cost effective mitigation measures can be pursued.

SDG&E would recommend that other emissions and water usage not be tracked. These are already regulated by the state on a project by project basis, and in some cases, the data is not readily available.

SDG&E also recommends that a qualitative environmental metric also be included. Scenarios that require substantial new construction of either generation and/or transmission should be highlighted qualitatively.
Question 5. Should the LTPPs calculate reliability metrics in addition to reserve margin, or can the IOUs assume that the Resource Adequacy proceeding has developed an appropriate reserve margin such that each portfolio that meets the established reserve margin provides roughly equivalent reliability?

SDG&E Answer:

SDG&E believes that the Commission should take the results of the planning reserve margin study and incorporate them into the LTPP proceeding and use such results as a reliability requirement. Thus, the planning reserve margin would be an input into each scenario and not an output. As long as the plans meet the planning reserve margin, the plans would be providing the necessary reliability. SDG&E feels the LTPP proceeding should concentrate its effort on other items, since the CPUC and CAISO are undertaking a substantial analysis at the same time in a separate proceeding.

As noted above, since there are risks that large infrastructure projects will not be built on time that could lead to reliability issues, there should be a qualitative assessment of reliability by comparison of the annual amount of new infrastructure required.

Question 6. Risk metrics, such as TEVaR which model annual variation in revenue requirements are primarily driven by regional hydro variations that alter the need for (more expensive) natural gas-fired generation. Is it necessary or advisable to require the utilities to stochastically model hydro conditions for 10 years for each scenario and/or sensitivity case?

SDG&E Answer:

Since SDG&E has very little hydro generation, it will allow the other IOUs to address this question. However, SDG&E would note that TEVaR is not driven solely by
hydro levels. SDG&E does not believe that the calculation of a 10-year TEVaR would provide any useful information in this proceeding.

Respectfully submitted this 22nd of August, 2008.

/s/ John A. Pacheco
John A. Pacheco
101 Ash Street HQ-12
San Diego, CA 92101
Telephone: 619-699-5130
Facsimile: 619-699-5027
E-mail: jpacheco@sempra.com
Attorney for
San Diego Gas & Electric Company
CERTIFICATE OF SERVICE

I hereby certify that, pursuant to the Commission’s Rules of Practice and Procedure, I have this day served a true and correct copy of the foregoing RESPONSES OF SAN DIEGO GAS & ELECTRIC (U-902-E) TO DATA REQUESTS REGARDING PLANNING SCENARIOS AND METRICS to each party of named in the official service list for R.08-02-007 by electronic mail. Those parties without an email address were 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 Commissioner Michael Peevey and Administrative Law Judge Carol A. Brown, who have been assigned to this proceeding.

Executed this 22nd day of August 2008, at San Diego, California.

_/s/ Lisa Fucci-Ortiz
Lisa Fucci-Ortiz