



**Pacific Gas and  
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**DOCKET**

**09-IEP-1C**

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**Re: Energy Efficiency Measurement and Attribution**

Docket Office:

Please find attached PG&E's comments on the workshop held May 21, regarding Energy Efficiency Measurement and Attribution.

Please contact me should you have any questions. I can be reached at 415/973-4185.

Sincerely,

Kathy Treleven

Attachment

Comments of Pacific Gas and Electric Company  
Regarding the CEC's Preliminary Draft Electricity Forecast  
and Related CEE Projection Issues  
As Presented at the CEC Workshop on May 21, 2009

**Summary**

PG&E understands and appreciates that the CEC staff's demand forecast is still in development, and we will continue to work with the staff in this area. Since the workshop, PG&E and the staff have made progress with respect to the concerns we raised about the preliminary forecast at the workshop, and we will defer until the June 26 workshop any comments on this matter.

In these comments, PG&E addresses conclusions we are beginning to draw from our participation in the Demand Forecasting Energy Efficiency Quantification Project (DFEEQP) working group. PG&E has been happy to work with the staff and others on the DFEEQP, and believes this important work needs to continue. PG&E believes the CEC should move toward a common forecasting methodology which is more transparent and verifiable than the current end-use model, and should change its current "committed/uncommitted" modeling convention and move to a consistent inter-agency (CPUC, CEC, CARB) convention, such that the energy efficiency considered "committed" reflects the currently adopted CPUC energy efficiency savings targets and "uncommitted" reflects savings beyond those target levels. Additionally, PG&E has some comments on incorporating historical energy efficiency results into demand forecasts.

**The Need to Move Toward a More Transparent and Verifiable Forecasting Model**

PG&E is supportive of the work being done in the DFEEQP working group, including the effort to produce a history of energy efficiency savings which is on a consistent basis with the currently adopted CPUC goals. This essential and difficult work must continue and PG&E commends staff and other stakeholders on the hard-won progress to date.

Given the effort and results to date, PG&E suggests that it may be appropriate for the CEC reconsider its modeling approach. The CEC has steadfastly used end-use models for decades, but different needs are arising and different approaches may provide improvements in accuracy, transparency, and clear scenario-building to support the CEC (and the CPUC's) decision processes.

End-use models require complex assumptions about the manner in which energy is used, and also require large amounts of historical and forecasted data as inputs. Still, it has been challenging to align the CEC's forecasts with actual historical results and also with utility forecasts

The CEC staff's model continues to be a "black box" to stakeholders. This lack of transparency and verifiability by stakeholders is a major stumbling block to both achieving consensus around the forecasts and to improving the forecasting models. By contrast, in CPUC and FERC proceedings, IOUs and intervenors must turn over their models and all input and output data to third parties so that those parties can:

- verify that the forecasts produced are actually the result of the models being run correctly, and
- produce alternative forecasts based on either running the models with different exogenous input assumptions, or running the model with different endogenous assumptions regarding direct and interaction effects, or both.

This transparency in modeling and forecasting has the effect of quickly producing both better models and better forecasts (or at least forecasts that stakeholders understand better and with which they agree) because all stakeholders are allowed to bring their unique expertise and understanding into the forecasting process in a very tangible and useful way.

PG&E believes there is value in returning to a common forecasting methodology provided that the chosen methodology improves accuracy and is cost-effective and transparent.<sup>1</sup> The majority of stakeholders currently use an econometric forecasting model and, therefore, PG&E suggests the Commission consider developing such a model for the next IEPR cycle. In the DFEEQP working group we have also discussed a “middle ground” approach which is the “statistically adjusted end-use” (SAE) modeling approach as supported by Itron. While this SAE approach has not been used by any California IOU or POU to date to produce its long-term energy or peak forecasts, several IOUs and POUs do own the model and have reported that they believe it has the “potential” to bridge the gap between the full end-use modeling approach and the full econometric approach. The SAE approach combines elements of both approaches, is not overly expensive to maintain and could resolve in a very transparent and explicit way the issue of what amount of energy efficiency savings are included in the basecase or other scenario forecasts and what their impacts are on final demand for energy services.

PG&E recommends that the Commission and staff consider alternative forecasting methodologies and shift to alternative approaches for forecasting purposes in future IEPRs. A common forecasting model employing either an econometric or a mixed econometric-end use approach such as the Itron SAE model would provide a model platform that would encourage more transparent, understandable and stable forecasts for use in long-term planning exercises.

Because changing models at this point in the 2009 IEPR is not possible, PG&E recommends that the Commission consider adopting a forecast for use in long-term planning exercises that is a blending of staff’s final revised forecast and the forecasts provided by stakeholders in the IEPR process. It is PG&E’s opinion that such a “blended” forecast will produce more reasonable results because it explicitly incorporates the expertise and unique viewpoints of all stakeholders rather than over-relying on the expertise and particular forecasting approach of just one group.

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<sup>1</sup> This does not necessarily mean that the CEC staff should abandon the full end-use model. It may be the case that the full end-use model has many important contributions to make, perhaps especially in the area of building and appliance standards, and can be useful for many tasks outside of forecasting.

## **PG&E Recommends Moving to a Committed/Uncommitted Modeling Convention that is Consistent with Inter-Agency Directives**

PG&E believes that the IEPR demand forecasts would be of greater value to planners and other stakeholders if the CEC staff forecasts dropped the current “committed” vs. “uncommitted” modeling convention which is based only on IOU program funding cycles... PG&E encourages the Commission to adopt as the final IEPR demand forecast one which is fully mitigated for current CPUC target EE savings. “Fully mitigated” means that the forecast incorporates all CPUC-mandated CEE targets. In essence, PG&E recommends that the definition of “committed” be changed to include all currently adopted target levels of energy efficiency savings while “uncommitted” be defined as energy efficiency savings above currently adopted target levels. This simple definitional change will allow the forecast to be used in a wider variety of planning processes and to be more consistently understood by forecast users.

The CPUC has ordered the IOUs to incorporate the currently adopted energy efficiency savings targets into all long-term planning analysis and applications in order to support integrated resource planning and analysis. Therefore, the CEC should develop an adopted IEPR forecast that incorporates the currently adopted targets in an explicit and transparent manner.

However, in addition to that reason, it may be that much of the controversy around how much energy efficiency savings are incorporated into the staff’s forecasts would be eliminated by moving to this new definition of committed/uncommitted. As mentioned by several parties at the May 21<sup>st</sup> workshop, the staff may be overly focused on “attribution” of IOU program savings in the modeling and be missing the bigger picture of energy efficiency savings. This “bigger picture” is exactly what was addressed in the last round of potential studies and goal setting and resulted in currently adopted goals that are not focused on IOU program savings.

## **Incorporation of Historical Energy Efficiency Program Impacts into the 2009 Preliminary Forecast**

PG&E appreciates the effort and thoughtfulness CEC staff has devoted to attempting to clearly and accurately incorporating historical energy efficiency program information into its 2009 Preliminary Forecast.<sup>2</sup> Still, in reviewing the workshop material, it has several concerns.

First, the relationship between the conservation price-effects arising from the CEC’s models, and the CPUC’s (or IOU’s under CPUC authority) determination of gross (but not net) savings is not clear. These seem to have been concepts created separately and the estimation of quantities proceeded independently. Conceptually, gross (but not net) savings are those that would have occurred without the program, and logically would include those arising from the effects of rising energy prices. Thus it would seem to double discount energy efficiency programs savings to include them separately. PG&E recommends staff consider this issue carefully and clearly present its rationale for treating these two quantities. If it does choose to include both as reductions to reported energy efficiency programs’ savings, its logic must be bullet-proof.

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<sup>2</sup> See “Measurement of Energy Efficiency Programs Impacts for the 2009 Preliminary Forecast”, a presentation at the May 21, 2009 IEPR Staff Workshop.

Second, the suggestion was made to link the unit savings estimates the CEC uses to the continually evolving savings estimates in the CPUC's Database for Energy Efficiency Resources (DEER). PG&E suggests staff consider this suggestion from the perspective that any such link must be dynamic, as portions of the DEER are updated at least semiannually. To keep a link current could require significant resources. Further, many of the most recent results in the DEER have proven to be controversial. To link the CEC's Demand Forecast would mean that forecast could inherit that controversy, without necessarily contributing to its accuracy (depending on the direction of the next set of DEER updates). PG&E suggests these considerations support its earlier recommendation for the CEC to consider more transparent, cost-effective, and econometric or SAE forecast methods, which are primarily driven by historical data and not the model-driven computations that currently underlie portions of the DEER.

Finally, PG&E suggest staff work with stakeholders to sharpen its understanding of the basic energy efficiency program data. For example, from 1998 to 2005, PG&E was required to include program commitments as part of reported savings. Prior to 1998 and subsequent to 2005, they were required to report savings as projects were completed.<sup>3</sup> This is similar to the observation that the term "realization rate" sometimes incorporated net-to-gross adjustments, and sometimes did not. PG&E looks forward to working with staff to ensure accurate understanding of its reported program accomplishments.

### **Conclusion**

PG&E looks forward to continued work with the staff and the working group on the IEPR demand forecast and on the challenging issues associated with developing and aligning modeling methodologies for electricity demand and peak forecasts and CEE projections that have an improved level of understandability and consensus.

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<sup>3</sup> This difference in reporting may account for some of the variability in the chart's in Michael Messenger's presentation at the May 21, 2009 IEPR Staff Workshop "Summary of Energy Efficiency Quantification Analysis and Recommendation for the 2009 CEC Electricity Forecast"