MEETING NOTES

CALIFORNIA ENERGY COMMISSION
DEMAND FORECAST ENERGY EFFICIENCY QUANTIFICATION PROJECT
WORKING GROUP

California Public Utilities Commission
Courtyard Room
505 Van Ness Avenue
San Francisco, CA

Tuesday March 2, 2010

Dial-In: 866-740-1260
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AGENDA

Recent Activity

- Recap of February 3 Technical Workshop @ CEC – Kavalec/Jaske
- Recap of February 17 Policy Workshop @ CEC – Kavalec/Jaske

Energy Commission held two workshops on incremental uncommitted energy efficiency. Among the key items that have evolved since the draft was posted is the savings decay. California Public Utilities Commission (CPUC) has clarified policy decisions on measure decay/replacement such that 50 percent of the savings need to be replaced as they decay – 50 percent is presumed not to decay starting in program year 2006.

The CEC estimated the amount of savings corresponding to clarified CPUC decisions as an increase in the total amount of committed efficiency savings relative to the adopted 2009 IEPR demand forecast. This will result in a decrease in the managed demand forecast – about 1800 GWH and 400 MW in 2020 (all IOUs combined).

- Summary of workshop and written comments with CEC/CPUC response when applicable—Kavalec/Jaske/Baker

There were several main areas of comments from stakeholders:

-Clarify/re-estimate measure decay based on current CPUC policy (see above re: 50 percent decay/replacement).

-Peak-to-energy ratios. Energy Commission uses a 30 year average of weather to determine the p-e ratio in the CED model. Itron initially used ratios for 2006 which was a hot year (higher p-e), and meanwhile the EE goals were set with 2004 values which has been described as a cool year (lower p-e). The solution will be to run different scenarios of SESAT with a 3 year range – high, med and low. The Electricity and Natural Gas Committee of the Commission (overseeing the Integrated Energy Policy Report (IEPR) and thus the incremental uncommitted energy efficiency analysis) may want some more scenarios.

Both PG&E and SCE noted that they greatly appreciated this.

-Likelihood of achieving the energy efficiency goals made explicit in the 2008 Goals Study and assessed the incremental uncommitted energy efficiency projection – largely the big and bold strategies.

Note: according to Rick, the GWH results are similar to PG&E's assessment of likely energy efficiency, the GW results are significantly higher than what PG&E expects.

- Key Remaining Issues for 2010 Incremental Uncommitted EE Report– Kavalec, Jaske, Baker

Key remaining issues are:

- Model uncertainty – inherent difficulties of blending the results of two models (Energy Commission's CED and Itron's SESAT)
- The ASSET results used in SESAT contained a flat rate whereas Energy Commission's model reflects a 15 percent rate increase.
- Peak to energy ratios – since they are sensitive to weather

Note that there is no explicit recognition in the incremental uncommitted forecast of the possibility that that the IOUs may not be meeting their efficiency goals. Carmen's analysis presented to the DFEEQP last fall indicates that the IOUs are keeping up with their goals through 2012. The 2006 evaluation, measurement & verification (EM&V) results, which are tending to reduce ex post savings results, were not explicitly included in the incremental-uncommitted energy efficiency analysis (since those results are just now being finalized) but nevertheless Energy Commission staff applied estimated realization rates to committed savings.

Cynthia (TURN) raised the point that the 2006-08 EM&V results have been reduced by CPUC's verification report step and now further reduce by the full ex post EM&V. Due to this shortfall, TURN will recommend to CPUC that the low case for energy efficiency goals should be used for the basis for procurement in CPUC's Long Term Procurement Planning (LTPP).

Rick (PG&E) raised the question – won't low realization rates show up in the next EE potential study and thus, reduce cost-effective achievable potential, which would theoretically feed into lower goals. Carmen confirmed that there is a decision requiring a new EE goals study, but is not 100% clear that it would be based on a new EE potential study – no EE potential study/update is currently being planned.

- Next Steps for 2010 Incremental Uncommitted – Kavalec/Jaske/Baker

-Additional Analyses
Energy Commission and Itron are working on some additional analyses and editing in response to issues raised in the workshops, and will wrap up and transmit the report around the end of March 2010. Energy Commission will recommend that the results should be used by CPUC in the LTPP. Currently, the numeric goals of the mid-case scenario as it was characterized in 2008 must be used. CPUC/ED staff will likely recommend to the CPUC that this language should be restructured/reinterpreted to allow more flexibility – e.g., since EE savings need to be

characterized relative to a forecast, because some delivery mechanisms are likely to be more certain than others, etc. Also, even if the CPUC includes the mid-case scenario, the numeric value of that scenario changes over time – so the manner in which CPUC incorporates EE goals in LTPP must be reconsidered.

The CPUC Staff Straw Proposal in 2008 LTPP proposes that IOUs should review assumed levels of achievement based on high/low/medium expectations of achieving the energy efficiency goals – this proposal has not at this time been adopted by CPUC.

Energy Commission is not specifically recommending which set of results are used (high, medium or low scenario … or components of different scenarios), just that the results in the report should be used. Thus there is some policy uncertainty about use of the results in LTPP.

There was discussion regarding whether it would be viable to mix and match "slices" of different scenarios – e.g., the mid-case for IOU programs, the low case for big and bold, high case for codes and standards … etc. Chris cautions against mixing "slices" from different scenarios because in a given scenario, the pieces are interactive. If a "mix and match" strategy is pursued more consideration should be given to how mechanically that would work. After discussion, it was agreed that some limited mixing might be possible.

-Transmit results to CPUC – end of March.

-Itron is preparing SESAT documentation and will conduct training for Energy Commission staff on the SESAT model – then Energy Commission staff can run SESAT for the next IEPR cycle (2011) if desired.

-The CPUC's 2010 LTPP Order Instituting Rulemaking (OIR) will be forthcoming and there will be explicit guidance for whether issues related to incremental uncommitted energy efficiency will be taken up in LTPP and/or the Energy Efficiency proceeding.

Discussion of Next Steps for the DFEEQP Working Group

I. Energy Efficiency in the Demand Forecasts (Committed and Uncommitted)
   A. Continue Prior Energy Efficiency Assessment Activity (discussion of data sources— new EM&V, etc.) -- Kavalec
   B. Expansions of 2009 IEPR Activity (natural gas efficiency, additional uncommitted analysis, etc.) – Kavalec

Chris noted that assessment of energy efficiency will continue in the 2011 IEPR and the desire to continue the general DFEEQP stakeholder process going forward. Note that there is no special energy efficiency work being planned for the 2010 IEPR update – the next major activity on this front will be 2011 IEPR.

The newest EM&V results will be incorporated in the next round, natural gas energy efficiency will be incorporated, and he hopes to integrate the IEPR demand forecast and the incremental uncommitted energy efficiency forecast so that they occur during the IEPR timeline and are part of the IEPR report.

SCE and PG&E support these ideas. SCE indicates there may be value in incorporating some information into the 2010 IEPR update e.g., what is happening to improve the incremental uncommitted EE analysis, status of federal stimulus energy efficiency.

Rick asked whether there would be a new forecast for resource adequacy – according to Mike J. this is as yet unknown.

Mike J. asked for WG participants to suggest how DFEEQP activity can be mutually useful. In the last cycle (2008-Q1 2010) there was a lot of activity having to do with reviewing plans for incremental-uncommitted EE, etc. Are there activities that the group would like to occur that would be mutually beneficial? E.g., what about a better analysis of recent EE program activity?

Nat put forward CPUC/ED/LTPP's recommendation that DFEEQP would be closed out and re-opened … Re-orienting the scope to facilitate broader participation in demand forecasting. Energy efficiency would be one component but not the sole focus. The Working Group would be re-constituted as a demand forecast working group – possibly DFWG.

There was support for this proposal among WG members. Which leads nicely to Item II.

II. Demand Forecasting

A. DFEEQP-DMME Committee update – Goldstone, Skinner
B. Model Transparency – Goldstone, Skinner

A few members of DFEEQP have been working with the Energy Commission's Demand Model Methodology Evaluation (DMME) to develop model transparency guidelines. These guidelines will apply to all models employed by stakeholders in the Energy Commission's IEPR proceeding. The DFEEQP-DMME Committee will be circulating a draft to the Working Group to solicit comments.

The components of the guideline are:

- Model documentation
- Access to the model and/or to additional runs by the sponsoring party
- Modelers code of ethics
- Evidentiary process
- Expert panel.

Mike Ting raised the issue of protection of intellectual property saying that this is extremely important if it is anticipated that any firms with proprietary models would participate in the proceedings. Itron has had experiences for example in Florida – intellectual property was protected with non-disclosure agreements.

Chris said there can be certain kinds of information/access requirements for public models and other requirements for private models.
Rick said that from PG&E's perspective, they would like to see not only documentation, but replicability – they would like to have a standard wherein an experienced practitioner could replicate model results.

Mike J. noted that there would be a few steps before the transparency guidelines would be adopted – and all of the pieces may or may not end up being accepted. For example, it may or

may not be the case that an evidentiary hearing process would be implemented – that could take a series of steps even if decision-makers determined that it would be a desirable outcome.

C. Common Forecasting Methodology

Discussion of Next Steps for the DFEEQP Working Group (cont.)

III. Energy Efficiency Program Accomplishments Data Development

PG&E would like to see an energy efficiency "index" for CA going from 1975-2020, by sector. Could such an index answer the question "how has energy efficiency changed over time (e.g., UECs) and how will it change in the future?" Ideally this would be consistent with EE potential studies – the two types of analyses should be looked at together. Also, PG&E would like to see a consensus history of EE accomplishments that can be used by all of the stakeholders.

Cynthia (TURN) likes this idea and would also like to see consumption reductions considered as a future outcome.

Mike Ting (Itron) says that in concept this could be done with end-use decompositions, that this is relatively easy to do – could be done top down and/or bottom up by end use and/or building type. Energy Commission has the type of data that could be used in such an analysis. In fact, there is an LBNL/PIER project underway to construct "energy balances" – should determine the status of this project.

Chris noted that an estimated coefficient designed to represent an efficiency index would run into correlation problems so an analysis would need to consider this.

Carmen (CPUC/ED/EE) saw some value in creating an "index" and/or an agreed upon history of energy efficiency program accomplishments but suggested the following caveats:

- Not clear how much a historical EE index would effectively predict the future, since so many things are changing (funding amounts, low hanging fruit captured, different underlying technologies, DG, etc.).
- The pre-2006 CPUC EE program accomplishments data are difficult to pull together beyond what Energy Commission has already done in 2009 CED/IEPR. The difficulty of attempting to truly reconcile past accomplishments data may not be worth the payoff.
- Starting with 2006-08, the CPUC's EE program data are in much better shape.

Don (CEC) also believes that prior CPUC EE program accomplishments have probably been assembled as best as possible. Also, he notes that the 2009-11 programs are starting to diverge from prior cycles – e.g., the significant shift to whole house programs, which need EM&V to determine how the impacts are going to turn out (as well as to determine how best to measure those impacts). This may require heat load analysis in addition to measure level analysis. It is hard to know how the analytics, e.g., of whole house EM&V will end up fitting into demand forecasting e.g., with the Energy Commission's end-use based models.

Carmen says CPUC is trying to orient itself to energy efficiency as outlined in the strategic plan but that there is a need for new EM&V techniques. There will still be a push for end-use level results since those are needed for forecasting.

Don (CEC) also raised the issue of forecasting the effects of smart meters.

IV. Engage with Ongoing Research Activities
   A. California Energy Research
   B. Regional and National Efforts

The WG would endorse the ability of the group to keep tabs on these efforts (RASS, CEUS, CLASS, etc.), ongoing CPUC EE EM&V, of course, and also to keep tabs on the evaluation of EE activity from federal stimulus funds. However, in terms of priorities, the WG doesn't want to be spread too thin – *participating* with these efforts is of a lower priority. But in terms of having the WG be a conduit for information on where these research efforts are and how they are progressing, that would be a valuable activity. Also, information from the Energy Commission climate change portal, etc. would be good to keep tabs on in order to maintain consistency of techniques. Same approach for the regional and national efforts such as WECC's IRP, etc. The DFEEQP (or DFWG) can help to leverage input re: timelines for these research efforts so that they produce coordinated results to whatever degree this might be possible.

Note that Energy Commission is working on some updates to price response to energy prices, and that is an area of high interest to the group in terms of demand forecasting.

Also, it is recognized that the EM&V of voluntary EE programs has been far more extensive than EM&V of codes/standards. This would be an area of interest to the group to attempt to promote/facilitate.

V. Improve the Taxonomy of Energy Efficiency Terms

Carmen addressed this issue. The group certainly sees value in taking up the Taxonomy issue for further development at the appropriate time going forward. She noted that quite a lot of work went in to the Taxonomy, but the challenges were great and the level of effort that was devoted to the Taxonomy work may not be entirely apparent based solely on the visible product – the glossary for the incremental uncommitted energy efficiency report. The recommendation made in the end by the Taxonomy Committee was to start from "square one" in the context of developing models and strive to have the definitions integrated with model development and/or at least development of analyses. The forecasters would need to be directly involved with the taxonomy. There is value in standardizing the definitions.

Phil said that SCE has produced a glossary of forecasting terms – he will look in to finding this for the group.

The taxonomy needs to be a coordinated piece of efforts going forward – not a stand-alone effort. Rather, in model development, developing and producing clear definitions needs to be an integral part of the process.

VI. Interact with Ongoing Goals Setting Processes
- Timeline of new Goals Study vs. 2011 IEPR, etc.

VII. DFEEQP Website
VIII. Other ideas

2:15 Next Steps Prioritization

Based on discussion during the morning, it was agreed that the key organizing principle for DFEEQP going forward is to focus on demand forecasting, with the key product being the production of a fully mitigated demand forecast for use in CPUC's LTPP. Thus topics addressed by the group would be:

- Demand forecasting
- Energy Efficiency
- Distributed Generation (combined heat & power/self gen, distributed solar)
- Demand Response (*lower priority* – most of this is considered a supply side resource in the current planning paradigm)
- Other issues affecting demand
    - smart meters
    - elec. vehicles
    - electrification e.g., of ports
    - other (e.g., seawater desalination; additional pumping due to droughts, etc.)

The new group would probably be named something like Demand Forecast Working Group (DFWG) (uh oh, would this be pronounced "dee-fog?" – may need to give more thought to the acronym).

3:00 Next Steps/Adjourn

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