



Memorandum

To: Interested Cal TF Stakeholders

Re: Cal TF and Consistency with CPUC Directives on Ex Ante Values/DEER

From: Alejandra Mejia, Cal TF

Date: May 1, 2014

Background

The Cal TF will be an independent body of experts that will issue savings estimates and other technical information related to California's energy efficiency portfolio. Ideally, Cal TF-issued savings values will be used statewide so that energy savings estimates are consistent across California. To enhance the likelihood that all California energy efficiency stakeholders use Cal TF values, it is important to understand, and to the extent possible, have Cal TF align with, California regulatory policies and guidelines for ex ante estimates. Three memoranda summarize California regulatory directives for ex ante value development:

1. CPUC policies on non-DEER workpapers.
2. CPUC policies on ex ante and DEER values. (see memo)
3. CEC policies and POU practices on ex ante value development, use and updating (forthcoming).

Overview

DEER is California's preeminent tool for ex ante savings forecasting and portfolio planning. The Cal TF will create an alternative process for reviewing and issuing energy savings values that may eventually be used in DEER. To determine whether Cal TF aligns with past CPUC directives on DEER and ex ante values, CPUC decisions on DEER and ex ante values from 2001 to the present were reviewed and summarized. This memorandum demonstrates that:

1. Cal TF is consistent with past CPUC directives on DEER and ex ante values, and is consistent with the following CPUC-established policy goals for ex ante review:

- Collaborative
- Transparent
- Well-Documented
- Best Available Data
- Strikes Reasonable Balance Between Accuracy and Precision; Cost and Certainty

- Minimizes Ex Post Risk

2. Cal TF, and independent organization, does not conflict with Commission staff's ultimate responsibility for the review and approval of ex ante values.

3. Cal TF is aligned with the Commission's policies on DEER and ex ante value development for developing and updating measure savings contained in DEER.

4. In key respects, Cal TF is similar to the original process that was used to create and update ex ante values in DEER, and

5. Cal TF fosters appropriate separation of responsibilities between the regulatory and administrative/implementation functions.

I. The Cal TF is Consistent with Commission Directives and Policies on Ex Ante Value Development

In D.09-09-047 the Commission restated its EM&V goals in order to provide clearer guidance to staff, the IOUs, and other parties. The Commission directed that all EM&V "activities should be undertaken to meet the overarching goals of **clarity, consistency, cost-efficiency, and timeliness.**"¹ [Emphasis added]. The following paragraphs show how the Cal TF aligns with these important, CPUC-established principles, and is also in line with other, more detailed, Commission requirements and directives.

Collaborative

The Commission has repeatedly emphasized the importance and value of collaboration in the development of ex ante values. Although the Commission has assigned to Commission staff ultimate responsibility over the ex ante review and approval process,² the Commission also clearly directs staff to exercise its responsibility in collaboration with other stakeholders, not in isolation. For example, the Commission directed staff and the utilities to work together on a more collaborative approach to resolving disputes over ex ante values: At pg. 56 of D.13-09-023 the Commission gladly reported that "open dialogue between Commission staff, the IOUs, and other stakeholders has enabled potential disputes to be resolved through better understanding and communication." Before that, in an order instituting a new dispute resolution process, the Commission clarified that "the first priority should be to minimize any formal disputes. The best way to do so is to ensure open and full communications between [Commission staff] and IOUs."³ And even earlier, D.09-09-047 asked "Energy Division, in consultation with the utilities," to "develop a process by which new measures values can be added to the frozen measure datasets and mutually agreed errors in the frozen values can be corrected."⁴

¹ D.09-09-047 at 299

² D. 12-05-015 at 286

³ D.10-04-029, at 30-31

⁴ D.09-09-047, September 29, 2009, at 44

D.09-09-047 was also the order in which the Commission noted the “more collaborative, regional approaches to EM&V” being undertaken in both the Northeast and Northwest. The Northeast Energy Efficiency Partnership (NEEP) and Northwest Regional Technical Forum (NW RF) were both singled out as successful models of collaborative EM&V. This Commission directive makes sense, given the breath and technical complexity of today’s DEER. A single individual or small team with a unified perspective can hardly be expected to adequately sort through the countless complex technical issues inherent in developing DEER values. This need was echoed in a report commissioned to Itron and J.J. Hirsh and Associates by the CPUC in 2005. The report recommended that DEER values should continue to be based on the opinion of a committee of technical experts. According to the stakeholders interviewed for the report, a group of experts is needed because “decisions on DEER values were often extremely challenging due to significant technical complexities and empirical uncertainties.”⁵

The Cal TF’s collaborative process was modeled after the NW RTF, and it will continue to engage a broad range of stakeholders—regulators, ratepayer and environmental advocates, program administrators and implementers—in the process; consensus decision-making will further ensure that the opinions of all interested parties are adequately reflected in the collaborative’s work products.

Transparent

The importance of transparency in the development of ex ante values is another recurring policy objective in Commission decisions. D.10-04-029, the order that put in place the current dispute resolution process while insisting that the Commission’s first priority is to minimize formal disputes, goes on to explain that,

The best way to do so is to ensure open and full communications between [Commission staff] and IOUs, as well as transparency for the public. Avoiding misunderstandings, developing trust, and providing transparency should go a long way toward avoiding or resolving potential issues before there is a need to escalate to a formal dispute resolution process.⁶

In other orders, the Commission has often asked ED to compile all current DEER values in a single website,⁷ make associated documentation easily accessible to the public,⁸ and provide the IOUs with more information on how to properly apply DEER values.⁹

Transparency is one of the Cal TF’s guiding principles. All TF meetings will be open to the public, and will be recorded and made available on the Cal TF website. Majority and minority opinions will be documented and posted where consensus is not reached. Finally, all TF-

⁵ 2004-2005 Database for Energy Efficiency Resources (DEER) Update Study – Final Report (December 2005); Prepared for So Cal Edison, prepared by Itron, Inc. with assistance from JJ Hirsh & Associates

⁶ At 30-31.

⁷ D.11-07-030 at 24

⁸ Ibid, at 36

⁹ D.09-09-047 at 43

reviewed values will be linked to the data and methods supporting those values, and Cal TF staff will develop a user-friendly, searchable website for storing the latest versions of those values and documentation.

Well Documented

Along with the Commission's call for transparency in the DEER process, orders have also asked that ex ante values and related documentation be made easily available to the public. Early on in the development of DEER, in D.01-11-066, the Commission recognized the database as "the most comprehensive resource for program planners to use when projecting energy savings associated with particular program activities," and put forth the following plan to make it more accessible to non-technical experts:

In developing a set of deemed savings values for the state, the Commission seeks to simplify the assumptions used to project energy savings into a user-friendly format accessible to a wider audience. The goal of this effort would be to produce an Internet-accessible, searchable tool containing best-available deemed savings values for all regions of the state.¹⁰

More recently, the Commission has stated that "public involvement [input] should be sought to the maximum degree possible" in the EM&V process,¹¹ directed Energy Division to compile "all Commission-adopted frozen values into one website," and agreed that "a public archive should be available for stakeholders to access Energy Division's project review comments and lessons learned."¹² Cal TF's efforts to ensure transparency, including the development of such an online archive, will also help to ensure that the new independent process aligns with this Commission directive.

Best Available Data

As noted above, D.01-11-06 recognized DEER as the preeminent resource for program planning and portfolio management and sought to develop a more user-friendly "tool containing [same] best-available deemed savings values for all regions of the state."¹³ Almost a decade later, in D.10-12-054, the Commission wrote, "it is our expectation that DEER values be updated and set using the best available information."¹⁴ Most recently, in 2011, the Commission wrote that the "use of best available information" was one of three concepts that guided their entire decision on freezing ex ante values for the program cycle.¹⁵

In seeking to populate DEER with the best available data, the CPUC has recognized that DOE-2 modeling is an appropriate source for weather-sensitive data. Yet, this by no means should be interpreted as limiting data inputs to those already trusted by the DEER community. In fact,

¹⁰ D.01-11-06, November 29, 2001 at 20

¹¹ D.10-04-029, at 24

¹² D.11-07-030, at 24 and 36

¹³ D.01-11-06, November 29, 2001 at 20

¹⁴ D.10-12-054, December 21, 2010 at 9

¹⁵ D.11-07-030, at 8

Commission decision 12-05-015 clarifies that “Staff should continue to seek input from parties to determine where and when to use a particular analytical approach.”¹⁶ Only by continuously embracing improved data sources and methods can DEER continue to have the best available data that is sought by regulators.

The Cal TF will bring together technical experts from across the country, as well as representatives from the state’s most active stakeholder sectors as PAC members, who will then inform the independent review process with the most cutting-edge data sources and estimation methodologies. Staff will benefit from being exposed to this truly best available data.

Peer review is still the “gold standard” in determining scientific truth. Lack of bias is not a substitute for effective peer review. Peer review by volunteer reviewers is consistently viewed as the highest standard for validating technical and scholarly work. In the sciences, peer reviewers who receive more than nominal payment for peer review they perform (such as travel expenses) are viewed as providing biased results because review services can be distorted by the views and wishes of those paying for the peer review. Like the NW RTF, Cal TF will operate on a volunteer peer review basis.

Reasonable Balance between Accuracy and Precision, Cost and Certainty

The Commission has also repeatedly reminded staff, the IOUs, and interested parties that “savings measurement and verifications should strike a reasonable balance of accuracy and precision, cost, and certainty, and be designed for incorporation into procurement process.” In a perfect example of putting this goal into practice, the Commission wrote that its final directives for ex ante values in D.11-07-030 were guided by the need to balance three concepts: use of best available information, finality—the need to freeze ex ante values in a timely manner, and the expectation that staff and the utilities were to work together.

The Cal TF will help California strike this balance by achieving cost efficiencies without sacrificing technical rigor. Cost-efficiencies will be sought through the pooling of resources to develop common statewide values, in contrast to the current practice where values are not developed statewide in a consistent way. Technical rigor will result from seeking input from a broad and diverse group of stakeholders. Given the breadth and complexity of California’s portfolio, no one individual or group has the requisite technical ability and/or information for developing all ex ante values; the Technical Forum will bring together thirty (30) volunteer experts to collaborate on making California’s ex ante values as precise as possible within reasonable cost.

Minimize Ex Post Risk

Finally, minimizing variation between predicted savings and measured results—risk that ex post measurement will fall short of expected—has long been a Commission goal. As the Commission was first implementing the current administrative structure for ratepayer energy efficiency (laid out in D.05-01-055), D.05-04-051 asked staff to present new EM&V protocols including a

¹⁶ D.12-05-015, May 18, 2012 footnote 64

schedule for regular updates of DEER using ex-post results.¹⁷ Years later, the Commission decided to compensate EE performance based on ex ante, rather than ex post measurements; this followed Commission language explaining that changes in the underlying measure parameters had been made “after the fact” and the IOUs had not had proper time to incorporate them into their planning.¹⁸ In a subsequent decision, the Commission wrote,

Our experiences in the 2006-2008 and 2010-2012 portfolio cycles suggest that a tighter and more predictable feedback loop is needed between evaluation findings and program design and improvement.¹⁹

Given the Commission’s oft-expressed desire to minimize ex post risk, the Cal TF represents yet another step towards reconciling the ex ante values used for portfolio planning and savings actually realized. The Cal TF will be a forum through which all interested parties can agree on ex ante values, thus reducing the risk of objections and contentious litigation in the future. The Cal TF process will also benefit from the knowledge and savvy of 30 diverse technical experts, thus increasing the precision of ex ante values submitted for Commission approval. These two factors combined will strengthen the accuracy of and support for DEER savings values, thus helping to continue reducing ex post risk.

II. Does not Conflict With Energy Division’s Ultimate Responsibility for the Review and Approval of Ex Ante Values

Throughout its decisions, the Commission affirms Energy Division’s authority over the ex ante review and approval process.²⁰ The Cal TF does not conflict with this Commission directive: The technical forum will review ex ante workpapers, which the utilities then may choose to submit to Energy Division for formal approval. This process allows Commission Staff to remain as the final authority on ex ante values. However, by fostering early collaboration between ED, stakeholders, and workpaper developers, the Cal TF process will increase the likelihood that all parties are satisfied with work products earlier on in the development process and the end results will receive speedy ED review and approval. This will in turn lessen the need for contentious and back and forth between the utilities and Commission, streamlining the process and making it more cost effective.

The Cal TF could further support Energy Division’s Commission-mandated review and approval process by involving a broad coalition of stakeholders and technical experts. Workpapers reviewed by the Cal TF will be embedded with the perspective and support of parties that may have otherwise felt alienated from the process and thus compelled to object. Bringing all concerned parties together even before Energy Division is asked to formally approve a savings value is yet another way in which the Cal TF will aid staff in exercising their final authority over ex ante value estimation.

¹⁷ At 24 and 66

¹⁸ D.10-12-049, at 36

¹⁹ D.12-05-015, at 23

²⁰ D.05-01-055 at 129, most recently D.12-05-015 at 287

III. Cal TF Improves Upon the Current Process to Better Align it with Commission Policy

As demonstrated above, the Cal TF fully achieves the Commission's key policy objectives; better yet, the Cal TF improves upon the existing process to continue aligning California's ex ante value development with Commission policy. Despite the best efforts of staff and their consultants, the current review and approval process has fallen short in some respects. Even at its best, the current process only includes input from staff and the IOUs. The Cal TF, collaborative by design, will involve a much broader range of parties in the value development process.

Increased participation from stakeholders will also help introduce more transparency. While staff and its contractors have worked to keep DEER accessible to the public (www.DEERResources.com), program administrators and implementers still find it very difficult to locate, understand and apply DEER guidelines and methods. In addition, DEER has significantly more complexity now than in the past, but does not necessarily result in more accurate energy savings estimates. Currently, DEER has more than 1.2 million different measure combinations, which results in greater complexity, but many of the additional measure combinations result in changes to energy savings estimates that cannot be validated in practice, and may not be statistically significantly different from the more aggregated measure combinations. Cal TF will increase transparency—all TF meetings are public, materials and results will be posted on a user-friendly public website—"reduce complexity that does not lead to greater accuracy and precision,"²¹ and thus create a system solidly aligned with the Commission's intended reasonable balance between accuracy and precision, cost and certainty.

Finally, the Cal TF will bring a peer review component to the ex ante value development process. Peer review is still the "gold standard" in determining scientific truth in the sciences and, with the success of the NW RTF and NEEP's EM&V forum, increasingly in energy efficiency. Cal TF's peer review process will heed the Commission's mandate that DEER use the best available data by building on to the methods currently developed solely by staff and their consultants. These improvements will make deemed savings more robust and resistant to ex post risk of the kind that was seen after the 2006-2008 program cycle.

IV. Cal TF is Similar to The Process Initially Used for DEER Development and Updating

The DEER database was initially developed through a collaborative process. In 1990, the CEC convened a broad coalition of stakeholders, created the California Conservation Inventory Group (CCIG),²² and tasked that initial collaborative with identifying what type of energy efficiency data and methodologies would need to be collected/developed in California. The initial CCIG dataset became the framework for DEER, and for years after that a variety of party coalitions—CADMAC, CBEE, and Calmac—undertook much of the analytical and consensus-building work of continuing to build the database. Throughout this time, technical questions

²¹ Cal TF guiding documents

²² CCIG members were composed of CEC, the CPUC, IOUs, NRDC, LBNL, and the CA Institute for EE ("CIEE").

concerning DEER were discussed in open forums. Per the Itron and Hirsh and Associates recommendations, “reaching out to broader groups of experts and DEER users” for open discussion of technical matters yielded two distinct benefits that were important to the DEER development process: “First, these individuals and entities may have knowledge of technical information about which the DEER Committee and contractor are unaware. Second, reaching out to other experts and DEER users helps to increase the understanding and usefulness of DEER.”

When the Commission first transferred responsibility over EM&V and ex ante development to Energy Division staff, D.05-01-055 originally read, “If disputes concerning study findings remain after these informal review opportunities, the administrators, implementers, or interested parties should seek Commission resolution.”²³ The detailed reporting protocols drafted by CEC and CPUC staff were discussed and revised during stakeholder workshops and approved by ALJ ruling on January 11, 2006.²⁴ The protocols that ALJ Gottstein approved in 2006 built on the collaborative process that had been in use since 1994: a process in which staff, the IOUs, and stakeholders worked together and the Commission served as final arbiter in the rare cases where consensus was not achieved.²⁵ In recent years, ex ante values have been developed and approved without a statewide, collaborative process. Cal TF would re-introduce a statewide approach and collaborative process to ex ante value development.

V. Cal TF Fosters Appropriate Separation of Responsibilities Between the Regulatory and Administrative/Implementation Functions

The Commission has long-standing policies establishing clear roles and responsibilities as well as separation of functions between regulation, administration and implementation of energy efficiency. The Commission laid out the rationale for this separation in the rulemaking that returned program administration duties to the IOUs after the energy crisis,

The Public Utilities Commission is a regulatory agency, not an administrative agency. As such, the Commission’s regulatory functions, and the Commission’s responsibility for providing independent oversight of all ratepayer-funded programs, are incompatible with administration of any of those programs or contracts on a long-term basis.²⁶

D.05-01-055 cites several reasons, including limited staff resources, why ED should not perform an administrative role. For one, the Commission believes that “many innovative programs may not be discovered through an application and review process at a regulatory agency.”²⁷ The

²³ At 118

²⁴ ALJ Gottstein, *Administrative Law Judge’s Ruling adopting Protocols for Process and Review of Post-2005 Evaluation, Measurement and Verification (EM&V) Activities*, January, 11, 2006

²⁵ CADMAC, *Protocols and Procedures for the Verification of Costs, Benefits, and Shareholder Earning From Demand-Side Management Programs*, adopted by the CPUC in D.93-05-063, www.calmac.org

²⁶ Commissioner Kennedy, *Assigned Commissioner’s Ruling Proposing Direction and Scope For Further Rulemaking*, July 3, 2003, p. 13, as quoted in D.05-01-055 at 57

²⁷ At 57

order cites several innovations that were born out of IOU and implementer collaborations outside the Commission's sphere. More importantly, the decision cites parties' concerns that such an administrative role would put the CPUC "in the position of both judge and jury."²⁸ While the Commission doesn't believe staff is incapable of satisfactorily performing both roles, "on balance [they] agree that separating these two functions promotes more confidence in the process and is a better use of staff expertise."²⁹

The Commission has continued to affirm the importance of separation of function between regulation and administration/implementation. For example, in more recent years, the Commission has refused to allow staff to file comments as an official party to energy efficiency proceedings. The Commission has written that conferring party status to staff would "compromise the ability of [staff] to perform its essential function of impartially and confidentially advising the Commission."³⁰

In the current ex ante development framework, the CPUC staff and consultants often develop and update values, rather than review those values produced by others. When the Commission staff and consultants step into the role of "doing work", the important role of "regulatory oversight" is lost. Cal TF will help maintain a separation between independent "administration/implementation" and "regulatory oversight", as Cal TF will review and issue values that Commission staff can then review.

Conclusion

The California TF is an exciting, new opportunity to re-introduce statewide collaboration in developing savings for energy efficiency measures. Furthermore, it aligns well with the Commission's policies for ex ante value development, which include collaborative, transparent, well-documented, best available data, and strikes a reasonable balance between cost and certainty, accuracy, precision, and timeliness. In some ways, the Cal TF is a return to an earlier collaborative model used to develop technical information that produced less controversy and more transparent technical values; in other ways, the new collaborative builds on Commission decisions of the last few years to continue strengthening the ex ante review process.

²⁸ *Ibid*

²⁹ *Ibid*

³⁰ D.10-04-029 at 34

Reverse Chronological Index of CPUC DEER Language

D.13-09-023

- DEER will be updated mid-cycle to account for code changes (pg. 46).
- Locking down ex-ante values for 2010-2012 failed (pg. 51)
- Commission highlights importance of transparent, collaborative approach to ex-ante dispute resolution (pg. 56-57).
- EAR incentive set up for IOUs to produce quality ex-ante values (pg. 61).

D.12-05-015

- Feedback loop between evaluation findings and program design/ex-ante values needs to be tighter and more predictable (pg. 23)
- Current DEER methods consistent with Commission intent, but staff should continue collaborating with stakeholders to find and use best available (pg. 42).
- Similar measures delivered by similar activities should have statewide values (pg. 47).
- Commission can't adjudicate all disagreements about ex-ante values, so Staff has the responsibility of reviewing and making recommendations (pg. 286).
- Collaborative dispute resolution process from D.10-04029 does not apply to DEER updates. DEER updates are not to be a negotiation; Staff opinions are valued more than stakeholder's (pg. 287).
- Staff shall assign, at its discretion, Net-To-Gross values as part of its ex-ante review process (OP 149).

D.11-07-030

- Repeatedly reinforces Energy Division's authority over review and approval process (pg. 26).
- Utilizing best available data sometimes means shifting freezing dates past original filings, but not backwards to beginning of cycle (pg. 14, 17).
- Importance of finality, trying not to tweak individual items/values after freezing (pg. 8).
- ED must compile all current values in one version/website (pg. 24), and make associated documentation easily accessible to the public (pg. 36).

D.10-12-054

- D09-09-047 language about ED and IOUs updating frozen DEER to correct "mutually agreed-upon errors" does not give the IOUs veto power. *However, the Commission and ED skirted any definitive action on the issue* (pg. 7-8).
- Commission intends for DEER to be frozen with best available data, but this must be done without sacrificing timeliness (pg. 8, Ordering Paragraphs).

D.10-12-049 *(Not directly about DEER, but significant shift in Commission policy towards ex-ante values)*

- *Final vote on this was 3-2, favoring the alternate Peevey decision over ALJ proposed. Ryan and Grueneich dissented in support of ALJ's proposed to continue RRIM based on ex-post.*

- Dramatic changes in program results were caused entirely by changes in underlying parameters. ED made these changes “after the fact” (pg. 36).

D.10-04-029

- IOUs can manage EM&V studies if no ex-ante value exists, or it needs to be re-studied. ED has limited authority to deny these studies (pg. 15).
- Comm. asked IOUs to collaborate with ED on non-DEER WPs, but stopped short of granting ED authority over specific methods, authors (pg. 17-18).
- Public input should be sought to maximum extent without sacrificing timeliness (pg. 24-25).
- Puts in place new dispute resolution process: “ED and its EM&V consultants are inherently independent of any party’s interest”... no need for non-Commission expert review (pg. 34).

D.09-09-047 *(At pg. 305, highlights the more collaborative approaches undertaken by NEEP and NW RTF and directs ED to hire a consultant to perform a holistic review of CA’s processes in 2010)*

- ED must provide IOUs more information on how to properly apply DEER values (pg. 43).
- Freezing DEER values for purposes of measuring progress against goals doesn’t preclude further updating for other purposes (pg. 47).
- ED, with help from the IOUs, is to develop process for adding new measure values and correcting “mutually agreed upon errors” in frozen DEER (pg. 42-44).
- All EM&V activities should meet overarching goals of clarity, consistency, cost-efficiency, and timeliness (pg. 299).
- Savings measurement and verifications should strike a reasonable balance of accuracy and precision, cost, and certainty, and be designed for incorporation into procurement process (pg. 299).

D.09-05-037

- “Compromising the technical integrity of our counting methodologies is tantamount to compromising the reliability of energy efficiency as a resource, so interactive effects should be incorporated into DEER and goals adjusted (pg. 19).
- The work involved in extending maximum EUL to 30 years is not worth the value it would create (less than 1% of portfolios) (pg. 28-29).

D.05-04-051

- ED, CEC “Joint Staff” should hold workshops to finalize EM&V protocols, cycles, and specific plan requirements. Stakeholders should collaborate (pg. 8-9).
- DEER should be the source of all assumptions behind ex-ante load impact calculations (pg. 24).
- EM&V protocols presented by Joint Staff should include schedule for regular updates of DEER using ex-post results (pg. 24, 66). Regular updates are very important (pg. 49).

D.05-01-055

- Updating DEER is ED's responsibility because it involves making unbiased decisions on savings (and eventually performance) values (pg. 129).

D.01-11-066

- DEER is primarily for use by experts, the Commission would like to simplify the assumptions used for ex-ante values and create a user-friendly program planning software tool for use by a wider audience (pg. 20).