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BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Examine the Commission's Post-2008 Energy Efficiency Policies, Programs, Evaluation, Measurement, and Verification, and Related Issues	Rulemaking 09-11-014 (Filed November 20, 2010)

COMMENTS OF THE CALIFORNIA ENERGY EFFICIENCY INDUSTRY COUNCIL (EFFICIENCY COUNCIL) IN RESPONSE TO THE ADMINISTRATIVE LAW JUDGE'S RULING ON UPDATES AND ADJUSTMENTS TO ENERGY EFFICIENCY AVOIDED COST INPUTS AND METHODOLOGY

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I. Introduction and Summary

The California Energy Efficiency Industry Council (Efficiency Council) respectfully submits these comments, in accordance with Rules 1.9 and 1.10 of the California Public Utilities Commission's (CPUC or Commission) Rules of Practice and Procedure and in response to the "Administrative Law Judge's Ruling on Updates and Adjustments to Energy Efficiency Avoided Cost Inputs and Methodology" (ALJ Ruling), dated October 5, 2011. The ALJ Ruling presents an "Energy Division staff proposal to update the cost-effectiveness methodology." (p. 3) Although the ALJ Ruling originally requested comments by October 17, 2011, ALJ Farrar extended the due date for comments to October 27, 2011, via an email to the service list dated October 13, 2011.

The Efficiency Council is a statewide trade association of non-utility companies that provide energy efficiency services and products in California.[1] Our member businesses, now numbering over 50, employ over 4,000 Californians throughout the state. They include energy

[1] More information about the Efficiency Council, including information about the organization's current membership, Board of Directors, and antitrust guidelines and code of ethics for its members, can be found at www.efficiciencycouncil.org. The views expressed by the Efficiency Council are not necessarily those of its individual members.

service companies, engineering and architecture firms, contractors, implementation and evaluation experts, financing experts, workforce training entities, and manufacturers of energy efficiency products and equipment. The Efficiency Council's mission is to support appropriate energy efficiency policies, programs, and technologies that create sustainable jobs and foster long-term economic growth, stable and reasonably priced energy infrastructures, and environmental improvement.

The Efficiency Council's members have substantial expertise in California's energy efficiency industry and have on-the-ground experience with successfully delivering efficiency savings in the state through a variety of channels and helping California's residents and businesses lower their utility bills. Our member companies, consistent with trends experienced in the overall energy efficiency industry across the country, experienced employment growth of nearly 30% in 2009 and another 20% in 2010. Efficiency Council member companies also expect to hire at least hundreds more individuals in California in the year to come, providing a rare bright spot of employment growth in the state's otherwise stagnant economy.

The Efficiency Council appreciates the opportunity to provide these comments on updates to the avoided cost and cost-effectiveness methodology and the proposal by the Energy Division (ED). We look forward to continuing collaboration with other stakeholders to ensure California's continued progress toward achieving its energy efficiency goals. The Efficiency Council's response to the ALJ Ruling is summarized as follows:

- The Efficiency Council supports the Commission's efforts to update the energy efficiency avoided costs and cost-effectiveness methodologies in a manner in which straightforward updates can be accomplished quickly and adopted well in advance of portfolio planning for the next program cycle. We urge the Commission to quickly determine that a 2013 cycle extension is necessary. We also urge the Commission to also begin consideration of longer-term improvements to its cost-effectiveness methodology.
- The Efficiency Council generally supports the Energy Division proposal to align and add consistency with other avoided costs calculations for other demand-side programs as long as these efforts do not prevent energy efficiency from continuing to be first in the resource loading order.
- The Efficiency Council generally supports the Energy Division proposed data inputs for gas price forecasts, weather data, and carbon price forecasts. The Commission should ensure that the carbon costs trend beyond 2020, accounting for carbon savings throughout the lifetimes of the efficiency measures, as well as consider using even longer-term marginal costs of carbon.

- The Efficiency Council generally supports the Energy Division proposal to refine the calculation of total avoided costs by rolling up the recommended five separate avoided costs. Further, we strongly support the incorporation of renewable procurement costs into efficiency avoided cost calculations to reflect the state's 33% RPS requirement.
- The Efficiency Council supports the Energy Division proposal to use the after-tax Weighted Average Cost of Capital discount rate as an immediate improvement. However, we suggest that the Commission should begin examining the alternative option of using a social discount rate as a better reflection of the benefits to customers of energy efficiency and is consistent with evaluation of energy projects that are considered to be for public purposes.
- The Efficiency Council believes that the Energy Division's proposed updates to the avoided costs methodology are a good start to achieving more accurate cost-effectiveness calculations for energy efficiency. However, we believe the avoided costs updates do not adequately capture all of the avoided costs of energy efficiency programs and also do not necessarily help the Commission develop adequate long-term solutions for more accurate cost-effectiveness calculations. We provide suggestions to do both.

II. Discussion

The Efficiency Council supports the Commission's efforts to update the energy efficiency avoided costs and cost-effectiveness methodologies in a manner in which straightforward updates can be accomplished quickly and adopted well in advance of portfolio planning for the next program cycle. We urge the Commission to quickly determine that a 2013 cycle extension is necessary. We also urge the Commission to also begin consideration of longer-term improvements to its cost-effectiveness methodology.

The Assigned Commissioner's Ruling (ACR) from December 23, 2010 directed Energy Division to develop a proposal for a cost-effectiveness update by mid-2011. As we are already past midyear, and the Commission still has not determined whether or not the current 2010-2012 cycle will be extended into 2013, the Efficiency Council is very concerned that the policy guidance and planning necessary to be established in advance of the next program cycle will not be completed in time for a 2013 cycle start. We urge the Commission to first quickly determine that a 2013 extension year is appropriate and necessary to allow for adequate planning in advance of the next cycle. We also urge the Commission to quickly adopt any straightforward

cost-effectiveness/avoided cost updates so that they can be in place well in advance of when portfolio planning for the next program cycle begins (which also must occur in advance of the cycle start time to allow for an on-time start for all program implementers).

In addition to having the guidance for cost-effectiveness calculations to be established in advance of portfolio/program planning, these calculations should also be established and integrated into the broader policy guidance for the next portfolio cycle. As the next goals update decision, as directed by the same December 23, 2010 ACR, is due to be completed by the second quarter of 2012 (or later), there seems to be the time to be able to incorporate any of these updates into the Commission's efficiency potential/goals update study. It is important to ensure that the cost-effectiveness methodology is consistent between the goals for the next cycle and the requirements under which programs in the next cycle will be evaluated, so that the rules guiding the next program cycle are consistent throughout both planning guidance and implementation.

The Energy Division proposal is focused narrowly on data input and avoided costs updates to the energy efficiency cost-effectiveness methodology. This is appropriate for quick updates that can be incorporated in time to allow for proper guidance and advance planning for the next program cycle. However, the Commission should also begin the process of considering broader updates to the cost-effectiveness methodology for the longer-term, perhaps to be implemented not in the immediate next program cycle, but in the cycle following. We address these longer-term issues in our response to question 6 below.

The Efficiency Council provides the following comments on several of the specific questions posed in the ALJ Ruling.

1. In principle, is it reasonable to make the EE avoided cost methodology consistent with the methodology for other demand-side programs?

The Efficiency Council believes that it is generally desirable to align and make consistent the energy efficiency avoided cost methodology, particularly the data inputs, with those of other demand-side programs. The Commission must, however, ensure that such efforts do not disturb its statutory mandate to promote energy efficiency as the first priority, least-cost resource in the

state's loading order. In overseeing the IOUs' procurement of energy resources, the Commission is required to prioritize cost-effective energy efficiency for meeting the state's energy needs.[2] Updating the inputs used to determine the avoided costs of generation is necessary to accurately reflect the benefits of energy efficiency; if the Commission does not accurate treat efficiency as an alternate energy resource to supply side resources, it will continue to be relegated to a second class resource, and certainly not first in the loading order.

The Commission must exercise caution to ensure that the benefits of energy efficiency are not confused with other demand-side resources in the alignment of avoided cost methodologies. Although it makes sense to align as much as possible the data inputs used to calculate the avoided costs of each of the demand-side resources, the resources' respective cost-effectiveness should continue to be calculated with different frameworks. This is because energy efficiency is fundamentally different than other demand-side resources. Energy efficiency is primarily a baseload resource. Demand response, on the other hand, is primarily a peaking resource or is used to simply shift consumption from peak times and manage market prices, but it does not necessarily reduce overall consumption and the associated impacts of energy use. Thus, energy efficiency has been and must continue to be evaluated under a different cost-effectiveness framework.

2. Are the proposed data input updates reasonable? If not, why not?

3. If not, what would be a more accurate source of data inputs for the update?

The Efficiency Council generally supports Energy Division's proposed data input updates in the avoided cost calculator to reflect more recent market conditions and data, specifically the use of the New York Mercantile Exchange (NYMEX) gas price forecast, the Energy Commission weather data, and the Synapse Consulting carbon price forecasts adopted in the renewable portfolio standard (RPS) market price referent (MPR) proceeding. The data input changes will help generate more accurate cost-effectiveness calculations for energy efficiency.

In particular, the Efficiency Council supports incorporating updated long-range inputs for carbon price to better reflect the long-term abatement costs of CO_2 and greenhouse gases (GHG).

[2] PUC Sec 454.5(b)(9)(c)

As CO_2 emitted into the atmosphere today has an atmospheric lifetime of a hundred years, actions today continue to have long-term effects that affect our ultimate ability to meet long-term climate goals. It is essential to accurately capture the costs of GHG emissions from burning fossil fuel energy resources, which are avoided through energy efficiency savings. However, it is unclear whether the GHG compliance cost forecasts adopted for the RPS MPR in 2009 extend past 2020, even though the Synapse report forecasted prices through 2030.[3] The Commission should ensure that the carbon costs, used to calculate the avoided costs of efficiency, trend beyond 2020 and account for carbon savings throughout the lifetimes of efficiency measures, some of which will have lifetimes well beyond even 2030.

Furthermore, the Commission should consider using even longer-term marginal costs of carbon, instead of just short-run market costs of carbon, in the avoided costs for energy efficiency. Currently, the California Energy Commission's Tier 1 and Tier 2 building efficiency standards are proposed to be based on long-run marginal carbon costs as these higher performance tiers are assumed to be motivated by efforts to achieve long-term carbon savings. Similarly, many of the Commission's efficiency goals in the Long-Term Strategic Plan are aimed at accomplishing market transformation to achieve California's AB 32 and beyond climate goals. Strategies such as whole-building retrofits and zero net energy buildings will be needed to meet these long-term climate goals, and the cost-effectiveness of these strategies may be difficult to meet under current methodologies using short-run market carbon costs.

4. Do the proposed methods for avoided costs calculation accurately capture the avoided cost of EE for each of the components below? If not, why not? What would be a more accurate method and/or data source to account for these avoided costs?

a. Avoided cost of energy

b. Avoided cost of generation capacity

c. Avoided cost of transmission and distribution capacity

d. Avoided cost of ancillary services procurement

e. Avoided cost of renewable procurement

[3] CPUC Resolution E-4298, http://docs.cpuc.ca.gov/word_pdf/FINAL_RESOLUTION/111386.pdf. The adopted CO_2 price forecast in nominal dollars was: $10.44/ton in 2012, $24.35/ton in 2015, and $43.52/ton in 2020.

The Efficiency Council supports the Energy Division's proposal to improve the accuracy of avoided costs by refining the calculations for the five separate cost components of energy, generation capacity, transmission and distribution, ancillary services, and renewable procurement. Our understanding is that these five separate avoided costs will be calculated on the backend of the avoided costs calculator and still be rolled up in into one avoided cost number.

The Efficiency Council generally agrees that Energy Division's proposed methods capture the energy efficiency avoided costs for the individual cost components, although we do not have specific input on the sources of data proposed by the Energy Division. In addition, while we support the changes as they relate to the avoided costs of the components addressed by the Commission in the ALJ Ruling, please also see our comments on Question 6 for further input regarding whether the proposed methods adequately capture the total avoided costs.

In particular, the Efficiency Council strongly supports the Energy Division proposal to calculate renewable procurement costs as an aspect to be incorporated into the avoided costs. The Efficiency Council strongly believes that this adjustment is necessary to more accurately portray the cost-effectiveness of efficiency efforts. The Commission's current avoided cost methodology assumes that efficiency will only avoid natural gas generation, even though California has now adopted a 33% Renewable Portfolio Standard (RPS) through SBX1 2 (Simitian, 2011). The marginal renewable energy costs associated with this goal should without question be incorporated into energy efficiency's avoided costs of supply resources; with the 33% RPS, only two-thirds of the avoided supply due to efficiency will be natural gas generation. Accounting for the 33% RPS in the efficiency avoided costs will more accurately reflect the state's resource mix that will include higher levels of renewable energy and associated higher resource costs.

In addition, while we support an avoided cost methodology that is more accurate than the current calculations, the Commission should ensure that the revised avoided costs calculator does not require significantly greater time for implementers to use, which could delay or hinder project and portfolio implementation. Our understanding is that the five separate avoided costs components will be calculated on the backend of the avoided costs calculator and the input process for implementers using the calculator will remain unchanged. If new training for

calculating the separate avoided costs or using the updated calculator is required, the Commission should ensure that such training is available and sufficient but not onerous.

5. Does the proposed change to the discount rate best represent the net present value of costs borne by ratepayer for EE activities? Is there an alternative discount rate which better reflects the cost to ratepayers of EE?

Energy Division proposes to apply the after-tax value of the utilities' Weighted Average Cost of Capital (WACC) as the discount rate for the energy efficiency portfolios, as already adopted by the Commission for demand response programs in 2010, to maintain consistency across demand side resource proceedings. The Efficiency Council supports this proposal to use the after-tax WACC as a near-term improvement.

However, we believe that a social discount rate may be a better alternative to the Energy Division's proposed after-tax WACC discount rate. While we do not want to delay the process of improving the cost-effectiveness calculation inputs, which is necessary for planning in advance of the next cycle, we recommend the Commission begin assessing the options for using a social discount rate. While the after-tax WACC was adopted by the Commission for demand response programs and would therefore add alignment and consistency for energy efficiency calculations, the Efficiency Council urges the Commission to begin examining whether a social discount rate better reflects the benefits to ratepayers of energy efficiency and would therefore be a better standard for use in calculating cost-effectiveness. At minimum, the Commission could consider requiring the calculation of energy efficiency cost-effectiveness using a societal discount rate as a consideration for comparison with the after-tax WACC discount rate.

The use of a societal discount rate to value future energy savings is not without precedent in California. The California Energy Commission uses a three percent real discount rate for its building and appliance standards. The Energy Commission, in its 2008 IEPR Update process, also studied the issue of discount rates, including a review of its own selection of discount rates along with that of the California Public Utility Commission and White House Office of

Management and Budget.[4] The staff report identified cost-effective energy efficiency improvements as an example of a case where social discount rates can counteract market externalities or inefficiencies. Thus, the Efficiency Council recommends that the Commission begin examining the use of a social discount rate as an alternative to the WACC.

6. Are the proposed changes to the avoided costs methodology an accurate representation of the total avoided costs for EE savings? Specify any additional inputs necessary to accurately account for the total avoided costs?

The Efficiency Council believes that the Energy Division's proposed updates to the avoided costs methodology are a good start to achieving more accurate cost-effectiveness calculations for energy efficiency. However, we believe the proposed avoided costs updates do not adequately capture all of the avoided costs nor reflect the true cost-effectiveness of energy efficiency programs. These immediate updating efforts do not necessarily help the Commission develop adequate long-term solutions for more accurate cost-effectiveness calculations.

As California captures more and more efficiency savings and moves up the efficiency supply curve to meet energy and AB 32 goals, there is a growing potential for conflict between these goals and the definition of cost-effectiveness. This conflict could make it more difficult to implement energy efficiency improvements that are still considered cost-effective under existing definitions. The Commission must recognize the constraints of the current cost-effectiveness calculations, which, left unchanged, will not allow for the successful attainment of California's long-term energy efficiency goals (as indicated in the Strategic Plan, prior Commission decisions, and the AB32 Scoping Plan). To this end, the Commission must also recognize that cost-effectiveness calculations need to serve multiple purposes, from their role in the risk-reward incentive mechanism (RRIM) to analysis of the impacts and goals of many of the state's energy policies. The Commission must ensure that decisions about cost-effectiveness are not only driven by the needs of the RRIM.

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[4] CEC Staff Paper, "Discounting Future Fuel Costs at a Social Discount Rate," August 2008, CEC-200-2008-004. Available at http://www.energy.ca.gov/2008publications/CEC-200-2008-004/CEC-200-2008-004.PDF.

Thus, it is essential that the most up-to-date assumptions and inputs are used in cost-effectiveness calculations, as the Energy Division proposes to update, and it is also prudent for the Commission to begin to consider longer-term improvements to its cost-effectiveness calculations. In addition to the suggestions discussed above, the following points include examples of both immediate and longer-term opportunities for needed improvements to the cost-effectiveness framework.

Overall, the Efficiency Council recommends that, at the current time, the Commission continue to use the existing cost-effectiveness total resource cost (TRC) framework in evaluating both program and portfolio cost-effectiveness, in conjunction with the program administrator cost (PAC) test. Overall requirements for cost-effectiveness, however, should continue to be applied at the portfolio level, rather than for individual programs. While the current TRC-based framework may not accurately capture all costs and benefits, including non-energy benefits, the framework is fundamentally relatively sound and significant alterations to the CPUC's current cost-effective framework are unnecessary. However, the Efficiency Council believes important improvements can be made largely within the existing framework in the short-term for application in the next program cycle, along with efforts to make further improvements in the long-term for application in future program cycles.

Short-term Improvements

a. The Efficiency Council supports current efforts to update the data inputs for cost-effectiveness calculations, as detailed earlier in these comments.
b. The Efficiency Council recommends that the Commission remove incentives paid to freeriders from the costs in the TRC calculation. Similar to treatment of payments made to program participants motivated by the programs, rebates paid to freeriders are more accurately described as a transfer payment within the state, rather than a cost. Although measuring the cost impact of freeriders is important for improving program design, the incorporation of freerider incentive payments into the cost component of the TRC calculation is flawed. California is the only state that defines the TRC is this fashion. The 2007 Clarification Memo on the Standard Practice Manual (resultant from D.07-09-043) incorrectly dealt with free

rider participants by including the impact on the cost side of the TRC equation and the Efficiency Council believes it should now be corrected.

Longer-term Improvements

c. The Efficiency Council recommends that the Commission complete a multi-year savings analysis for efficiency programs, including Codes and Standards, to determine market transformation and longer-term, accrued effects of savings, and thus consider whether a multiplier or other factor needs to be incorporated into the cost-effectiveness calculation for certain programs. Such a study should use a program administrator cost (PAC) test to assess the impacts. Long-term market transformation is a key factor in program impact that is not accurately reflected in the current cost-effectiveness calculations. A multi-year analysis on market effects will help indicate the long-term success of programs that are considered impactful within a single program cycle, but are currently measured as less impactful over time, for example, due to more freeriders or long-term adoption of a standard.

d. The Efficiency Council recommends that the Commission initiate further research into exploring and quantifying the non-energy benefits of energy efficiency programs. Commission evaluation practices should not treat customer appreciation of non-energy benefits as an indication of free-ridership, but rather as reflecting additional benefits that improve the value of an efficiency action. The experience of the efficiency industry indicates that non-energy benefits can be a significant factor in customers choosing to participate in energy efficiency programs. In addition, non-energy societal benefits are an important element in meeting other state goals. This research could lead to future improvements to the TRC.

e. The Efficiency Council recommends that the Commission assess whether results from its market effects study (the Dec. 2012 EM&V workplan for the current cycle included a market effects study) to explore quantification of spillover are sufficient to prompt a change in inputs for the cost-effectiveness calculation. While the impact of freeriders are currently counted in the net-to-gross ratio, the

benefits of spillover, in which participants undertake further energy efficiency or non-participants undertake efficiency improvements, are not similarly included in the TRC.

f. An additional potential area for improvement that is not considered in the current cost-effectiveness methodology improvements is the avoided costs due to greater energy efficiency comprehensiveness. We recommend that the Commission begin considering a methodology to assign value to and that rewards 1) comprehensive and integrated energy efficiency improvements that minimize lost opportunity and costs, 2) efforts to capture most or all of the cost-effective energy efficiency in the first transaction, and 3) adherence to best practice guidelines for sequencing of retrofit work so that early work does not hinder the potential to realize deeper savings later. Given that these types of avoided costs have not previously been quantified, we suggest that the Commission invite stakeholders to participate in a process to develop the necessary methodology for inclusion in future updates to cost-effectiveness inputs.

III. Conclusion

The Efficiency Council appreciates the opportunity to offer these comments on the ALJ Ruling and Energy Division proposal for updates to the avoided costs and cost-effectiveness methodologies. As California captures more and more efficiency savings and moves up the efficiency supply curve to meet its energy and greenhouse gas emissions goals, it is essential that the Commission consider the best inputs and assumptions for cost-effectiveness calculations, as well as begin to consider longer-term improvements, to ensure that it encourages continued energy efficiency advancements. The Efficiency Council looks forward to working with the Commission and other stakeholders to improve the cost-effectiveness evaluations for energy efficiency programs.

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Respectfully submitted,

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